ORGANIZATION AND MANAGEMENT SERIES NO. 166

# PRODUCT PHOTOGRAPHY IN PRODUCT ATTRACTIVENESS PERCEPTION AND E-COMMERCE CUSTOMER PURCHASE DECISIONS

Radosław SZULC<sup>1\*</sup>, Katarzyna MUSIELAK<sup>2</sup>

<sup>1</sup> UWM in Olsztyn; radasz@uwm.edu.pl, ORCID: 0000-0002-0521-5073

<sup>2</sup> UWM in Olsztyn; knachurska@gmail.com

\* Correspondence author

**Purpose:** This paper discusses the importance of product photography in influencing both consumer behaviour and the process of competitiveness among retailers in the e-commerce sector. The aim of the paper is to present the significance of product photography as regards its influence on purchase decisions, further illustrated by the author's own empirical results.

**Design/methodology/approach**: The authors verified the assumption that employing different techniques to produce a product photograph (e.g. lighting, setting) influences purchase decisions in terms of the change in attitude towards an offer under the influence of the photograph taken, the degree of this change and the likelihood of an increase in the conversion rate. The principal research concept is to use three factors that determine, in effect, the significance of product photography presented in different settings. Various combinations of these factors enhance the informational and persuasive function of photography, which rationalises consumer choice in e-commerce. The study was carried out using an online survey method. The authors used purposive sampling.

**Findings:** The main conclusion drawn from the study is that, in the opinion of the respondents, the way in which a product is photographed is of importance when making purchase decisions. The consumer pays attention to the way the product is presented in e-commerce offers and reacts differently depending on the lighting techniques used. The results also indicate that the price of the product plays an important role as a decisive factor in the purchase of the evaluated products by consumers. The findings further indicate that the price of the product is also of great importance to consumers as a factor determining the purchase of the evaluated products. Disclosing additional information about the price of a given product presented during the survey resulted in a change in the respondents' perception of an offer, regardless of the combination of factors. According to the research assumption made, lighting played a key role in the perception of photographs by potential customers. In the opinion of the respondents, the illumination method had a noticeable effect on accentuating the product details seen in the photographs.

**Originality/value:** This paper discusses the issue of product photography used in different ways in various e-stores' offers. The impact of selected photographic techniques influencing both consumer behaviour and the process of competitiveness among retailers in the e-commerce sector is shown. It was indirectly confirmed that the price and background used when photographing a product significantly influence the perception of the attractiveness of the

purchase under consideration, even in a situation when the presentation of the product is optimal, as it provides full, visualised information about it under the circumstances most conducive for a purchase made remotely.

**Keywords:** product photography, e-commerce purchase decisions, cyber market.

Category of the paper: Research paper.

#### Introduction

E-commerce refers to the process of exchanging goods over the Internet, and online shopping has been growing in popularity and reach globally since the turn of the 20th century. The number of people who use the Internet on a daily basis is increasing exponentially, contributing to the greater number and value of online transactions. This is reflected by an increase in the size of the cyber market itself as well as its competitiveness, with emerging entrepreneurial attitudes and lower entry and exit thresholds, chiefly due to the minimisation of sunken costs. Market democratisation perceived in this way is a consequence of technological progress. This, in turn, accelerates social and behavioural changes in the 21st-century society, but it also results from qualitative and structural changes taking place in the e-commerce sector. So far, numerous factors influencing the mentioned trend have been discussed and confirmed in the literature. These are diverse, yet no unequivocally dominant factors have been identified to confirm their close relationship with decisions regarding purchase (Li, Wang, Chen, 2014). Digitalization of business has been determining a change in the competitive potential of entities operating online, which has led to the formation of the cyber market, regarded as a virtual business space (e-business, e-market). The online and offline worlds are becoming increasingly intertwined. Both the structure of cyberspace, which increases its competitiveness, and the process of competition itself, which is intensified by the growing number of companies with increasing digital skills, offering an increasing number of individualised offers, are being strengthened. The development trend of the cyber market is illustrated best by the issue of NetReadiness (Hartman et al., 1999, p. 21) and the values of the NRI (Network Readiness Index). Owing to the relatively straightforward establishment of many different business models based on online platforms and retail transactions, the cyber market is becoming highly atomised, both on the demand and the supply side, thus increasing the level of competition. This growth and development affect the conditions under which transactions take place and ultimately alter the behaviour of the consumers themselves. The value and volume of online shopping are also on the rise due to a change in the shopping model itself and the consumers migrating to the online environment, encouraged by the level of maturity of the e-commerce markets. The translocation of shopping channels is also influenced by cultural differences (Kowlaczuk, 2018), as well as the elimination of direct interpersonal contacts due to the Covid-19 situation between 2019 and 2022. Against this background, one interesting case

