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## E-Commerce Purchasing Behaviour and the Level of Consumers' Income in Poland and Great Britain

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### **Abstract:**

**Purpose:** The aim of the paper is to identify the purchasing behaviour of buyers from Poland and Great Britain under the influence of online advertising depending on the amount of income. The paper shows how customers with different income levels react to advertising in Poland and the UK. An attempt has been made to compare the British e-consumer with the Polish one – their online behaviour influenced by online advertising.

**Design/Methodology/Approach:** To achieve the aim of the study, international research was carried out from November 2017 to February 2018 in Poland and Great Britain using an online questionnaire. After assessing the completeness of the responses, 487 responses from Poland and 173 from Great Britain were finally qualified for further analysis. It is an international comparative study conducted on a large group of respondents on a very important and topical topic.

**Findings:** It was found that there are differences in the way Poles and British people use the Internet, but the majority of respondents in each country watched the appearing advertisements. Over 60% of respondents from Great Britain and about 50% from Poland found the advertisements interesting. In addition, in Poland, lower-income respondents were more likely to be interested in viewing advertisements and found them interesting more often. Among UK respondents, this was not income related.

**Practical Implications:** The outcomes have given detailed and valuable information on the impact of online advertising on the purchasing decisions of Polish and UK households with different income levels.

**Originality/value:** International comparative research conducted on a large group of respondents, on a very important and topical subject.

**Keywords:** Consumer behaviour, e-commerce, internet advertising.

**JEL Classification:** D19, D83, L68, M37.

**Paper type:** Research study.

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## 1. Introduction

In the 21st century consumers appreciate access to information and convenience in online shopping. A wide range and unlimited access to information allow higher satisfaction with purchases. Producers and traders try to reach consumers with advertising in a personalized way. E-consumers eagerly share their experiences and opinions with other network participants, contribute to strengthening marketing communication or to significant weakening if they negatively evaluate a product or a service. However, online shopping behaviour is varied by economic factors. The following relationship is observed – the higher the level of income, the greater the shopping activity in the Internet. In this paper, an attempt was made to show how customers with different income levels react to advertising in Poland and the UK. The attempt was made to compare the British e-consumer with the Polish one – their online behaviour influenced by online advertising.

## 2. Literature Review

In the literature a lot of space is devoted to the analysis of Internet users' behaviour due to the increasing use of the Internet in all areas of life (Wirtualne Media, 2018). There is an increasing replacement of the traditional face to face contact with the virtual one. This applies to the economic and private spheres. Leisure time is more and more often devoted to virtual activity. In 2017, 79% of the Poles used the Internet (Gemius, 2018). That is why most enterprises use on-line advertising next to traditional one (television, radio, press, etc.). In 2017 the share of TV advertising in the advertising budget decreased from 47.6% to 47.2%, while online advertising increased from 30.2% up to 31.9% (Pallus, 2018). It is extremely important for an entrepreneur to know whether it is worth investing in online advertising (Mishra and Mahalik 2017; Turysbekovna Davletova *et al.*, 2017), how consumers react to advertising and whether they make decisions about purchasing goods advertised on the web.

The model of perception of information technologies and the Internet proposed by F.D. Davis (1989) aims at explaining network behaviour by examining the impact of perceived ease of use of the Internet and its usefulness (Hernández *et al.*, 2011). The first relates to the belief that technology application does not require additional work, there is no need to learn. The second reflects the degree to which the user judges the usability of the network. The version formulated by F.D. Davis (1989) defines an attitude as something between perceptions and behaviour. The attitude is defined as the tendency or feeling that creates a predisposition to respond positively or unfavourably to a stimulus (Hernández *et al.*, 2011). The behaviour of the purchaser can be defined as the totality of activities and procedures related to making choices in the process of satisfying consumer needs in certain social, cultural and economic conditions (Kieźel, 2010; Sobczyk, 2018). Researchers make declarative measurements regarding, for instance, future intentions to use IT (Liao, Tsou and Huang, 2007) and those identified through the analysis of real data. Both

measurements are closely related to each other, they identify the discrepancy between the declaration and actual behaviour and the influence of economic factors on attitudes and behaviour (Buckinx and Van den Poel, 2005; Birtwistle and Tsim, 2005, Lautiainen, 2015).

Research shows that users' perception of the Internet depends on their experience with the Internet (Im, Kim and Han, 2008; Miyazaki and Fernández, 2001). It finds that prior Internet use reduces the risk of negative online shopping perception by users, which in turn increases their satisfaction and encourages them to repeat future purchases. Thus, the development of e-commerce depends largely on the acceptance and understanding of IT technology by consumers, and prior recognition behaviour is the dominant factor in subsequent behaviour (Bigné-Alcañiz, Ruiz-Mafé, Aldás-Manzano and Sanz-Blas, 2008; Salim, 2018). In some countries or regions, there are still strong restrictions in the development of e-commerce related to low access to the Internet (Gnezdova *et al.*, 2017). The literature recognizes the socio-economic characteristics of individuals as key factors in the analysis of their technological behaviour (Venkatesh, Morris, Davis and Davis, 2003). Most of the research on such socioeconomic characteristics was undertaken in the early stages of the IT development when individuals had very little interaction with the analysed tools or internet media. Therefore, it was logical to assume that factors such as age, gender, or income influenced their technological behaviour. However, in recent years the use of information technologies such as the Internet and e-commerce has become widespread, especially in technologically advanced contexts and cultures, and therefore it is reasonable to assume that the importance of these accepted characteristics has also evolved.

