CONSUMERS' PERCEPTION ON DATA STORAGE AND BROWSING HISTORY DEPENDING ON THEIR DEMOGRAPHIC CHARACTERISTICS

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Abstract

The digital revolution has changed in a great manner the way in which consumer interact and inform themselves. Many of the daily activities of consumers are done via internet or mobile devices or at least accompanied by one of these. This switch to the online world has brought many advantages in terms on interactivity, permanent connection to the online social community, but also many disadvantages. Among the greatest disadvantage is the possibility of companies to collect and to store the online the activities done by consumers in the online world. In this paper there are presented the results of a research about the perception of consumers on online data storage and browsing history and its use for marketing purposes. A comparative analysis of the perception of different demographic groups such as gender, age and income is done. The results show that consumers don't agree with the storage of personal data from the web and in the same time they don't believe that they can be manipulated with the help of these data.

Keywords

Browsing history, online information, cookies, consumers, big data, demographic characteristics

JEL Classification

M10, M31

Introduction

Today's online consumers inform themselves, come into contact with the brands of interest very easily, make decisions alone, and sometimes can influence the image of a company or business on the internet. In this way, the brands that give particular attention to their image in the online environment are motivated to create a well-documented marketing strategy (Belanche et al., 2017). Therefore, measuring consumer behavior is the link between the purchase decision and an effective strategy. In a society in which the online commerce plays

an important role for any company, knowing the customers' requirements in advance, the product evaluation and understanding the consumer typologies have a major impact on the online strategy of each company (Pelau and Acatrinei, 2019). In this context, the current topic has started to be taken into consideration, in particular the analysis of the behavior of consumers on the internet, observation and recognition of their preferences (Velea, 2016).

In the first part of the paper, there are presented theoretical aspects regarding the online consumer behavior as well as the methods by which companies collect consumer data on the internet. Cookies, apps and storing the browsing history of consumers has become an important research tool for companies. The main issue related to the online consumer data refers to the protection of the online data of consumers. In this paper there are presented the results of a research regarding the consumers' perception on the collection and storage of online data and browsing history depending on their demographic characteristics. A comparison between women and men, two age groups and two groups with different income level is done revealing their agreement to this phenomenon as well as the possibility to be manipulated with the help of this data.

Literature Review

The Internet and evolving technologies offer unique opportunities to bring together and organize personal information about individual users in specific profiles. As a result, over time, targeted marketing, in particular the use of consumers' personal information from specific profiles from databases, has become a treasure for the o. Targeted marketing requires the collection, storage and analysis of information about users. Since it is based on valuable consumer information, websites are able to charge a premium fee, to place ads where marketers think they have the best place so that they can be in line with their chosen parameters. Websites and ad networks can take several approaches for collecting and using personal information. A large number of third parties can collect personal data from the internet. For some companies, data collection is just a side business; other companies consciously track internet users, organize this data and sell the profile together with the information they have developed. In many cases, the individual websites collect information themselves. For example, Facebook uses information from users to insert targeted advertisements on the pages of individuals. If a user who belongs to a certain age group has spoken about travel or reports about childbirth on Facebook, he or she should get advertisements on these topics. Another example is Amazon.com, which suggests products to customers based on their past purchases and / or searches. In both cases, the websites, like the examples mentioned earlier, Facebook and Amazon, use information they have collected in order to make it easier for consumers to reach them (Christiansen, 2011).

Marketers are "hungry" for personal information that helps them to invest their money more effectively for targeted advertising. The online advertising industry alone is worth $ 23 billion and continues to grow (Angwin; Valentino-DeVries, 2010; Christiansen, 2011). For companies looking to commercialize their products and services, information about a person's demographics, income, interests and habits is a gold mine. Marketers and business people know that a customer is more likely to make a purchase if the message is right for him or is targeted rather than being more general. This is known as targeted marketing, and although it is far more expensive than traditional advertising, it is also more profitable and beneficial due to the fact that the company will no longer target the whole array of consumers. That way there will be less wasted coverage. However the question that arises is: how do marketers collect and use this information to effectively target ads? The internet has been the best answer to this question ever since (Christiansen, 2011).

