



Research Article

Consumer Behaviour of a New Generation of Customers Regarding Education in Terms of The Assessment of Uncertainty Factors in E-Commerce

Jakub HORVÁTH, Radovan BAČÍK and Richard FEDORKO

Faculty of Management and Business, University of Prešov, Prešov, Slovakia

Correspondence should be addressed to: Jakub HORVÁTH; jakub.horvath@unipo.sk

Received date: 11 September 2021; Accepted date: 27 January 2022; Published date: 6 April 2022

Copyright © 2022. Jakub HORVÁTH, Radovan BAČÍK and Richard FEDORKO. Distributed under Creative Commons Attribution 4.0 International CCBY 4.0

Abstract

The issue of uncertainty in online transactions is still a relatively new and little researched area of knowledge that is rapidly developing, mainly due to the developments and growth of e-commerce. The behaviour of consumers is inherently uncertain, given that consumers' decisions have consequences which cannot be fully predicted. In the relationship between the consumer and the seller, the perceived uncertainty is defined as the extent to which the consumer cannot accurately predict the outcome of the transaction due to factors on the part of the seller or the product. The aim of this paper is to identify the differences in the perception of uncertainty of Generation Y (Millennials) when shopping online regarding their education. The research made use of non-parametric Man-Whitney U test based on which differences in the perception of these factors by respondents were determined (while their education was considered). The paper confirmed differences in the assessment of uncertainty factors between Generation Y groups of respondents regarding their education.

Keywords: Consumer Behaviour, Consumer Preferences, New Generation of Customers, Uncertainty, E-Commerce

Introduction

The external information retrieval construct represents as an effort to retrieve information from the source (Engel and Blackwell 1982; Fedorko 2018), and therefore external information retrieval precedes many consumer decisions. There are three phases to the consumer's decision-making process: the pre-purchase phase, the purchase phase and the post-purchase phase. The pre-purchase phase involves identifying needs, finding information,

evaluating alternatives, selecting products, and implementing the choice (Schmidt and Spreng 1996; Štefko and Šteffek 2017). The sources of information used by consumers in their search for information are an interesting topic from both an academic and practical point of view. At present, a number of different sources are available to consumers. Conventional sources, such as advertising, newspapers and magazines, radio and television advertisements and brochures have been supplemented in the last decade by information sources placed on the

Internet (Štefko et. al 2018). For many people, browsing the Internet and shopping online is an increasingly common everyday behaviour. The Internet has made a huge amount of information available to consumers at any time. Although the total amount of information available to consumers increases their ability to absorb it, the amount is still limited, which leads many consumers to question their purchasing decisions (Bettman and Park 1980; Štarchoň et. al 2018). Searching is often linked to purchases (Öörni 2003), but even so, consumers tend to limit their search to a few products and retailers, as searching takes time and effort and is therefore costly. The issue of consumer decision-making processes has been addressed for more than 50 years (Howard and Sheth 1969). Although the topic has become highly discussed over the last few decades, it is still poorly understood. Recently, it has become increasingly important as Internet penetrates many markets and allows consumers to change their search behaviour (Nguyen and Khoa 2019). In a digital environment, consumer behaviour before purchase and the process of searching for information differ dramatically from traditional search behaviour. Öörni (2003) states that consumers who search for information on the Internet use different search tactics than those using traditional methods. Elliot and Fowell (2002) state that general web queries are short, with most users entering two to three terms for a query and two to three queries for a search. Scope of search is an important topic, as consumer search is one of the most important mechanisms which controls market prices. Searching is costly and consumers tend to avoid extensive searches if the uncertainty negatively affects their perception of the search result (Svatosova 2020). These search costs usually consist of time spent searching: time is more valuable for the "rich" than for the "poor". Therefore, it is said that "rich" customers pay a "high price" and "poor" customers are called "cheap". According to Alba and Hutchinson (1987), the total cost of search activities includes "both monetary and non-monetary costs." Monetary costs depend on the consumer's income. Different consumers will assign different costs to the search activity, regardless of the absolute financial costs of the search. The authors define the non-monetary costs as time, inconvenience and difficulty in performing the search activity (Bucko, Kakalejčík and Nastišin 2015). In general, you can expect lower Internet search costs for most products. A sponsored search engine is important as it funds the ability of search