comes from the contrasting findings of another team of researchers (Yang et al., 2020). A pure e-commerce business transaction is based on impersonal communication on the part of the customer, which is essentially a disadvantage in terms of the relevance of trust towards the seller and an obstacle to the transaction. This situation generates the need for a better evaluation of the offer. The missing dimension of face-to-face communication in a virtual environment can be substituted by a comprehensive presentation of the offer and other social activities, such as feedback from past customers or greater flexibility in terms of after-sales service (complaints, explanations, returns). One of the more objective methods of stimulating sales is product photography, which focuses on the presentation of the product itself from a number of angles and in different settings. In an attempt to persuade the customer to make a purchase in their e-store, producers focus on the presentation of goods in photos and descriptions. This follows from the implication of the influence of images on purchase decisions, which is known under the colloquial term: "the customers buy with their eyes". A clearly articulated rationale for the influence of image on these decisions has emerged from a handful of studies (Li, Wang, Chen, 2014). Based on the authors' own literature review, it can be assumed that little has changed concerning the above issue since the papers were published. The considerations presented in the paper by Li, Wang and Chen (2014) constitute an important supplemental source, relying on the results of an experiment which not only presents the technical aspects of product photography but also provides simultaneous empirical verification. Similarly, a small number of more recent studies lead to the conclusion that product photography significantly influences consumers' purchase decisions and market behaviour. Four types of visual stimuli that form the content of each photograph undoubtedly contribute to this, and the authors classify them as information, emotion, aesthetics and a social element. Product photography is being used on all social networking sites. Its popularity is consistently high, which is probably a reflection of the weight of its impact, universality and conciseness of the form in relation to the content. At the same time, there are few publications which distinguish and discuss the issue of presenting a product offer in the form of a photograph as a factor contributing to the perception of the product, assessment of its attractiveness, interest in it, and ultimately the decision to purchase it.

The aim of this study is to provide an insight into the role of product photography in the context of its influence on purchase decisions, illustrated by the author's own empirical results. The central element of the research concept pursued is the application of three factors determining the significance of photographs of products presented in various settings. Combinations of these factors determine the informational and persuasive function of photography, which rationalises consumer purchase decisions in e-commerce.