Three most important factors influencing the use of the Internet have been identified. The ICT infrastructure, human potential and income level had the strongest, positive and most significant impact on the use of the Internet (Močnik and Širec, 2010). Additionally, more and more social activities are moving to the Internet. Internet communities with a specific social and economic profile are created, which enables advertising activities tailored to the profile of such a group (Pokul *et al.*, 2018).

Therefore, we undertook to examine the reaction of network users to Internet advertising depending on the level of income. The research includes a wide range of online advertising – it consists of commercial content paid by sponsors, intended for an audience, delivered via video, print, audio, graphics or animation. Its form includes e-mail messages, corporate logos, pop-up messages, official websites, hyperlink text or graphics, mentions on other sites, microsites, contests and banners (Ducoffe, 1996; Briggs and Hollis, 1997; Schlosser, Shavitt and Kanfer, 1999; Rodgers and Thorson, 2000). Marketers are undoubtedly looking for internet advertising that has the most impact on behaviour (Palanisamy and Wong, 2003; Steffen, Schramm-Klein and Mau, 2015; Resnick and Albert, 2016; Kaspar, Weber and Wilbers, 2019).

The effectiveness of persuading consumers to view any form of online advertising depends on their beliefs and attitude towards advertising. The beliefs can be shaped from explicit or implicit information (Singh and Dalal, 1999), and the attitude can be influenced by affective experiences such as irritation, as well as cognitive experiences such as an ability to obtain information (Ducoffe, 1996) and experience with the product (Schlosser, Shavitt and Kanfer, 1999; Paek and Nelson, 2009). As a consequence, it seems that convincing consumers of online advertising is essential for online advertisers to be successful by promoting products and services online. Therefore, it seems relevant to obtain information about consumers' reactions to online advertisements and their attitudes and behaviour towards these advertisements (Wolin, Korgaonkar and Lund, 2002; Czarnecka and Schivinski, 2019).

Due to the fact that customers use more sales channels and access to products and services as far as technology allows it, and at the same time the way of using the Internet differs depending on the income (Močnik and Širec, 2010), for the purposes of this paper the following hypothesis has been adopted – Internet users use online advertising when shopping. The higher their income, the more often they do e-shopping, regardless of their origin (Poland, the UK).

### 3. Methodology and Scope of Research

International quantitative research was carried out from November 2017 to February 2018 in Poland and Great Britain using an online survey questionnaire. E-commerce customers were surveyed considering their place of residence, level of affluence and education. An analysis of the impact of internet advertising on purchasing decisions of network users in Poland and Great Britain was performed. Two questions were constructed, and according to them respondents were qualified for the research concerning the country of origin and e-commerce activity. Ultimately, 487 Polish responses and 173 British responses were qualified for the analysis. The aim of the paper is to identify the purchasing behaviour of buyers from Poland and Great Britain under the influence of online advertising and to identify whether these decisions depend on income<sup>5</sup>. For this study the respondents (from both countries) were divided into research groups in terms of net income per capita in the household. The income level was declared by the respondent. Table 1 shows the structure of the research group<sup>6</sup>. Two research hypotheses were formulated. Internet users use online advertising while shopping. The higher income of Internet users, the more often they do e-shopping, regardless of their origin (Poland, the UK).

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<sup>5</sup>When writing about the income of the people surveyed, the authors mean the net income per capita in the respondent's household.

<sup>6</sup>It should be added that the respondents with net income below the minimum wage per person in the household are mainly young people, most often still in education, whose daily schedule is different than that of the working family responsible for supporting the family.

The chi-square independence test was used to identify the existence of a relationship between the studied characteristics of online shopping. We tested the hypotheses concerning the independence of two variables using, Pearson  $\chi^2$  or Pearson  $\chi^2$  with the Yates correction (Agresti, 2002). The calculations were made in SPSS and MS Excel.

**Table 1.** *Monthly level of income, broken down by research groups (number and percentage of respondents)*

Specification		Respondents from		
		Poland	Great Britain	
Monthly income level	Less than the minimum wage	Number	58	30
		% with the total	11.9	17.3
	Minimum wage	Number	82	22
		% with the total	16.8	12.7
	Remuneration higher than minimum to average	Number	128	35
		% with the total	26.3	20.2
	Average remuneration	Number	136	48
		% with the total	27.9	27.7
	Remuneration higher than average to two national averages	Number	50	32
		% with the total	10.3	18.5
	Two national averages and more	Number	33	6
		% with the total	6.8	3.5

*Source:* Own study based on the surveys.

#### 4. Internet Advertising and Consumer Purchasing Behavior

The Internet enables a variety of activities. Table 2 presents those used by the Poles and the British with different income levels. Each respondent could select up to 5 answers. Undoubtedly, the Poles most often go online for three reasons: to track social networks (from about 60% to about 84%), to check e-mail (from 40% to 62.5%), and to search for various types of information (41- 59%). The Poles with the highest incomes log into e-mail more often than on social networks. The research shows that the richest more often than the others take part in discussions on forums (6.3%, where the poorest is 1.7%), read the latest news 28.1% and play online games – 12.5%. It is also worth noting that people with amounts equal to the minimum wage to the national average, in addition to the three previously mentioned activities, very often watch movies and listen to music using the Internet (from 40.6% to 53.7%). By analysing the data in Table 2 it is possible to see the similarities and differences in British survivors with different incomes.

