

Technology-Driven Economic Behaviours: The Role of Willingness to Disclose Personal Data in Online Buying and Webrooming

Sigitas Urbonavicius, Mindaugas Degutis

*Faculty of Economics and Business Administration
Vilnius University, Sauletekio al. 9, 10222 Vilnius, Lithuania
E-mail: sigitas.urbonavicius@evaf.vu.lt, mindaugas.degutis@evaf.vu.lt*

<https://doi.org/10.5755/j01.ee.34.5.34782>

Digitalization predetermines variety of economic behaviours that either happen online or integrate online and offline options. For instance, omni-channelling in retail gives buyers options of e-buying and webrooming (searching online, but purchasing offline). This paper highlights the role of willingness of buyers to disclose their personal data in regard to the two behaviours. The willingness is impacted by perceived benefits, privacy risks and trust in a store; relationships between all factors are grounded on social exchange theory. Empirical data from 964 respondents were analysed with the use of structural equation modelling. The findings showed indirect effect of willingness to disclose personal data on webrooming, clarified the way how privacy risks impact the willingness in regard to the two behaviours and confirmed the impact of online buying on webrooming. This way they helped to reduce addressed research gaps and present a substantial novelty.

Keywords: *Willingness to Disclose Personal Data; Online Buying; Webrooming; Store Trust; Privacy Risk.*

Introduction

The advancement of digital technology and the proliferation of e-commerce have significantly transformed consumer behaviour and reshaped the retail landscape. Developments of electronic commerce made online purchasing an integral part of lifestyles in many countries because it offers many advantages, particularly those linked with the convenience of the entire buying process (Heitz-Spahn, 2013). However, the emergence of digitalization triggered not only the economic behaviours that are taking place exclusively online; many of them are integrating both online and offline options. The retail industry is increasingly using omni-channelling (Nguyen *et al.*, 2022), which provides buyers with a range of choices, including e-buying (purchasing online) and webrooming (conducting online research and subsequently making purchases offline).

Online buying is not only associated with benefits, but also with certain risks (Guru *et al.*, 2020). Many of them are linked with the disclosure of personal data that could be perceived as being risky in terms of privacy (Robinson, 2018; Swani, Milne & Slepchuk, 2021; Kolotylo-Kulkarni *et al.*, 2021; Mwesiumo *et al.*, 2021, Tronnier *et al.*, 2022). Therefore, perceived benefits and privacy risks together predict various levels of willingness to disclose personal data that typically is analysed within the framework of privacy calculus (Gouthier *et al.*, 2022). Perceived risks and perceived benefits heavily depend on the trust in a store, which is another important predictor of the willingness to disclose personal data that makes the perception about data disclosure substantially more positive (Degutis *et al.*, 2021). Trust factor is not typical for privacy analysis in the context of Privacy Calculus; however, it is a key element of Social Exchange Theory that is increasingly used in data disclosure studies (Urbonavicius *et al.*, 2021; Pallant *et al.*, 2022; Degutis *et al.*, 2023).

Though online purchasing is very widely used, a purchasing process does not always end in an online store: after browsing online, one may decide to go to a physical store and complete the purchasing process there. This type of cross-channelling purchasing behaviour (webrooming) includes the use of an online channel for the first part of the purchasing process and an offline (traditional) channel for the second (Flavian *et al.*, 2019). Both online purchasing and webrooming may be subjected to the considerations about benefits, risks and trust in a store, but it appears that the willingness to disclose personal data should have a different relationship with online purchasing and webrooming. Whereas the willingness to disclose data is positively linked with online buying, it may be assumed that the lack of willingness triggers the search for a channel that does not require personal data disclosure and, therefore, is likely linked with webrooming. In other words, one of the reasons for webrooming might be a low willingness to disclose personal data at the end of the purchasing process. However, this issue is rather underresearched, and there is a major gap of knowledge in regard to the relationship of willingness to disclose personal data and webrooming. Only a few studies reported that if consumers do not perceive online transactions as being safe and secure, they might consider switching from online to offline channels during the purchasing process (Shankar, 2020; Shankar & Jain, 2021). However, these studies concentrated on general transaction-based security and privacy concerns, and did not directly consider the willingness to disclose personal data. Therefore, the question regarding the relationship between the willingness to disclose personal data and webrooming behaviour remains unanswered. It can only be assumed that this relationship is negative because the increase in willingness to disclose personal data perhaps reduces the need for webrooming if privacy risks are considered.