#### 1. Product photography and its impact on customer purchase decisions

In a world saturated with information and visual content and easy access to it all, photography plays a vital role in communication and in shaping social behaviour. Thanks to this evolution, society is witnessing a shift from the use of verbal and text-based messages toward images, as the saying goes, "a picture is worth more than a thousand words". The popularity of the Internet has intensified the development of ICTs and the emergence of multiple new communication media that are used as new channels of communication, including marketing communication (Neslin, Shankar, 2009). The high value of marketing communication relies on fully exploiting its two essential elements, i.e. promotion and study thereof (Kaczmarczyk, 2015). Promotion is invariably based on visuality complemented by contemporary social technology exploited in social media. It is commonly believed that the majority of society relies entirely on visual sensations, through which it largely satisfies the need for cognition as such. It is also carried over into customer behaviour in the area of purchase decisions, product evaluation in terms of attractiveness and quality, and the final decision. Eyesight allows a human being to perceive differences between compared objects regarding their physical properties, particularly their colour, shape and size. The importance of sight grows even more when viewed in the context of the cyber market and the activities taking place there. Therefore, product photography has become a tool that provides a full visual presentation of the product in cyberspace, with various spatial techniques, including HDR or 3D. As part of online merchandising activities, attention to proper website architecture and easy-to-read and coherent content, both at the textual and visual level, is apparent. The quality of the website, including perceived visual appeal, has been found to influence the perception of product quality and purchase intentions noted in Wells' study (Wells et al., 2011). The Shopper Experience Index study (Bazaarvoice, 2017) revealed that product photos are able to create a 111% increase in conversion and a 180% increase in revenue per visitor for top retailers and brands. In turn, according to the Gemius-2019 study, the presentation of the offer itself, especially accompanied by better photos, motivates people to shop online more frequently. The term "better photos" used in this study meant higher resolution and accurate reproduction of details in the image. Women are motivated to shop by better quality photos more often than men, although the motivation to shop as a result of better photos decreases with age, although no statistically significant differences were found between the separate age groups (Report, pp. 112-117). The significance of product photography will also become apparent in relation to different types of goods.

The research proves that products in the clothing and cosmetics sectors, including accessories and footwear, are among those bought online most often. This is followed by books, records and movies. Therefore, the category of the product itself should also be carefully considered when discussing the relationship between product photography and customer

behaviour. It seems that a photograph can play important descriptive, informative and explanatory roles, as well as serve a marketing function related to product placement and advertising, especially in the case of selective goods, such as clothing, cars or luxury goods (jewellery). A wide range of marketing content can be communicated through the image, leaving freedom of interpretation to the creative buyer. It can therefore be concluded that product photography has a positive and stimulating impact on e-commerce. Generally speaking, whenever product sampling is not possible remotely, the image and the shot, background, lighting or context and backdrop used will play an important role in highlighting the product featured. This is because the purpose of product photography is closely linked to attracting the potential customer's attention to the product being presented and to communicating the carefully selected content and value on offer as fully as possible. The extent to which product photography influences the purchase behaviour on the part of the customers using the e-commerce channel and the purchase decision itself seems to be difficult to underestimate. At the same time, given the paucity of literature on the subject, it remains of great interest to study it. The dynamic evolution of platforms such as Instagram and Pinterest and other e-commerce intermediary models gaining popularity or already well-known (Vintage, Allegro, Alibaba, e-Bay) increases the possible extent of showcasing a potential synergistic effect, whereas disregarding them indicates e-business ignorance.

Scientific findings demonstrate that eyesight provides people with approximately 80% of the information about their surroundings. Nearly 80% of what we remember is what we have seen earlier. This is why designers, marketers, retailers and producers of goods and services are keen to use images when advertising and promoting goods. Commercial photography is intended to focus the consumers' attention and interest them in the presented object, encouraging them to make a purchase. One of many disciplines of photography is product photography, which is used for commercial purposes to promote products, services and ideas. Product photography is an important factor influencing customers' perception of a given product. When presenting an item, the quality of published photographs can substantially contribute to the success of the advertised product on the market. An essential sales activity is to evoke the expected reaction in a potential buyer, consistent with the marketing objectives pursued. This is what makes the depiction of a product in a photograph so important, and in order to achieve such an effect, it is necessary to synchronise a number of factors, such as the styling of the product (to make it look as good as possible), the composition of the photograph and the backdrop. Another important factor in creating a good photo is lighting, which allows one to highlight all the details of the photographed product properly, exposing those desired by the consumer while skilfully hiding others. The most basic type of images in product photography are images against a white background, i.e. packshots and shadow-free images. Good packshots show the viewer the nature of the product and its qualities. Therefore, they should be characterised by appropriate lighting, accurate sharpness and colour fidelity.