Nowadays, consumers benefit from more information, for a greater variety of products as they can buy the desired products either online or directly in the store, they can compare prices, observe the quality and also give useful feedback to the seller that can be taken into

consideration by other consumers. The feedback given could have a negative impact on future potential sales, if consumer expectations are not met or if they do not match with the offered experience or the goods acquired. The feedback can reach a large number of people in real time and there is a tendency that the bad experiences have a stronger impact on people compared to the positive and valuable ones. The negative interaction with a provider persists more in the collective memory of consumers and it is well-known that word of mouth spreads faster and easier with the help of today's technologies. It seems that customers, and especially those online, are in an advantageous position, however, there are not only benefits for consumers and their protection, as the progress and social media platforms and networks has also led to negative aspects. Many authors have reached the same conclusion that the use of social media networks exposes users to various risks (Haynes, et al., 2016; Vatamanescu et al., 2017) and influences the offline and online behavior of consumers (Pelau and Acatrinei, 2019). Private data security, misuse of information and intrusion in the private sphere are just a few examples that many consumers tend to disregard and which represent clear problems for which stricter rules should be found. The manipulation of consumer decisions through targeted communication and the spreading of fake news (Tantau et al., 2018) are also cases of exposure on the Internet, for naive and inexperienced online consumers. (Pelau et al., 2019) Marketers are constantly trying to increase stimulation, in particular to arouse interest and make efforts to attract viewers on the Internet and transform them into potential consumers (Lang, 1990; Belanche et al., 2017). Consumers respond to certain incentives and stimuli, they pay more attention to stimuli that generate a high level of arousal, such as: sexuality, risk behavior, unexpected movement or unexpected behavior (Bakalash and Riemer, 2013; Belanche et al., 2017). Some ad design features, such as unedited or simply new content, are often viewed as stimulation factors (Bialkova and van Trijp, 2010; Belanche et al., 2017). Storytelling or presenting the ad in a narrative manner is a type of promotion that communicates to consumers about a brand (Woodside et al., 2008), product or service in a story-like format (Wentzel et al., 2010). In the current context of digital information excess (Sicilia and Ruiz, 2010) and ad blocking technologies (Kelly et al., 2010), marketers face the challenge of creating ads that people want to see instead of perceiving them as disturbing interruptions. For this purpose, storytelling in advertising is an innovative tool for brands to remain active in the market (Zada, 2016).

Consumer information on the internet is frequently collected with the help of cookies. An "internet cookie", also known as a "cookie browser", "HTTP cookie" or simply "cookie", is a small piece of information that is stored on someone's computer or on a devices that is connected to the internet. The cookie is sent via a web server request from a browser, it is installed and it is completely "passive", it contains no software, viruses or spyware and cannot access the information on the hard drive of the user (Velea, 2016).

Cookies have an essential role in the experience of consumers on the internet on certain websites by making it easier to access and provide multiple services. The personalization of some settings is a big advantage, that allows the language in which a website is used, the currency in which the prices or tariffs are calculated to be selected and products to be displayed, with a certain size or with desired details. What is special about this experience is the fact that these settings will remain saved, and each time the consumer accesses the same website, an individualized display of the website will appear based on the previous preferences. Cookies provide website owners with feedback on how their websites are used by users, so that they gradually make their websites more effective and accessible. Cookies can also be used to display multimedia applications, various types of advertisements or online services on the websites accessed from other sites in order to create a valuable, useful and pleasant browsing experience. Cookies also contribute to the efficiency of online advertising. (Ministerul Muncii si Justitiei Sociale, Autoritatea Nationala pentru persoanele cu dizabilitati, 2019).

Another issue related to the collection of data on internet and social media networks is data privacy and the security of the data. The fascination of social media networks has prompted consumers to publish several private information and images in the online environment, without taking into account the risks associated with their presence on the internet. With the development of business orientation and presence in social media, the need for a certain regulation in the provision of data in the online environment increased. According to Lessig (2006), there are four types of regulation of data protection and data content on the Internet: law, standards or self-regulation, system architecture into which the data are introduced, and markets. The law is one of the instruments that can be used to restrict data protection regulations on internet. However, when the consumer is ready to publish their private information on internet, it is difficult to restrict the flow of data. For this reason, self-regulation is important when it comes to posting data on social media platforms. Another important aspect is the system architecture, which enables the tracking of consumer behavior in the online environment as well as the various companies that use the data for profit purposes (Pelau et al., 2019).