The distribution of responses in terms of income is more varied than in Poland, but the most people (in each earning category) go online to check e-mail (59-83%) and follow social networks – excluding the richest group only less than 17% specifically connect to the network to be present on social media (in this case, one can see a huge difference compared to the wealthiest Poles – it was about 59%). The richest Britons

were not active on message boards and online games. When comparing the Poles and the British with the lowest incomes and their reasons for joining the network, we note that 30% of them and only 19% of the Poles check the latest news and weather.

As many as 59% of the Poles and only 10% of the British seek up-to-date information. 11.5% of Britons with the lowest declared incomes shop online. It is worth noting one more difference in the behaviour of both nationalities: research shows that in Poland information on the Internet is most often sought by people with incomes below the minimum wage, and least often with incomes above two national averages per person, while in the UK it is completely the opposite. Additionally, wealthier British most often use internet banking services.

Statistical verification using the chi-square test confirmed that respondents in the compared countries differ significantly in terms of the reasons for using the Internet,  $\chi^2(9, N = 659) = 66.47$ ,  $p = 0.000$ . Considering individual areas of activity, the differences concerned the following of them: the use of electronic mail,  $\chi^2(1, N = 659) = 21.42$ ,  $p = 0.000$ . searching for information of various kinds,  $\chi^2(1, N = 659) = 41.60$ ,  $p = 0.000$ ; checking current news and weather forecasts,  $\chi^2(1, N = 659) = 5.03$ ,  $p = 0.025$ ; on-line shopping,  $\chi^2(1, N = 659) = 20.68$ ;  $p = 0.000$ ; playing online games  $\chi^2(1, N = 659) = 5.95$ ,  $p = 0.015$ . For the remaining activities, the differences in behaviour were not statistically significant. The differences in the frequency of using the Internet by reason are presented in Table 2.

It is worth noting that the goals of using the Internet in the income groups of the respondents did not generally differ depending on the country. The exceptions were the behaviours' in the case of tracking social networks,  $\chi^2(5, n = 466) = 17.63$ ,  $p = 0.003$ , and on-line purchases  $\chi^2(5, n = 75) = 12.58$ ,  $p = 0.028$  (both tests with Yates continuity correction). On social networking sites, respondents from Poland were more active regardless of the income group. With regard to online shopping in Poland, respondents with higher income were more active, and respondents with lower income in the UK.

Thus, we can see how important it is to recognize the places and the most relevant reasons for connecting with a network of representatives of various nations, with different income, for companies offering their products and services in international markets. The above are the reasons why the respondents decide to connect to the network.

However, it should be noted that once the purpose of entry has been achieved, the Internet is used for additional needs. Having a specific goal, we focus the most attention on achieving it as soon as possible, therefore not paying so much attention to the displayed ads. After achieving the goal, we pay more attention to the additional content on the websites. It is worth knowing where Polish and British people spend their free time on the Internet in order to be able to optimally match the

place and type of advertising message. Respondents were asked where they look for relaxation on the Internet. This question was given a maximum of 5 options.

**Table 2.** *Reasons why respondents use the Internet, broken down by a country and an income level (%) – a possibility of multiple answers*

Specification	Country	Reasons for using the Internet in groups by net income per person in the household (percent)					
		<Minimum wage	Minimum wage	From minimum to average	National average	From one average to two averages	> Two averages
Checking e-mail	POLAND	44.8	40.2	48.4	48.5	58.0	62.5
	THE UK	76.7	59.1	71.4	62.5	71.9	83.3
Tracking social networks	POLAND	72.4	84.1	69.5	74.3	62.0	59.4
	THE UK	66.7	72.7	74.3	60.4	71.9	16.7
Activity in discussions on discussion forums	POLAND	1.7	3.7	3.9	2.9	4.0	6.3
	THE UK	6.7	4.5	2.9	12.5	9.4	0.0
Reading the latest news/ checking the weather	POLAND	19.0	23.2	20.3	15.4	28.0	28.1
	THE UK	30.0	22.7	22.9	37.5	25.0	33.3
Searching for information (of various kinds)	POLAND	58.6	41.5	50.8	52.9	48.0	40.6
	THE UK	10.0	13.6	28.6	31.3	15.6	33.3
Playing online games	POLAND	12.1	7.3	6.3	5.9	8.0	12.5
	THE UK	23.3	13.6	14.3	10.4	9.4	0.0
Watching movies/ /listening to music	POLAND	37.9	53.7	40.6	46.3	34.0	31.3
	THE UK	36.7	63.6	34.3	29.2	25.0	16.7
Using internet banking services	POLAND	10.3	7.3	24.2	15.4	22.0	21.9
	THE UK	10.0	9.1	14.3	18.8	15.6	33.3
Online shopping	POLAND	5.2	6.1	10.9	8.8	8.0	9.4
	THE UK	16.7	31.8	8.6	16.7	31.3	33.3
Others	POLAND	1.7	0.0	1.6	4.4	6.0	0.0
	THE UK	13.3	0.0	0.0	2.1	6.3	0.0

**Source:** *Own study based on the surveys.*

It was assessed whether the places of relaxation on the Internet indicated by the respondents are independent of the place of residence using the chi-square test. It was found that the choice of a place to relax on the Internet is significantly different depending on the country  $\chi^2(8, N = 659) = 30.39, p = 0.000$  (with Yates correction). The chi-square test was also used to assess in which areas of respondents' behaviour about places to relax on the Internet differ between countries. It was found that statistically significant differences concern three areas: social networking sites  $\chi^2(1, N = 659) = 9.91, p = 0.002$ ; watching movies on-line  $\chi^2(1, N = 659) = 5.11, p = 0.024$ ; and blogging  $\chi^2(1, N = 659) = 17.87, p = 0.000$ . Data on the observed frequency of using individual options are presented in Table 3.