engines to offer free searches. Search costs are affected by variables such as the consumer's experience or knowledge and the uncertainty or perceived risks faced by the consumer. The exponential growth in the use of the Internet and the use of smartphones is the most important issue in the field of information and communication technologies of the last decade (Egerová et. al 2021). Initially, much of e-commerce was limited to online stores and services which were accessible through a web browser. A consumer could search for a specific product using a browser, and then buy it using their credit card (Jap and Anderson 2003). More sophisticated tools accompanying consumers through search, comparison and purchase engines are now common on the Internet. The Internet Purchasing Agent (ISA) is used daily by many consumers. Online shopping tools allow consumers to search the Internet for a very specific product and then direct them to a place where they can buy it (these also state the price). Consumers are now able to use comparison tools (Yang and Jun 2002). In general, these tools are only sources of information - customers must visit the retailer's website to make a purchase. Other authors report a shift in web search topics from entertainment to business, travel, employment, economy, people, places and things. Search topics have shifted from entertainment to e-commerce as web content has shifted more toward businesses and people (Frieze and Pegden 2018) Some studies have examined the difference between offline and online shopping. It has been found that for some product categories, the brand is more important than it used to be (traditional shopping environment). However, this preference may depend on the information available. Brand loyalty is lower for online compared to offline shopping (Huang et. al 2019). It should be noted, however, that online shoppers choose from a smaller group of brands, leaving them loyal to fewer brands. A great way to explain the role of a brand in the online environment is to use the classification of search attributes and experiences with the decision-making process (Jap and Anderson 2003; Lukáčová et. al 2020). In a traditional environment, consumers are generally able to assess the quality of a product before purchasing it, and therefore the product can be classified as "suitable to be searched for". However, if the same product is sold over the Internet, the physical product is not available to the consumer to inspect and the product could be classified as a "good experience". Therefore, brands can create additional values in a virtual

environment (Gozgor and Demir 2018). Conceptually, online shopping favours large brands because they provide strong attributes of familiarity, a signal of presence, commitment, and substance.

Methodology

Based on the analysis of the current state of shopping behaviour of the new generation of customers, the aim of this paper is to identify the shopping behaviour of this generation and the differences in their education in the context of assessing the factors of uncertainty in online shopping.

Regarding the set main goal of the research, the following research problem was formulated:

- Are there statistically significant differences in the assessment of selected factors of uncertainty in online shopping based on education?

Regarding to the research problem, the following research hypothesis was formulated:
H: We assume that there are statistically significant differences in the assessment of selected factors of uncertainty in online shopping based on education.

Scientific methods such as analysis, synthesis, comparison method and selected statistical methods were used to meet the main goal of the research. Primary data was obtained from the questionnaire. The link to the electronic questionnaire was placed on the relevant Facebook pages/ groups, relevant online discussion forums, the questionnaire was also distributed (evenly) across the regions of the

Slovak Republic by e-mail (private database of the author). A total of 962 respondents filled in the questionnaire. However, the research targeted only the new generation of customers - Generation Y (1984 - 2000), i.e. respondents aged 20 to 36 years inclusive (Young 2017). After removing unsuitable respondents, 824 respondents were included in the research. The obtained data was processed using Microsoft Excel. The results of individual analyses were obtained using the program Gretl and Statistica 13. The hypothesis was verified using Man-Whitney U test.

Inputs to the analysis were obtained by implementing the CAWI (Computer Assisted Web Interview) method. To obtain the necessary primary sources of information and data for the purposes of the paper, an exploratory method is used, in particular questionnaires. Data was obtained by eliciting subjective answers of respondents, in this case representatives of the new generation of customers (Generation Y/ Millennials) who shop online. The questionnaire consisted of 30 items. The first 5 items were used to sort the analysed sample for subsequent statistical analysis. The questionnaire focused on demographic information and data related to the consumer behaviour of Millennials and their perception of uncertainty when shopping online.

The research object of the presented paper is the new generation of customers, the Millennials (Generation Y). The age group was defined on the bases of the methodology of Young (2017) from the company Ogilvy & Mather. Millennials are referred to as "Generation Y" and are aged 20-36 years.