Methodology

The objective of this research is to determine the consumer's perception regarding the collection and use of online browsing history for marketing purposes. Online browsing history generated by a consumer when searching specific online content is stored with the help of the online cookies and may define a particular pattern in consumer's interests and preferences. The research was developed in order to analyze if the consumers appreciate the benefits of online browsing history or if they consider it intrusive in their personal lives, the main disadvantage being the possibility of manipulation. The questionnaire used in the research was distributed to a sample of 252 people.

The questionnaire contained 45 items, measured with the help of a Likert scale with values from 1 to 7, where 1 means that they disagree with the scenario or with the presented statement and 7 means that they fully agree with the statement or with the scenario. The sample contained consumers from different age groups with different levels of education and employment, so that our research could be valid and comprehensive. The analysis is based on the average values and they are used in order to make comparisons between age groups/differences, education level, gender and income level, as well as comparisons between demographic groups.

Results and discussion

The results of our survey highlight the consumer's perception towards storing their browsing history, considering three criteria: the gender, the age (less than 40 years old and above 40 years old) and income (less than 1.000 Euro per month and higher than 1.000 Euro per month). The survey was developed based on consolidated sample composed as described in figure 1.
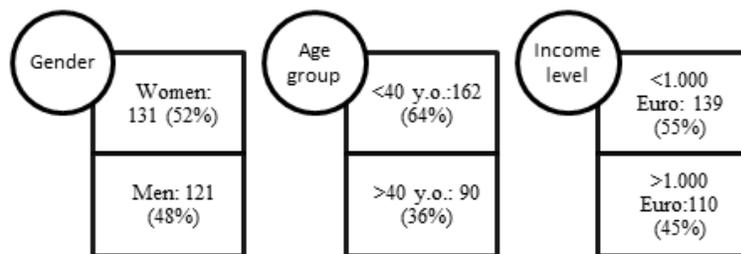

Fig. no. 1 Structure of the sample and the analyzed groups
Source: Own research design

The first analysis (Table no. 1) was structured based on the gender criteria, therefore we noticed that men are more influenced than women by the online advertising and they also believe that they cannot be manipulated through their browsing history (3.5868 men). However, men consider more than women, that saving their browsing history may represents an intrusion in their personal life. Also, for this item, scores for both genders are above the average (4.6870 women, 4.9587 men) that represents their concern related to the data access that particular parties may have over their personal information. This may represent that respondents value their privacy.

On the fourth item, regarding the personalized advertising, the scores for women and man are below the average, that signifies that they are disturbed about the fact that companies can access their browsing history based on which they may develop personalized ads. Analyzing the fifth item regarding an easier life based on cookie information, the scores are below the average, respondents admitting the fact that online cookies may not be such a helpful tool for a faster and easier online search. This information could be related more to the e-commerce activity, where if a search and purchase is finish, some companies continues advertising for the same products or in the same range of products, fact that can be annoying for consumers.

Table no. 1 Consumers' perception regarding the storage of browsing history depending on gender

Items	Women	Men	F	p
I am influence by the online advertising	3.0763	2.4959	7.185	.008
I don't belive that I can be manipulted through my online browsing history	4.0916	3.5868	4.345	.038
I consider that saving my browsing history represents an intrusion in my personal life	4.6870	4.9587	1.311	.253
I agree that an online company to save my browsing history in order to personalize its advertising ads for me	2.5573	2.7438	.803	.371
I believe that online cookies make my online activity easier	3.3588	3.5289	.687	.408
I agree that an online company to save my search history, in order to make my online activity more easier	2.8092	2.8760	.097	.755
I consider that saving and knowing my browsing preferences helps me easier reach the content I am looking for	3.5649	3.5702	.001	.980

Source: Own research results

The sixth item refers to the fact that companies saves the consumers browsing history in order to make their activity more easier, still the scores for both women and men are below the average (2.8092 women and 2.8760 men) that represents that both do not agree for the companies to record their activities. The last item has scored similar for women and men; they both consider that saving browsing preferences may not help them to reach faster the content that they are looking for.