Therefore, the study addresses a research gap on the relationship between willingness to disclose personal data and webrooming by seeing it in parallel with another behaviour - online buying. Additionally, the paper aims to assess another research gap on the effects of privacy risks of personal data disclosure on webrooming, especially – when both direct and indirect effects of the risks are considered. And finally, the paper addresses the gap of understanding the relationship between online buying and webrooming. The two behaviours tend to be analysed separately, though they have undoubtful linkages from the seller's perspective (Acquila-Natale & Iglesias-Pradas, 2020) and the latter even may threaten reducing profitability of retailers (Heitz-Spahn, 2013). To sum up, the ways how customers respond to omnichannel retailing strategies remain rather unclear (Yin *et al.*, 2022).

All these research gaps are addressed with the help of modelling willingness to disclose data on the basis of social exchange theory that enables to integrate the perceived benefits, privacy risks and trust in a store together with the two types of buying behaviour.

Literature Review

Social exchange theory grounded effects of perceived benefits and risks

Social exchanges are present in numerous business interactions, and they are analysed from various theoretical perspectives (Shi, 2022). However, there is a theoretical grounding that may help addressing the issue of social exchanges very directly: that is Social Exchange Theory. Starting from the middle of the last century, Social Exchange Theory historically emerged from rational choice models and attempted to explain how people develop social interactions for mutual benefits (Homans, 1958). In interactions, they exchange the resources available to them, which can be highly diverse: money, services, goods, feelings, information or status (Foa & Foa, 1974). Another important notion is that if exchanges take place, a sense of reciprocity occurs. Reciprocity is crucial for building trust between exchange participants; trust is considered a key factor in social exchanges in the context of Social Exchange Theory (Molm *et al.*, 2009). On its turn, trust is closely linked with the perception of benefits of the exchange, since exchanges with trusted partners seem less risky and more beneficial (Degutis *et al.*, 2023). When consumers engage in social exchanges with trusted partners, they expect that the benefits they receive will be in line with the values they give (Molm *et al.*, 2009).

Social Exchange Theory is helpful in explaining business relationships and many interactions between companies and their clients in marketing (Lambe *et al.*, 2001; Sierra & McQuitty, 2005; Kim *et al.*, 2022). Typically, it is applied to the economic exchanges of goods or services; however, social exchange theory appeared very helpful also in explaining exchanges of personal data between buyers and sellers (Urbonavicius *et al.*, 2021; Zimaitis *et al.*, 2022). When personal data are considered as a resource to be exchanged, a positive impact of perceived benefits on the willingness to disclose personal data could be expected. Indirectly, this relationship has been observed

by studies that have used several different theoretical groundings (Dinev & Hart, 2006; Kim *et al.*, 2019; Bhatia, 2020). However, the evidence from the perspective of social exchange theory is highly limited (King, 2018) and does not allow to firmly justify this relationship within the framework of this theory. Therefore, we formulate hypothesis H1:

H1: Perceived benefit positively impacts willingness to disclose personal data.

On the other hand, perceived benefit is important not only because of its direct influence on the exchange but also for building trust in relationships. As Molm *et al.* (2009) suggested, trust is one of the key factors in creating a lasting bond between the participants in a relationship. As a result, the relationships and reciprocity in exchange always lead to the emergence and growth of trust (Molm *et al.*, 2000). The exchange partner in online purchasing is a retailer (a store); there are theoretical assumptions that store trust is important mediator between various groups of factors and willingness to disclose personal data (Urbonavicius *et al.*, 2023). However, empirical evidence on the relationship between perceived benefit and store trust is minimal, just from a study that has analysed it together with the impact of perception of relative power (Degutis *et al.*, 2023). Therefore, it is predicted:

H2: Perceived benefit positively impacts store trust.