In both countries people look for relaxation on social networks, listening to music and watching movies. Almost half of the richest Poles (48.5%) also declared that they browsed the offers of online stores in their free time – this is very valuable and worth emphasizing information. When browsing online promotional newsletters, the Poles most often relax with incomes ranging from the minimum to the national average (almost 15%), and the least frequently with incomes above the national average of up to two (2%). The opposite situation was observed in the case of residents of Great Britain, although there a greater percentage of people browse such newspapers. Most often people with earnings above the national average up to two such averages, i.e. 25%, and the least frequently people with incomes from the minimum to the national average – 11.4%.

Respondents from both countries rarely admit that they relax while watching advertisements in their free time, but nevertheless it is a more frequent practice in the UK (from 0 to 6.3%, in Poland a maximum of 1.7% and this is given to the poorest). When analysing the reasons for joining the Internet and places to relax on the Internet, it was noticed that online games are most often played by the wealthiest Poles (27.3%) and the poorest British (almost 37%). In Great Britain, the more frequent practice in free time is watching favourite blogs (from 31.3% to 43.3%), with the highest percentage observed in the group of the poorest inhabitants of the Islands, again unlike in Poland, where this group least frequently visits such places (only 15.5%). The detailed information on the issue is presented in Table 3.

Directing a product or a service to a wide audience, the advertisement should be placed on social networks and websites offering access to music and movies. It is worth adding that as many as 93.3% of the poorest Britons declare that they relax while listening to music, therefore advertising goods targeted at this research group should primarily be acoustic advertising. Ads for premium products and services will reach the largest number of potential buyers in the UK through video-access sites that are used by approximately 67% of the richest.

The research obtained the opinion of respondents about online advertising. Do the respondents find them interesting, do they click on the advertisements posted on the websites, what type of advertisement prompted them to purchase and what product they made under the influence of the advertisement? The results are shown below.

It was verified whether the perception of advertisements as interesting depends on the respondents' income. Regarding respondents from Poland, it was found that the perception of advertising as interesting significantly depended on the respondent's income  $\chi^2(5, n = 486) = 14.00, p = 0.016$ , and in Great Britain it did not depend on the income of the respondent  $\chi^2(5, n = 173) = 4.07, p = 0.539$ . Moreover, it was found that there are significant differences between countries in the respondents' assessment of advertising  $\chi^2(1, N = 659) = 9.83, p = 0.002$ . A larger proportion of UK respondents found the ads interesting.



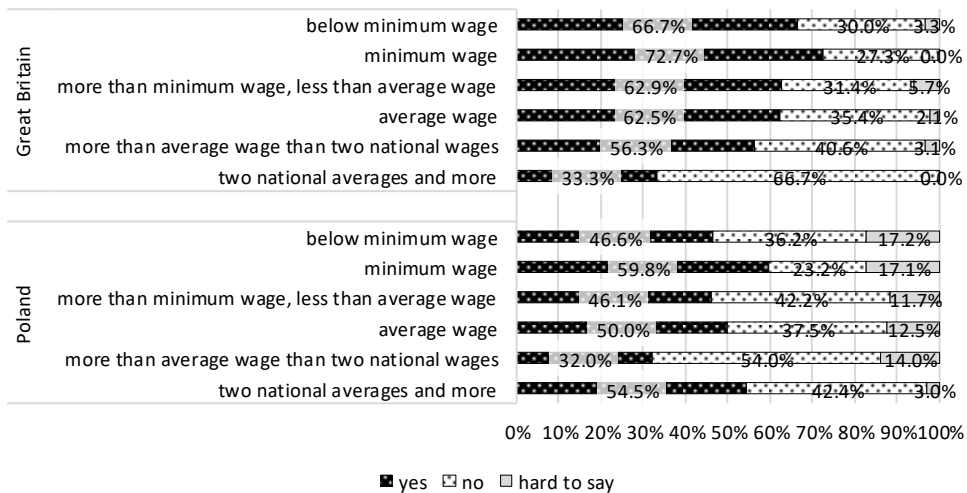
**Table 3.** *Places of relaxation on the Internet, broken down by nationality and income level (%) – possibility of multiple answers*

Specification	Country	Percentage of responses based on per capita net income in the household					
		<Minimum wage	Minimum wage	From minimum to average	National average	From one average to two averages	>Two averages
On-line stores	POLAND	22.4	23.2	27.3	37.5	24.0	48.5
	THE UK	33.3	36.4	31.4	31.3	46.9	16.7
Social media	POLAND	62.1	73.2	69.5	71.3	52.0	63.6
	THE UK	60.0	40.9	71.4	50.0	50.0	33.3
Viewing promotional leaflets	POLAND	12.1	11.0	14.8	8.8	2.0	12.1
	THE UK	6.7	22.7	11.4	16.7	25.0	16.7
Listening to music	POLAND	69.0	76.8	74.2	73.5	74.0	72.7
	THE UK	93.3	77.3	62.9	66.7	59.4	50.0
Viewing displayed advertisements	POLAND	1.7	1.2	1.6	0.7	0.0	0.0
	THE UK	0.0	0.0	5.7	6.3	6.3	0.0
Watching movies	POLAND	65.5	69.5	67.2	61.8	84.0	69.7
	THE UK	73.3	72.7	54.3	58.3	37.5	66.7
Playing online games	POLAND	19.0	17.1	13.3	16.2	24.0	27.3
	THE UK	36.7	36.4	20.0	22.9	15.6	0.0
Watching favourite blogs	POLAND	15.5	19.5	18.8	27.2	20.0	18.2
	THE UK	43.3	31.8	34.3	41.7	31.3	33.3
Others	POLAND	6.9	2.4	3.9	4.4	12.0	3.0
	THE UK	0.0	0.0	0.0	2.1	3.1	0.0