Such photography is a platform for relevant marketing content and engages a potential customer, something which is a competitive advantage in e-commerce.

Understanding consumer reactions to product photography falls within the issue of identifying preferences and needs. From the time preference theory of interest (law of tendency), which according to L. von Mises, is an axiom of human action, it is clear that not every product presents the same value to the buyer in a given time and situation (von Mises, 2011, p. 411; Huerta de Soto, 2010, p. 71). The propensity to make a purchase may therefore change under the influence of a reassessment of its value, and this depends on a number of factors, basically, on the buyer's particular situation. The intensity of competition, which is associated with the number of offers, and the photograph, which has a presentational, informational or persuasive function, serve as good examples of these factors. The change in reaction and attitude prior to and after the purchase under the influence of the product photograph frees the experiment from the influence of other factors on the purchase decision. In other words, a photo may potentially motivate a consumer looking for a specific good to make a purchase, becoming a competitive advantage factor since it is considered an element of a broadly understood quality of an offer. Given the high supply and similar transaction conditions in e-commerce, the photo may prove to be a cardinal factor.

## 2. The impact of product photography on marketing and the techniques used

The Internet without images would be of no interest at all, and nor would it be as effective in penetrating existing markets and conquering new ones. Chau and others (2000) compared the use of images and plain text in product presentation and found that when purchasing well-known products, images outperformed text in both efficiency and effectiveness. Song and Kim (2012), on the other hand, investigated the effect of image size on purchase intention and proved that larger images may provide the customers with more information and increase the propensity to make a purchase. An additional piece of information in the combination of text and image in a social setting that guides the buyer's perception contributes to increased consumer satisfaction and confidence in online shopping, as pointed out by Hassanein and Head (2007). So, does imagery lead to increased buyer attention, and how does it compare to other factors? The combination of product photography and its impact on online purchase intentions was studied by Li et al. (2014).

The fact that the use of photography influences customer purchase decisions, especially in terms of increasing trust in the content presented on the Internet, can be found in the results of another study entitled "A Picture Says More Than A Thousand Words" (Steinbruck et al., 2002). One experiment was conducted within the banking industry and concerned the effects of

photographs on the attitudes and actions taken by the users of a website. Three identical mockup websites of an online bank were created for the purposes of empirical study. In this case, the authors studied the effectiveness of a relatively simple strategy, namely the placement of a photograph on an e-banking website, and it led to a substantial positive effect on the perceived trustworthiness of the studied website (Steinbruck et al., 2002).

Wei Di and colleagues (2014) also observed a clear upward trend between the number of images of a given offer being displayed and the chance of completing a transaction. They tested the validity of the assumption that viewing images anchors the user's interest in an item, while emphasising the ambiguity of the evidence presented in the literature regarding the correlation between images or other multimedia information and improved transaction rates. Images help increase buyer attentiveness, trust and conversion rates across product categories (Wei Di et al., 2014). Product categories expose differences in the strength of impact the images have on the perceived attractiveness of products. For instance, clothing, footwear and consumer electronics show a much stronger response to image quality than a category that includes more unique products such as coins and paper money or books (Wei Di et al., 2014).

Due to the lack of possibility to physically interact with the product, it is very important that the pictures provide the most accurate representation of all the details that characterise the product. The opportunity to see the details in the item is crucial for the customer to make a decision to buy the product. In order to enable the buyer to get to know the selected product in a convenient way, the right choice of light is necessary when taking the photograph that will end up on the retailer's website. The lighting technique plays an important role, as the display of goods depends on the correct choice. By using lighting modifications, the same item can be presented in different ways, putting its advantages in the foreground while hiding its imperfections.

Online retailers can use lighting techniques to persuade consumers to choose products that they might not have selected due to different lighting techniques, even at the same price. This is becoming increasingly important since online shopping is the preferred option for consumers because of the convenience of the process, access to more information, price differences between online and stationery shops and the greater choice of products on offer compared to stationery shops.