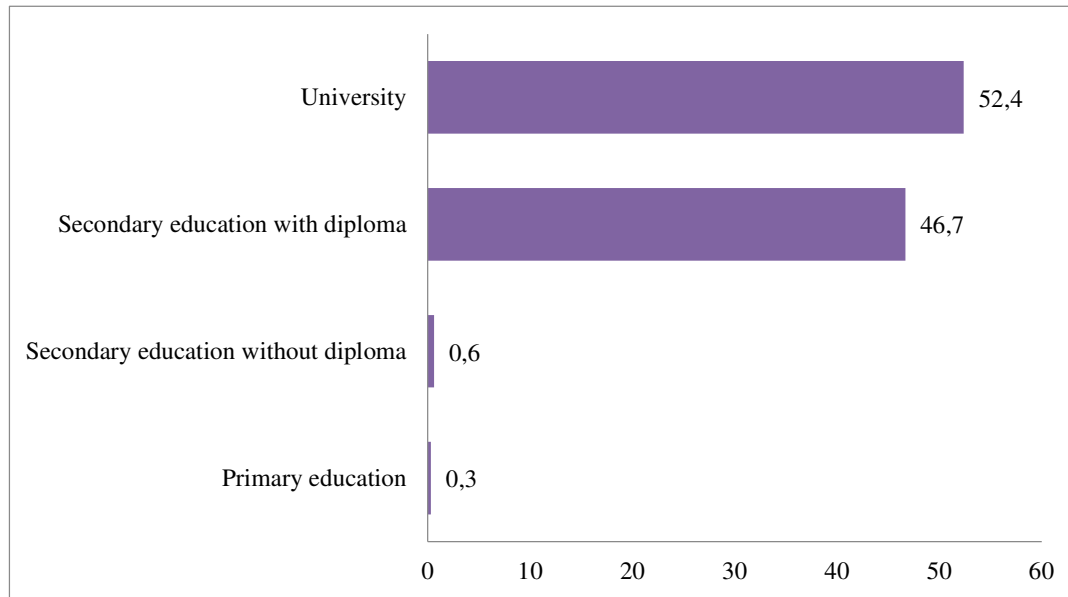


Figure 1: Respondents by age

Regarding education of respondents, respondents with university degree (N = 432, 52.4%) and secondary-school educated respondents with diploma (N = 385, 46.7%) prevailed. The least represented groups were secondary-school educated respondents without diploma (N = 5, 0.6%) and respondents with primary education (N = 2, 0.3%).

Results

The following definitions (outlining specific items from the questionnaire) can be used to formulate the titles of individual factors. The individual factors can then be named as follows:

- Factor 1 - Privacy and sensitive information (items 22, 23, 24, 25, 26, 27, 29)

The first factor was based on studies by Salisbury et al. (2001), Smith et al. (1996) and Yang and Jun (2002). In their research, the authors examined the barriers which discourage consumers from shopping online, their concerns about personal data protection, as well as their perception of the quality of e-services. Based on their proposed constructs, the first factor, consisting of issues aimed at the protection of consumers' personal data and their concerns about the security of information in the process of electronic commerce was proposed.

- Factor 2 - Concerns about the seller's opportunism (items 15, 16, 17, 18)

The second factor was based on studies by Gundlach et al. (1995) and Jap and Anderson (2003). The subject of the authors' research was the structure of liabilities in exchange transactions between consumers and sellers, as well as the process of ensuring performance and continuity based on the past opportunism. Based on their design, a second factor was proposed. It consists of items related to concerns about the seller's opportunism in the process of electronic commerce.

- Factor 3 - Perceived uncertainty associated with online shopping (items 9, 10, 11, 12, 28, 30)

The third factor was based on studies by Torkzadeh and Dhillon (2002) and Salisbury et al. (2001), Smith et al. (1996) and Yang and Jun (2002). The authors examined the factors which influence the success of e-commerce, as well as the barriers which discourage consumers from shopping online and their perception of the quality of e-services. With regard to their constructs, a third factor was subsequently created. It consists of items regarding the perceived uncertainty in online shopping.

- Factor 4 - Perceived information asymmetry (items 19, 20, 21)

The fourth factor is related to the perceived information asymmetry of consumers. The

factor in question was based on studies by Dunk (1993) and Mishra et al. (1998), who researched the impact of information asymmetry on participants in different transactions, as well as information asymmetry and its level in transactional relationships.

- Factor 5 - Purchasing exposure (items 13, 14).

The last, fifth factor, consists of issues related to involvement in the purchase / purchase exposure. This factor was conceived by Laurent and Kapferer (1985) who focused on measuring consumer engagement in shopping and the perceived importance of online shopping.