**Source:** *Own study based on the surveys.*

The research has shown that most of the advertisements posted on websites are received with interest by Internet users. Poles more often than British have no opinion on this matter. In Great Britain, people with the minimum wage (72.7%), people with the lowest income (approx. 67%) and people with an income lower than average (approx. 63%) were interested in advertising (Figure 1). It can therefore be concluded that along with the increase in income, British buyers show less and less interest in advertising on the Internet. There is no such dependence in the Polish group. Poles earning the minimum wage, similarly to the British in this group, most often say that they have become interested in online advertising (about 60%). These ads are also often interesting to the wealthiest Poles – 54.5%. These declarations have a great impact on the selection of appropriate advertising places and optimal types of advertising for advertisers that will effectively reach the selected target group. Polish consumers definitely need creative forms of providing information about products and services online, the ones published so far are not sufficiently attractive for them.

**Figure 1.** Are the ads interesting? Percentage responses by a country and an income level

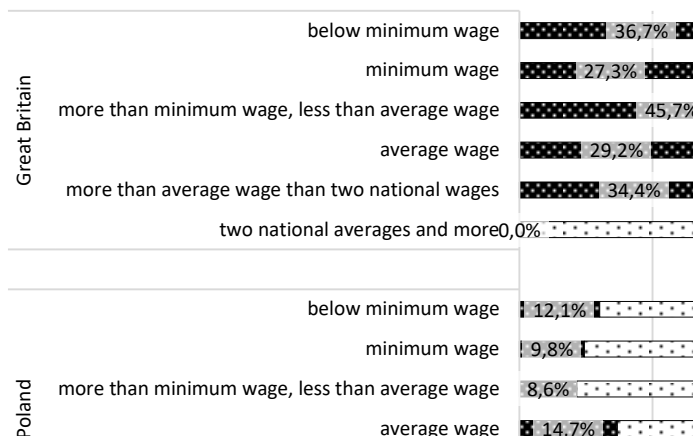


*Source:* Own study based on the surveys.

When analysing the responses in individual groups, it is noticed that people who became interested in the advertisement did not always decide to click on it and read the details of the message. The Poles very rarely clicked on the displayed links to advertisements – the least frequently people with wages above the minimum to the national average – 8.6%, most often people with highest incomes – 15.2%. The citizens of Great Britain were more likely to see the displayed advertisements than the Poles. Most often, they are earning between the lowest wage and the national average (45.7%). The exception are people with the highest earnings, as none of them answered “yes” when asked if they clicked on the displayed links to online advertisements, despite the fact that over 33% of them answered “yes” to the previous question (Figure 2).

We statistically verified whether clicking on ads is a behaviour that significantly differs respondents from the two countries surveyed  $\chi^2(1, N = 659) = 44.30$ ,  $p = 0.000$ . Clicking on ads was much more common among UK respondents than among Polish respondents. Respondents' behaviour in this regard differed from country to country in terms of income levels. In Poland, clicking on ads depended on income  $\chi^2(10, n = 486) = 18.95$ ,  $p = 0.041$  (with Yates correction), and in Great Britain there was no such relationship  $\chi^2(10, n = 173) = 5.68$ ,  $p = 0.842$  (with Yates correction).

**Figure 2.** Percentage of respondents clicking on ads (%) broken down by nationality and income level



**Source:** Own study based on the surveys.

Respondents were also asked what types of online advertising prompted them to buy goods and services. In the comparison of all groups in both countries, advertisements displayed on company shop windows and advertisements on social networks were ranked first. Advertisements on the websites of enterprises most often influence the purchase of the richest group of citizens, but in Poland it was slightly over 36%, while in the UK it was already almost 67% of the richest. Permanent advertising also had a large impact on the purchasing decisions of the Poles, especially in three research groups – from the minimum wage to the average wage (20.6–28.1%).

It is interesting that in Poland the newsletter prompted a large percentage of the poor (approx. 26%) and the richest (approx. 27%) to buy. The inverse pattern affecting the purchase of goods and services in these countries was noticed in the case of fixed advertising – in the UK, people earning up to the national average less often than in Poland indicated this type of advertising, while people earning above this amount indicated permanent advertising more often than in Poland. It was very rare for consumers of both countries to buy in advertising that had to be seen before or while watching the target movies and the so-called pop-up<sup>7</sup> and pop-under ads<sup>8</sup>. It is worth noticing that the last forms of advertising are invasive, interfere with the reception of the target content, are often effectively blocked by browsers and special "plug-ins" removing ads from websites (e.g. Adblock Plus), therefore some network users do not even have the opportunity to see them (Table 4).

<sup>7</sup>Pop-up – type of internet advertising in the form of an independent window with advertising content, which appears immediately after entering a given website or when switching between subpages.

<sup>8</sup>Pop-under – a type of internet advertisement (generally quite large dimensions), similar to Pop-up except that it is displayed after closing the page.