### 3. Methodology

The research problem was analysed in the context of preparing a sales strategy for e-commerce. The problem was the impact of product photography elements such as lighting, the type of backdrop and the product itself on the perceived attractiveness of an offer and its translation into purchase decisions. The problem is further elaborated by evaluating the above elements in terms of their influence on the purchase decision in e-commerce.

The authors' research concept was to take 18 photographs of three different products P1, P2 and P3 (Table 2), using three lighting techniques O1, O2, O3 (Table 1), with a shadowless tent (BT) as a control sample. The selection of the products for the test was based on a preliminary examination of the frequency with which they were purchased online. The props used belonged to the category of goods purchased most frequently, as indicated in many different studies of the e-commerce industry. When it comes to illumination, a light set consisting of two flashlights was used. The impact of the backdrop on changing the perception of the product image and its attractiveness was evaluated. The same lighting techniques were used to take the product photos in the three constructed scenes: BT (shadowless tent, as a control scene), BTC (with the price visible) and BTCS (with additional elements).

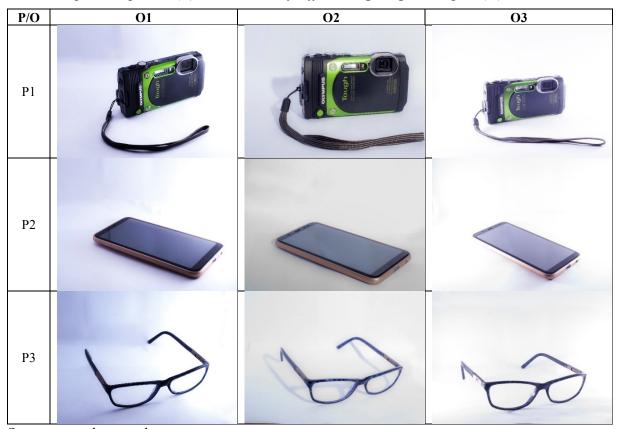
**Table 1.**Characteristics of lighting schemes O1, O2 and O3

Scheme designation	Drawing of the lighting scheme	Description of the scheme			
O1 Lighting from above and from the right	Clarep Light  Clarep Light	With overhead lighting, the greatest amount of shadow becomes noticeable, making the photos appear spacious. The viewer's attention can be distracted from the main subject of the photo, the product itself. Backlighting from the right illuminates the product, highlighting its details.			
O2 Lighting from above and from the front	Clamp Light  Clamp Light	Overhead lighting creates shadows behind the product, but frontal lighting softens the product and optically flattens it. This configuration may visually detract from the image, but the objects in the images are already very clear and all details are more apparent. The result is a more uniform background with softer shadows, making the object being photographed more eyecatching.			
O3 Lighting from left and right side	Clamp Light	The absence of overhead lighting eliminates shadows, giving visually a spatial effect. The flash lamps positioned opposite each other on both sides of the tent give the effect of a bright backdrop, which may disturb the viewer. The photographed products are visible, however their edges are less outlined compared to the previous photos.			

Source: own study.

The evaluation of the photographs taken (Table 2) was conducted by surveying the respondents. Their propensity to purchase a given product under the influence of a viewed photograph was measured. The collected data on the influence of photography on purchase decisions under the influence of different techniques of photography of an example product determine the degree of influence of different versions of the image of the same object in virtual space. Moreover, they provide a rationale for indicating the most suggestive technique of taking a photograph for the purpose of publishing it on the Internet or an e-store website.

**Table 2.**Evaluated product photos (P) with the use of different lighting techniques (O)



Source: own photographs.