The aim of this paper was to find out whether there are statistically significant differences in the assessment of selected factors of uncertainty in online shopping between secondary school educated respondents with diploma and respondents with a university degree. The resulting hypothesis on the existence of statistically significant differences was verified using the nonparametric Man-Whitney U test, as it was not confirmed after testing the normality of the considered variables. The results of the Man-Whitney U test for the extracted 5 factors are shown in Table 1.

Table 1: Results of the Man-Whitney U test for the hypothesis

Factor	Sum – sec. ed. with dipl.	Sum – univ.	U	Z	p-value.	Average - sec. ed. with dipl.	Average – univ.	N sec. ed. with dipl.	N univ.
1	154576.5	179576.5	80271.5	-0.8577	0.3911	4.10	4.21	385	432
2	167161.5	166991.5	73463.5	2.8796	0.0040	4.19	3.91	385	432
3	154961.0	179192.0	80656.0	-0.7435	0.4572	3.97	3.99	385	432
4	152462.0	181691.0	78157.0	-1.4857	0.1374	4.72	4.79	385	432
5	150603.5	183549.5	76298.5	-2.0377	0.0416	3.65	3.74	385	432

The obtained results indicate that regarding factor 2 (concerns about the seller's opportunism), secondary school-educated (with diploma) respondents feel more uncertain than university-educated respondents. Differences between these groups in the assessment of other factors were not confirmed.

Nevertheless, based on the results of the Man-Whitney U test, the hypothesis "We assume that there are statistically significant differences in the assessment of selected factors of uncertainty in online shopping based on education" is confirmed.

Conclusion

Despite more than two decades since the introduction of B2C e-commerce have passed, the uncertainty of the online environment entails still makes many consumers reluctant to engage in online commerce. Uncertainty caused by poor-quality information, seller's

opportunism concerns, and privacy and information security concerns prevent consumers from shopping online. Such behaviour leads to under-consumption and even inefficient allocation of resources.

The research presented the perceived uncertainty and its basic sources as key mitigating variables in explaining the adoption of e-commerce at the B2C level. By identifying the nature of the perception of uncertainty and its underlying sources, this paper helps to understand the basic set of constructs which have been overlooked in the literature on e-commerce.

Based on our research, it can be stated that there are statistically significant differences in the assessment of selected factors of uncertainty in e-commerce based on education.

As commercial websites and e-commerce aim at alleviating perceived uncertainty to facilitate

online transactions, research helps identify sources of perceived uncertainty which need to be mitigated, and also offers a set of specific uncertainty mitigation tools which e-commerce entities can use. The findings suggest that e-commerce entities can reduce uncertainty by increasing their credibility, providing sufficient information and proper product descriptions while ensuring a sense of social presence. Sellers should invest in trusted incentives and tools which help build trust and boost information value of a website, product transparency and social presence.

Acknowledgment

This paper is one of the partial outcomes of the current research under the research grant 1/0609/19 - VEGA "Research on the development of e-commerce and mobile commerce and the impact of modern technologies and mobile communication platforms on consumer behaviour and consumer preferences" and 1/0694/20 - VEGA "Relational marketing research - perception of e-commerce aspects and its impact on purchasing behaviour and consumer preferences"