**Table 4.** Purchase ads, percentage of responses broken down by income – possibility of multiple responses

Specification	Country	Net income per person in the household					
		<Minimum wage	Minimum wage	From minimum to average	National average	From one average to two averages	>Two averages
Corporate websites	POLAND	24.1	20.7	25.8	22.8	20.0	36.4
	THE UK	43.3	31.8	42.9	31.3	31.3	66.7
E-mail advertising	POLAND	12.1	13.4	10.9	12.5	6.0	12.1
	THE UK	26.7	40.9	20.0	33.3	31.3	16.7
Search engine advertising	POLAND	10.3	7.3	5.5	12.5	16.0	12.1
	THE UK	40.0	18.2	20.0	10.4	18.8	33.3
Ads on social networks	POLAND	37.9	40.2	35.2	47.1	24.0	36.4
	THE UK	40.0	54.5	51.4	56.3	50.0	33.3
Ads that we need to see before or while watching the right videos	POLAND	12.1	8.5	7.0	14.7	8.0	3.0
	THE UK	10.0	18.2	5.7	10.4	6.3	0.0
Newsletter	POLAND	25.9	17.1	22.7	16.9	10.0	27.3
	THE UK	16.7	9.1	28.6	25.0	28.1	16.7
Ads displayed on the first layer of the website (pop-ups)	POLAND	0.0	3.7	0.8	2.9	4.0	3.0
	THE UK	13.3	0.0	0.0	6.3	3.1	0.0
Ads running in separate browser windows (pop-under)	POLAND	3.4	4.9	1.6	3.7	2.0	0.0
	THE UK	3.3	0.0	0.0	4.2	0.0	0.0
Wallpaper ads (placed as background)	POLAND	3.4	9.8	5.5	6.6	6.0	12.1
	THE UK	6.7	18.2	14.3	20.8	3.1	16.7
Permanent ads	POLAND	15.5	20.7	28.1	20.6	14.0	21.2
	THE UK	10.0	13.6	8.6	12.5	15.6	33.3
Others	POLAND	19.0	23.2	19.5	20.6	38.0	21.2
	THE UK	6.7	0.0	8.6	2.1	6.3	0.0

**Source:** Own study based on the surveys.

On the basis of the chi-square test, it was determined whether the type of advertising that prompts respondents to buy is the same in both countries. It was found that there were significant differences as to which ads prompted a purchase  $\chi^2(9, N = 659) = 35.92, p = 0.000$ . Out of ten types of advertisements, as many as six found significant differences as to how advertisements influenced the purchasing decisions of Polish and British respondents. They were: advertising on company websites  $\chi^2(1, N = 659) = 11.07, p = 0.001$ , advertising in the form of e-mails  $\chi^2(1, N = 659) = 30.25, p = 0.000$ , advertising in search engines  $\chi^2(1, N = 659) = 14.38, p = 0.000$ , advertising on social networks  $\chi^2(1, N = 659) = 7.33, p = 0.007$ , advertising in the form of wallpaper  $\chi^2(1, N = 659) = 6.94, p = 0.008$  and constant ad  $\chi^2(1, N = 659) = 6.22, p = 0.013$ . It can therefore be concluded that effective forms of advertising differ between countries.

There was also a statistical verification of whether respondents from different income groups in the two countries differ in their perceptions of what advertising prompts them to buy products. It was found that in relation to any of the researched forms of advertising, no differences were found between respondents from different countries in terms of income groups. This means that the observed differences depend on the country, but are similar in Poland and in the United Kingdom depending on the respondents' income level.

After watching an advertisement on the Internet, groceries are most often bought by people with the lowest income, both in Poland (17.2%) and the United Kingdom (23.3%). The richest Poles also often decide to buy them after watching an advertising message (15.2%), as opposed to people living in the UK from this income group (0%). Citizens of both countries, after watching an internet advertisement, most often buy clothes and shoes. Books and CDs were also a high percentage of purchased products. The richest people use them most often – but in Poland it is about 30% of the richest, while in the UK it is over 83%. These groups also most often use the services of banks and other operators after watching an advertisement on the web. In this case, however, we notice a slightly higher percentage of the Poles – 18.2% than the British – 16.7%. After watching an advertisement on the Internet (apart from clothes and shoes, books and CDs), representatives of both nations buy home electronics/household appliances and gadgets.

Another dependence also applies to the richest – because in Poland this group buys electronics/household appliances least often (12%), while in the UK it most often (about 67%). Similarly, if we look at the data on the purchase of access to paid content after watching an online advertisement – such access in the UK is most often paid by people with a monthly amount equivalent to the minimum wage (18.2%), and not by people with an amount above two national averages (0%). In Poland, once again it is opposite as at least 1.2% – with the minimum wage, the highest – 9.1% for the richest. The data discussed are presented in Table 5.

It was verified whether respondents from Poland and Great Britain buy the same groups of goods under the influence of online advertising. It was found that there are significant differences in this respect between the behaviour of respondents from the surveyed countries. Under the influence of online advertising, the respondents purchased different products depending on the country  $\chi^2(8, N = 659) = 34.66$ ,  $p = 0.000$ . There were no differences in the impact of online advertising in the two countries with regard to the purchase of food, electronics / household appliances, books, and banking services. Significantly different behaviours of respondents in the surveyed countries concerned the impact of online advertising on the decision to purchase such products as: clothes  $\chi^2(1, N = 659) = 11.678$ ,  $p = 0.001$ , purchase of access to paid content  $\chi^2(1, N = 659) = 4.19$ ,  $p = 0.041$ , gadgets  $\chi^2(1, N = 659) = 10.69$ ,  $p = 0.001$ . Similarly, the share of respondents declaring that they do not buy anything differed significantly depending on the country  $\chi^2(1, N = 659) = 14.00$ ,  $p = 0.000$ . The obtained results may be the basis for the conclusion that the method

and effectiveness of communication with consumers should be adapted not only to the country of origin of the Internet user, but also depending on the group of products.