Finally, the research group was tasked with evaluating images of the same products using identical lighting techniques, but instead of a shadowless tent, a specially made, separate BTC and BTCS setting was used for each product. This part of the study sought to verify whether the additional element of the setting was meaningful in the respondents' decision-making process. An attempt was also made to answer the question of whether the use of additional accents in the setting of the presented products has any impact on the increase in inclination to purchase them. The answers obtained may constitute a premise for the purposefulness of the technique applied in Internet merchandising.

# 4. Perception of products and conversion factors in the light of the findings of the survey

Respondents' reactions to the photographs presented, as well as the differences in their ratings, were measured on a 5-point scale, with 1 indicating low impact and 5 indicating the highest impact. The average rating for each photograph was then calculated, taking into account lighting technique, product type and setting. The study was carried out on a group of people aged between 18 and 41 who were involved in photography as a hobby or professionally. Almost all of the respondents (97.1%) made purchases online, with electronics (68.7%) and clothes (64.2%) being the most popular choices. Shopping for groceries was declared by 13.4%. The vast majority of respondents (94.1%) paid attention to the images they were presented with, confirming that the presentation of the product in the photo affected the final purchase decision for the majority of them (83.6%). Most respondents were attracted to online shopping because of the pricing (82.1%), convenience (77.6%) and access to a wide range of products (74.6%).

**Table 3.** *The rating performances for photographs taken in the created settings* 

Type of setting	Type of	Lighting scheme			Rating	Average rating for	
	product	01	02	03	gap	Product	Setting
	P1	2.76	2.82	2.50		2.69	2.61
BT	P2	2.73	2.57	2.55	0.18	2.62	
	P3	2.29	2.6	2.64		2.51	
	P1	2.32	2.45	2.15		2.31	
BTC	P2	2.35	2.2	2.12	0.20	2.22	2.21
	P3	2.04	2.26	2.03		2.11	
	P1	2.04	2.13	1.75		1.97	
BTCS	P2	2.13	2.23	2.13	0.17	2.16	2.04
	P3	2.19	1.91	1.87		1.99	]

Source: results of the survey.

Almost 68% of respondents indicated a preference for product shots in BT scenery. Additional content in the photograph related to price (BTC) or richer settings (BTCS) appealed to them to a much lower extent. The exact differences between the compared product shots in the different settings are reflected in the average rating values (Table 3). The evaluation results of all photos taken range from  $\bar{x}_{min} = 1.75$  to  $\bar{x}_{max} = 2.82$ . This suggests that although consumers pay attention to photographs when shopping online, the product lighting schemes used are no longer as important for conversion due to the small differences between them in the ratings. At the same time, the distribution of ratings is similar in all settings. In the first group of presented photos, taken with a shadowless tent (BT), the arithmetic averages of the photos are the highest. These images, called packshots, are therefore of marginal value for purchasing decisions (they are cardinal).

The additional piece of information, in the form of the visible product price (BTC), lowered the ratings. Thus it may be assumed that in the BT setting, shoppers gather information about the product and make a narrowing selection of the offer, while revealing the price in the photograph triggers the process of calculation as to whether the purchase is economically beneficial. The arithmetic averages of all three products, irrespective of the lighting scheme used (O1, O2 and O3), dropped by 0.39 on average, which is a significant value considering the differences in average ratings. Consequently, making the information about the product's price visible reduces its attractiveness. However, it can become an important factor distinguishing the product, especially on auction sites or in price comparison engines, affecting competition between sellers.

In the group of product photos taken in the corresponding settings, the mean ratings are the lowest and range from (1.75-2.17). This group also has the lowest arithmetic averages  $\bar{x}_{P1}$ =1.75 and  $\bar{x}_{P3}$ =1.87. This confirms that photos against a white backdrop (packshots) appeal to the customers the most.