References

- Alba, J. W. and J. W. Hutchinson, (1987), 'Dimensions of Consumer Expertise,' *Journal of Consumer Research*, 13, pp. 411-443. ISSN 0093-5301
- Bettman, J. R. and C. W. Park, (1980), 'Effects of Prior Knowledge, Exposure, and Phase of the Choice Process on Consumer Decision Processes: A Protocol Analysis,' *Journal of Consumer Research*, 7, pp. 234-248. ISSN 0093-5301.
- Bucko, J., Kakalejčík, L. and Ľ. Nastišin. (2015), 'Use of Smartphones during Purchasing Process,' Proceedings of Central European Conference on Finance and Economics (CEFE), 30 Sep - 1 Oct 2015 (Herlany, SLOVAKIA), pp. 91-97, ISBN 978-80-553-2467-8.
- Egerová, D., Kutlák, J., and L. Eger, (2021), 'Millennial job seekers' expectations: How do companies respond?' *Economics and Sociology*, 14(1), pp. 46-60. ISSN 2071-789X
- Elliot, S. and S. Fowell, (2000), 'Expectations versus reality: a snapshot of consumer experience with internet retailing,' *International Journal of Information Management*, 20(5), pp. 323-336. ISSN 0268-4012.
- Engel, J. and R. D. Blackwell, (1982), *Consumer Behavior*. New York: Dryden Press.
- Fedorko, I. (2018), 'Identifying the deficiencies in the use of e-commerce websites,' 15th Annual International Scientific Conference on Marketing Identity - Digital Mirrors, 6 - 7 November (Smolenice, SLOVAKIA), pp. 296-302, ISBN 978-80-8105-984-1.
- Frieze, A. and W. Pegden, (2018), 'Online purchasing under uncertainty,' *Random Structures & Algorithms*, 53(2). pp. 327-351. ISSN 1098-2418.
- Furner, CH., Racherla, P. and Z. Zhu, (2012), 'Uncertainty, trust and purchase intention based on online product reviews: An introduction to a multinational study,' *International Journal of Networking and Virtual Organisations*, 11(3/4), pp. 260-276. ISSN 1470-9503.
- Gozgor, G. and E. Demir, (2018), 'The Effects of Economic Policy Uncertainty on Outbound Travel Expenditures,' *Journal of Competitiveness*, 10(3), pp. 5-15. ISSN 1804-1728.
- Howard, J. A. and J. N. Sheth, (1969), *The Theory of Buyer Behavior*. New York: John Wiley.
- Huang, W-S., Chang, Ch-T. and W-Y, Sia, (2019), 'An empirical study on the consumers' willingness to insure online,' *Polish Journal of Management Studies*, 20(1), pp. 202-212. ISSN 2081-7452
- Jap, S. D. and E. Anderson, (2003), 'Safeguarding Interorganizational Performance and Continuity Under ex post Opportunism,' *Management Science*, 49(12), pp. 1684-1701. ISSN 1526-5501.
- Kim, Y. and R. Krishnan, (2015), 'On Product-Level Uncertainty and Online Purchase Behavior: An Empirical Analysis,' *Management Science*, 61(10), pp. 2449-2467. ISSN 1526-5501
- Lukáčová, M., Korečko, J., Jenčová, S. and M. Jusková. (2020), 'Analysis of selected indicators of tax competition and tax harmonization in the EU,' *Entrepreneurship and Sustainability Issues*, 8(1), pp. 123-137. ISSN 2345-0282.
- Nguyen, H. M. and B. T. Khoa, (2019), 'The Relationship between the Perceived Mental Benefits, Online Trust, and Personal Information Disclosure in Online Shopping,' *Journal of Asian finance economics and business*, 6(4), pp. 261-270. ISSN 2288-4637.

- Öörni, A., (2003), 'Consumer search in electronic markets: An experimental analysis of travel services,' *European Journal of Information Systems*, 12(1), pp. 30-40. ISSN 0960-085X.
- Schmidt, J. B. and R. A. Spreng, (1996). 'A proposed model of external consumer information search,' *Academy of Marketing Science Journal*, 24(3), pp. 246-256. ISSN 0092-0703.
- Svatosova, V., (2020), 'The Importance of Online Shopping Behavior in the Strategic Management of E-Commerce Competitiveness,' *Journal of Competitiveness*, 12(4), 143-160. ISSN 1876-1932.
- Štefko, R. and V. Šteffek. (2017), 'A Study of Creative Industry Entrepreneurial Incubation,' *Polish Journal of Management Studies*, 15(2), pp. 250-261. ISSN 2081-7452.
- Štefko, R., Pollák, F. and B. Gavurová. (2018), 'Offline and Online Approaches to Quality Perception of Slovak University Hospitals,' *Marketing and Management of Innovations*, 4, pp. 107-115. ISSN 2218-4511.
- Štarchoň, P., Vetrakova, M., Metke, J., Lorincová, S., Hitka, M. and D. Weberova. (2018), 'Introduction of a New Mobile Player App Store in Selected Countries of Southeast Asia,' *Social Sciences*, 7(9), pp. 1-15. ISSN 2076-0760.
- Yang, Z. and M. Jun, (2002), 'Consumer Perception of e-Service Quality: From Internet Purchaser and Non-Purchaser Perspectives,' *Journal of Business Strategies*, 19, pp. 19-41. ISSN 1993-5765.
- Young, M. (2017), *Ogilvy o reklamě v digitálním věku*. Bratislava: Svojtka&Co.