**Table 5.** Goods and services purchased in Poland influenced by internet advertising, broken down by income – percentages of respondents' answers

Specification	Country	Percentage of indications by groups with different levels of net income per capita in a household					
		<Minimum wage	Minimum wage	From minimum to average	National average	From one average to two averages	>Two averages
Groceries	POLAND	17.2	7.3	7.8	12.5	4.0	15.2
	THE UK	23.3	9.1	8.6	16.7	3.1	0.0
Clothes/shoes	POLAND	48.3	50.0	52.3	51.5	42.0	45.5
	THE UK	60.0	72.7	65.7	62.5	68.8	50.0
Electronics/household appliances	POLAND	20.7	22.0	23.4	27.9	22.0	12.1
	THE UK	23.3	18.2	17.1	20.8	12.5	66.7
Books/CDs	POLAND	22.4	28.0	22.7	26.5	22.0	30.3
	THE UK	23.3	13.6	42.9	35.4	28.1	83.3
Purchase of access to paid content	POLAND	3.4	1.2	5.5	8.1	4.0	9.1
	THE UK	10.0	18.2	2.9	10.4	12.5	0.0
Using the services of a given bank, operators	POLAND	1.7	3.7	3.1	4.4	6.0	18.2
	THE UK	3.3	0.0	2.9	8.3	6.3	16.7
Gadgets/ /accessories	POLAND	24.1	26.8	22.7	27.2	14.0	21.2
	THE UK	40.0	36.4	45.7	31.3	37.5	16.7
None	POLAND	19.0	24.4	21.1	19.9	36.0	18.2
	THE UK	10.0	4.5	5.7	4.2	6.3	0.0
Others	POLAND	12.1	1.2	7.8	3.7	4.0	6.1
	THE UK	3.3	9.1	2.9	6.3	9.4	0.0

*Source:* Own study based on the surveys.

## 5. Conclusion

The presence of internet users on social networks has an impact on their purchasing decisions influenced by advertisements posted on these websites. It was noticed that there were differences in the advertising preferences of the Poles and the British considering their income. The study provided detailed and valuable information on the impact of online advertising on purchasing decisions in Polish and British households, including the purchasing behaviour of respondents with different income levels.

The surveyed respondents used the Internet for various purposes, but most of them watched appearing advertisements. This was done more often by respondents from Great Britain than from Poland. More than 60% of respondents from Great Britain

and about 50% from Poland perceived the ads as interesting. Additionally, in Poland respondents with lower income were more often interested in appearing advertisements and more often found them interesting. Among UK respondents, this was not income dependent.

Advertisements appearing on the Internet encouraged people to buy on-line. Regardless of the country and income, purchases on the Internet were most often made under the influence of advertising on social networks and www advertising. It has been found that internet users are using advertising when shopping online. Only 10% of respondents from Great Britain and 23% from Poland did not buy online as a result of appearing advertising. Thus, the hypothesis was confirmed that Internet users, regardless of the country, make online purchases under the influence of appearing advertisements. However, the hypothesis that people with higher incomes more often buy online, neither for Polish respondents, nor for respondents from Great Britain, was confirmed.

This study on the dependence of purchasing behaviour in e-commerce on the level of income does not exhaust the analysed issue, because the focus is only on the dependence of Internet users' behaviour on income. Subsequent research may include the behaviour of buyers in the online purchase process, including preferences as to the origin of the product, but also the age, gender and professional status of the respondent.

## **References:**

- Agresti, A. 2002. *Categorical Data Analysis*. John Wiley & Sons, Inc., New Jersey.
- Bigné-Alcañiz, E., Ruiz-Mafé, C., Aldás-Manzano, J., Sanz-Blas, S. 2008. Influence of online shopping information dependency and innovativeness on internet shopping adoption. *Online Information Review*, 32(5), 648-667.  
<https://doi.org/10.1108/14684520810914025>.
- Birtwistle, G., Tsim, C. 2005. Consumer purchasing behaviour: an investigation of the UK mature women's clothing market. *Journal of Consumer Behaviour*, 4, 453-464.  
<https://doi.org/10.1002/cb.31>.
- Briggs, R., Hollis, N. 1997. Advertising on the Web: is there response before click-through? *Journal of Advertising Research*, 37, 33-46.
- Buckinx W.R., Van den Poel, D. 2005. Predicting online purchasing behaviour. *European Journal of Operational Research*, 166(2), 557-575.
- Czarnecka, B., Schivinski, B. 2019. Do Consumers Acculturated to Global Consumer Culture Buy More Impulsively? The Moderating Role of Attitudes towards and Beliefs about Advertising. *Journal of Global Marketing*, 32(4), 219-238.  
<https://doi.org/10.1080/08911762.2019.1600094>.
- Davis, F.D. 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-339.
- Ducoffe, R.H. 1996. Advertising value and advertising on the Web. *Journal of Advertising Research*, 36(5), 21-35.
- Gemius, 2017. E-commerce w Polsce 2017. [On-line] <https://www.gemius.pl/wszystkie-artykuly-aktualnosci/najnowsze-dane-o-polskim-e-commerce-juz-dostepne.html>.