Table 4 shows the average rating values for product photography in three different settings (BT, BTC and BTCS) under different lighting conditions (O1, O2, and O3). The different rating values are a result of the variation in the lighting of the evaluated photographs taken in the same settings. The lighting technique O1 showed the smallest differences in the average arithmetic results, which proves that this lighting method in product photography generates the most stable impression in the consumers' perception. The highest values produced in the study prove that the choice of lighting technique for a product can be a very effective conversion factor. This is also supported by the calculation of the averages for the entire study, as the highest ratings were obtained with this method of lighting the product. The least effective results are found when using the O3.

**Table 4.** *Results of the evaluation of photographs taken with the use of a shadowless tent (BT)* 

Product	BT			BTC			BTCS		
	01	<b>O2</b>	03	01	<b>O2</b>	03	01	<b>O2</b>	03
$\overline{\mathbf{X}}$	2.59	2.66	2.56	2.24	2.30	2.10	2.12	2.09	1.92

Source: study results.

Over 82% of respondents noticed the differences in lighting. This was followed by attention to differences between shots with regard to colour (61.8%), saturation (67.7%) and contrast (64.7%). It was therefore confirmed that light is an important factor in determining the quality and attractiveness of product photography. Properly adjusted, it shows more details of the item, which in the case of e-commerce and the lack of possibility of physical verification (touching) of the product is of paramount importance and may consequently be decisive for the purchase.

In terms of the diversity of products photographed throughout the study, the highest values were obtained for the first product (P1). The difference between the highest and the lowest rating is as high as 1.07. The smallest differences in ratings were recorded for the second

product (P2). The manufacturer, model and brand of the product were not disclosed during the survey in order to eliminate any influence on respondents' perceptions. As for the third product (P3), the highest and lowest rating values were obtained using the O3 lighting technique. With this product, the backdrop against which the item was presented played a greater role in respondents' minds than the way it was illuminated. The highest rating was given to the product presented in the photograph taken with the use of a shadowless tent, while in the BTCS setting, the value was 1.87.

### 5. Summary and conclusions

The growing volume of online shopping means that online retailers have to compete with each other to attract customers to their stores. In order to do this, marketers use various techniques that refer to sensory marketing, seeking to develop an optimal way of attracting new customers. This study focused on evaluating the use of product photography in different settings and under different lighting conditions as a tool for online merchandising.

The variation in the results obtained was not as significant as initially assumed. Nevertheless, the study indicated that customers pay attention to the way the goods are presented by depicting the items using certain lighting techniques and that, depending on the technique used, the responses were more or less aligned with each other. The findings further indicate that the price of the product plays an important role as a determining factor for consumers to purchase the evaluated products presented in the photographs in the study. The disclosure of additional information concerning the price of a given product led to a change in the respondents' perception of the offer, regardless of the lighting technique used. According to the research assumption made, lighting played an important role in the perception of photographs by potential buyers. In the opinion of the respondents, the manner of lighting noticeably highlighted product details that were visible in the photographs.

The main conclusion drawn from the study is that the way of presenting photographs in the context of purchase decisions is important, according to the respondents. One element that interferes with a clear determination of impact is the addition of extra information. In this case, it involved the incorporation of various elements into a specific setting. This can be interpreted as an action that distracts attention from the details of the product. These were most clearly discernible in the case of the shadowless tent. These shots proved to be the most suggestive.

Based on the conducted survey and analysis of the collected data, a number of additional conclusions were drawn.

1. The customer pays attention to the way the goods are showcased using a particular lighting technique, even though the measured reactions to the presented photographs were poorly differentiated.

- 2. Out of the three examined factors: product, lighting technique and setting, it is the setting that most strongly determines the attractiveness of the image, which is confirmed by the high rating values obtained, be it for the product or the lighting technique.
- 3. Ultimately, it is of cardinal importance for e-commerce to create an image that is as close to the real product as possible and, therefore, as objective in communicating information as possible, without distortion, which proved sufficient with the use of a shadowless tent. (BT).
- 4. Displaying the price positions the product strongly in the buyer's mind and thus performs an important function in consumers' selection of their intention to buy the product, contributing to the change in respondents' perception of the product's value.