The second analysis was developed by considering the age range (table no. 2), we noticed that both categories do not agree for the companies to save their browsing history in order to receive personalized ads and also they consider that online cookies do not help them to navigate easier on the web. The responds above 40 years old are more convinced than the younger ones, that they cannot be manipulated through their online browsing history; some part of the individuals in this age range may not have the same grade of internet consumption as the younger do, therefore this aspect can be the reason behind their believe. Both categories

consider that they are not influenced by the online advertising, having significant scores (2.7840 people <40 years old and 2.8222 people >40 years old). Most of the online companies use Google Analytics in order to track their consumers activities on the websites and to observe what were the main traffic sources from where the consumers come on the site. This benefit is a valuable one for the companies, based on which the company will direct advertising budgets in order to influence the consumers.

Regarding the last item, both categories tend to believe that saving their browsing history may represent an intrusion in their personal life. This item seems to have a high importance for the respondents as people start to understand more that with the current technology that can make our lives easier, we are also more exposed to provide personal information (example: location base - mobile phones).

Table no. 2 Consumers' perception regarding the storage of browsing history depending on age

Item	Age < 40 years	Age > 40 years	F	p
I agree that an online company to save my browsing history in order to personalize its advertising ads for me	2.7963	2.3778	3.762	.054
I agree that an online company to save my search history, in order to make my online activity more easier	2.9815	2.5889	3.128	.078
I believe that online cookies make my online activity easier	3.5741	3.2000	3.085	.080
I don't belive that I can be manipulted through my online browsing history	3.7346	4.0556	1.599	.207
I consider that saving and knowing my browsing preferences helps me easier reach the content I am looking for	3.6420	3.4333	.856	.356
I am influence by the online advertising	2.7840	2.8222	.028	.867
I consider that saving my browsing history represents an intrusion in my personal life	4.8086	4.8333	.010	.921

Source: Own research results

The third analysis was structured considering the income range and it can be observed in table 3. We noticed that both categories do not agree for companies to save their browsing history in order to receive personalized ads. Also, both categories are below the average scores for the items related to companies saving their browsing history in order to make their online activity easier (2.7410 people with income <1.000 Euro and 2.9545 people with income >1.000 Euro).

Respondents strongly consider that they are not influenced by the online advertising (2.7266 people with income <1.000 Euro and 2.8909 people with income >1.000 Euro). Both categories tend to not approve that online cookies may easier their online activity that they cannot be manipulated through it and does not embrace the benefits of browsing history in order to easier reach a specific content. Also, both categories tend to strongly consider that storing browsing history represents an intrusion in their personal lives.

Table no. 3 Consumers' perception regarding the storage of browsing history depending on income

Item	Income < 1000 Euro	Income > 1000 Euro	F	p
I agree that an online company to save my browsing history in order to personalize its advertising ads for me	2.4964	2.8364	2.594	.109
I agree that an online company to save my search history, in order to make my online activity more easier	2.7410	2.9545	.964	.327
I am influence by the online advertising	2.7266	2.8909	.543	.462
I believe that online cookies make my online activity easier	3.3741	3.5091	.419	.518
I don't belive that I can be manipulted through my online browsing history	3.9065	3.8091	.156	.694
I consider that saving and knowing my browsing preferences helps me easier reach the content I am looking for	3.5396	3.6000	.075	.784
I consider that saving my browsing history represents an intrusion in my personal life	4.7914	4.8455	.050	.823

Source: Own research results

Conclusions

The results of our research presents the consumer's perception regarding the online browsing storage, the reaction to the main benefits representing the facility of easier online browsing that it is not embraced by the respondents no matter of gender, age group or income level. The consumer tends to be more aware of the main disadvantage of the data storage that is the personal information access that they give to certain entities.

These information can be used in order to make the activity of the consumer easier on a specific website or it allows him/her to faster reach the desired content, based on the previous searches. In the same time, this represents the main tool used by the online companies in order to profile the consumers and to deliver more personalized advertising ads in order to attract new clients or to increase particular sales.

People are more aware of the importance of their privacy therefore are not open to the idea of online companies to have access to their personal information. However the topic of data storage remains an important one that still needs further studies in order to discover a balance between the data provided by the consumer and the generated benefits.

Acknowledgement

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