- Gnezdova, J., Barilenko, V., Semenov, N., Yakutin, Y., Sharova, S. 2017. Current Trends in the Development of Russia's E-Commerce Sector. *European Research Studies Journal*, XX(4B), 472-483. <https://doi.org/10.35808/ersj/904>.
- Hernández, B., Jiménez, J., José Martín, M. 2011. Age, gender and income: do they really moderate online shopping behaviour? *Online Information Review*, 35(1), 113-133. <https://doi.org/10.1108/14684521111113614>.
- Im, I., Kim, Y., Han, H.J. 2008. The effects of perceived risk and technology type on users' acceptance of technologies. *Information & Management* 45,(1), 1-9. <https://doi.org/10.1016/j.im.2007.03.005>.
- Kaspar, K., Weber, S., Wilbers, A.K. 2019. Personally relevant online advertisements: Effects of demographic targeting on visual attention and brand evaluation. *PLoS One*, 14(2), 1-18. <https://doi.org/10.1371/journal.pone.0212419>.
- Kieźel, E. (ed.) 2010. *Konsument i jego zachowania na rynku europejskim*. PWE, Warszawa, Poland.
- Lautiainen, T. 2015. Factors affecting consumers' buying decision in the selection of a coffee brand. Saimaa University of Applied Sciences, Finland.
- Liao, C.H., Tsou, C.W., Huang, M.F 2007. Factors influencing the usage of 3G mobile services in Taiwan. *Online Information Review*, 31(6), 759-774. <https://doi.org/10.1108/14684520710841757>.
- Mishra, A., Mahalik, D.K. 2017. Impact of Online-Advertising of Consumers. *Int. J. of Adv. Res.*, 5 (Jun), 1935-1939. <https://doi.org/10.21474/IJAR01/4625>.
- Miyazaki, A.D., Fernández, A. 2001. Consumer perceptions of privacy and security risks for online shopping. *The Journal of Consumer Affairs*, 35(1), 27-44.
- Močnik D., Širec, K. 2010. The determinants of Internet use controlling for income level: Cross-country empirical evidence. *Information Economics and Policy*, 22(3), 243-256. <https://doi.org/10.1016/j.infoecopol.2010.01.002>.
- Paek, H.J., Nelson, M.R. 2009. To buy or not to buy: Determinants of socially responsible consumer behaviour and consumer reactions to cause-related and boycotting ads. *Journal of Current Issues & Research in Advertising*, 31(2), 75-90. <https://doi.org/10.1080/10641734.2009.10505267>.
- Palanisamy, R., Wong, S.A. 2003. Impact of online consumer characteristics on web-based banner advertising effectiveness. *Global Journal of Flexible Systems Management*, 4(1/2), 15-25.
- Pallus, P. 2018. Miliardy złotych na reklamę w Polsce. Połowa pieniędzy trafia do telewizji. *Business Insider*. <https://businessinsider.com.pl/media/reklama/wydatki-na-reklame-w-polsce-w-2017-roku-raport-starcom/75mnp0b>.
- Pokul, V., Voronina, L., Malkova, E. 2018. Content Generation in Social Media Based on Consumer Behavior. *European Research Studies Journal*, XXI (2), 923-935. <https://doi.org/10.35808/ersj/1344>
- Resnick, M.L., Albert, W. 2016. The influences of design esthetic, site relevancy and task relevancy on attention to banner advertising. *Interacting With Computers*, 28(5), 680-694. <https://doi.org/10.1093/iwc/iwv042>.
- Rodgers, S., Thorson, E. 2000. The interactive advertising model: How users perceive and process online ads. *Journal of Interactive Advertising*, 1(1), 41-60. <https://doi.org/10.1080/15252019.2000.10722043>.
- Salim, A. 2018. Factors Affecting the Consumers' Willingness to Claim Product Replacement. *European Research Studies Journal*, XXI(3), 348-361. <https://doi.org/10.35808/ersj/1066>.



- Schlosser, A.E., Shavitt, S., Kanfer, A. 1999. Survey of Internet users' attitudes toward Internet advertising. *Journal of Interactive Marketing*, 13(3), 34-54.
- Singh, S.N., Dalal, N.P. 1999. Web home pages as advertisements. *Communications of the ACM*, 42(8), 91-98.
- Sobczyk, G. 2018. Zachowania konsumentów wobec nowych trendów konsumpcji – wyniki badań. *Annales Universitatis Mariae Curie-Skłodowska Lublin – Polonia Sectio H*, 52(1), 171-180. <http://doi.org/10.17951/h.2018.52.1.171>.
- Steffen, C., Schramm-Klein, H., Mau, G. 2015. Play, Flow and Buy? Influence of Players' Experiences on Consumption-Relevant Behaviour. *Marketing: ZFP – Journal of Research and Management*, 37(4), 188-200. <https://www.jstor.org/stable/10.2307/26426774>.
- Turysbekovna Davletova M., Satbekovna Dulatbekova, N., Gabdulsanovich Sadykov, G. 2017. Current State and Prospects for Development of Internet Advertising in Kazakhstan. *European Research Studies Journal*, XX(2A), 380-407. <https://doi.org/10.35808/ersj/648>.
- Venkatesh, V., Morris, M., Davis, G., Davis, F. 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Wirtualne Media, 2018, June 04. 48 mld euro na reklamę cyfrową w Europie. *Wirtualne Media*. <https://www.wirtualnemedi.pl/artykul/48-mld-euro-na-reklame-cyfrowa-w-europie-tradycyjne-media-sie-digitalizuja-wydatki-beda-rosnac#>.
- Wolin, L.D., Korgaonkar, P., Lund, D. 2002. Beliefs, attitudes and behaviour towards Web advertising. *International Journal of Advertising*, 21(1), 87-113. <https://doi.org/10.1080/02650487.2002.11104918>.