From the perspective of the pursuit of the highest possible conversion rate, additional elements that enhance and enrich the content conveyed through photography are altogether a marginal factor. The justification for the use of various procedures enriching the visualisation of products should be sought not so much in confining to the photography that statically distinguishes the offer in the competitive environment, but rather in the use of more advanced techniques, such as three-dimensional imaging.

Another important issue is gaining a competitive advantage in e-commerce by skilful use of lighting techniques that imitate natural conditions during remote product presentation.

#### References

- 1. Bazaarvoice (2021). Bazaarvoice Shopper Experience Index.
- 2. Chau, P., Au, G.K., Tam, K.Y. (2000). Impact of information presentation modes on online shopping: An empirical evaluation of a broadband interactive shopping service. *Journal of Organizational Computing and Electronic Commerce*, 10(2), 1-21.
- 3. Di, W., Sundaresan, N., Piramuthu, R., Bhardwaj, A. (2014). Is a picture really worth a thousand words? on the role of images in e-commerce. *Association for Computing Machinery*, 633-642.
- 4. Hartman, A., Sifonis, J., Kador, J. (1999). *Net Ready: Strategies for Success in the E-conomy.* McGraw-Hill.
- 5. https://eizba.pl/wp-content/uploads/2019/07/raport GEMIUS 2019-1.pdf.
- 6. https://www.bazaarvoice.com/shopper-experienceindex/, 11.2021.
- 7. https://www.ideo.pl/e-commerce/wiedza/dlaczego-kupujemy-przez-internet,69.html, 11.2021.
- 8. https://www.national-geographic.pl/artykul/100-mln-bitow-informacji-w-ulamkach-sekundy-od-oka-do-mozgu-czyli-jak-dziala-nasz-zmysl-wzroku, 29.10.2021.

- 9. Huerta de Soto, J. (2010). Szkoła austriacka. Ład rynkowy, wolna wymiana i przedsiębiorczość (The Austrian School Market Order and Entrepreneurial Creativity). Warszawa: Fijor Publishing.
- 10. Kaczmarczyk, S. (2015). Podstawowa klasyfikacja komunikacji marketingowej (The Basic Classification of Marketing Communication). *Zeszyty Naukowe Uniwersytetu Szczecińskiego, Nr 866*, 33-43.
- 11. Kowlaczuk, J. (2018). The Evolvement of Online Consumer Behavior: The ROPO and Reverse ROPO Effect in Poland and Germany. *Journal of Management and Business Administration. Central Europe, Vol. 26, No. 3,* 14-29.
- 12. Li, X., Wang, M., Chen, Y. (2014). The Impact of Product Photo on Online Consumer Purchase Intention: An Image-Processing Enabled Empirical Study. PACIS.
- 13. Neslin, S.A., Shankar, V. (2009). Key Issues in Multichannel Management: Current Knowledge and Future Directions. *Journal of Interactive Marketing*, Vol. 23, Iss. 1, 70-81.
- 14. Steinbruck, U., Schaumburg, H., Duda, S., Kruger, Th. (2002). *A Picture Says More Than A Thousand Words Photographs As Trust Builders in E-Commerce Websites*. Conference Paper, January 2002, CHI '02 Extended Abstracts on Human Factors in Computing Systems, 748-749.
- 15. von Mises, L. (2011). *Ludzkie działanie. Traktat o ekonomii (Human action. A Treatise on Economics)*. Warszawa: Instytut Ludwiga von Misesa.
- 16. Wells, J.D., Valacich, J.S., Hess, T.J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS Quarterly*, *Vol. 35, No. 2*, 373-396.
- 17. Yang, Y., Gong, Y., Land, L., Chesney, Th. (2020). Understanding the effects of physical experience and information integration on consumer use of online to offline commerce. *International Journal of Information Management*, Vol. 51, 1-18.