Many studies analyse trust and risk as linked among themselves, but opposite antecedents that influence consumer attitudes or behaviours online (Pappas, 2016; Ventre & Kolbe, 2020). Because of their nature, trust influences the willingness to buy online positively, whereas perceived risk has the opposite effect (Yang *et al.*, 2015; Kim *et al.*, 2008, Anic *et al.*, 2019).

However, studies on these relationships demonstrate somehow conflicting results. In the context of Social Exchange Theory, it has been argued that risk aversion can be a strong motivator to not engage in an exchange (Molm, 2003). However, Ling *et al.* (2011) demonstrated counterintuitive results that perceived risk positively impacts online trust. Although the study does not provide a rationale for this result, it agreed with the results of a study that found a positive relationship between perceived risk and online trust (Koufaris & Hampton-Sosa, 2004). There is also more general conclusion of Palos-Sanchez *et al.*, (2019) that privacy-based relationships change over time with the number of interactions. All these studies did not directly address the association between privacy risk and trust in a store but created rather unclear and controversial contexts in this regard. We approach the issue from the standpoint of social exchange theory that grounds the idea that higher uncertainty and risk generate lower levels of trust and predict a negative relationship between these two factors:

H3: Privacy risk negatively impacts store trust.

Based on social exchange theory, store trust is a situational type of trust and is highly likely to positively impact the willingness to disclose personal data. This

relationship occurs because trust in the other party of the exchange encourages to continue to participate in the exchange and make owned resources available to the other partner of the exchange. This type of relationship is well derived from theoretical assumptions of social exchange theory (Molm *et al.*, 2000) and is supported empirically with the use of other theoretical backgrounds (Heirman *et al.*, 2013). It is likely that store trust is important antecedent of the willingness to disclose personal data in retailing, and also an important mediator of impacts of other factors (Urbonavicius *et al.*, 2023). Since the empirical evidence on this that would be based on social exchange theory is still relatively scarce, we formulate hypothesis H4.

H4. Store trust positively impacts willingness to disclose personal data.

Online buying and webrooming

Based on the natural advantages of e-commerce, online buying is viewed as a value-added shopping type that can improve the overall experience within a purchasing process (Gross, 2015). It is not surprising that consumers are actively using online channels to browse for products because such channels are acknowledged as highly convenient for finding product-linked information (Balasubramanian *et al.*, 2005; Moran *et al.*, 2014; Boardman and McCormick, 2018). They provide information about a product's technical attributes, allow better comparison between offerings and enable consumers to purchase from any location (Amaxilatis & Giannakopoulou, 2018). The growth of mobile technologies worldwide has made online purchasing even more accessible with mobile devices, enabling shopping possible in any place at any time (Agrébi & Jallais, 2015; Flavian *et al.*, 2019). Therefore, when buyers prefer minimising the energy and resources they spend during the purchasing process, online channels are seen as a particularly suitable choice (Agag & El-Masry, 2017). Retailers also acknowledge good possibilities to place a large product variety online and see positive reactions of buyers in this regard (Gross, 2015).

However, a purchasing process that is started online does not always end in an internet store. Switching to a physical channel for the final step of purchasing is also a common choice; this defines webrooming, as a purchasing behaviour that includes searching online, but finalising the purchase in an off-line store (Wolny & Charoensuksai, 2014; Shankar & Jain, 2021). This process occurs despite the fact that it is convenient to make both purchasing process steps (information search and purchasing) online (Elliot *et al.*, 2012). Furthermore, a large part of webrooming instances are intentional rather than spontaneous (Maggioni *et al.*, 2020). Hence, the webrooming option gives buyers some additional aspects of value, and many retailers develop omnichannel models aiming for higher loyalty of buyers (Lazaris *et al.*, 2021).

Buyers might change the channel within the process of purchasing (webroom) because this approach brings more reassurance for them about the purchase (Flavian *et al.*, 2016).

Webroomers enjoy the convenience of browsing online and integrate that with the benefits of receiving live advice

from salespeople and can examine the product physically (Fernandez *et al.*, 2018). One more reason for choosing to webroom is the possibility of gaining experience with a product and interacting with selling staff (Shankar & Jain, 2021); for which buyers are even willing to sacrifice some element of purchasing convenience (Goraya *et al.*, 2020). This means that generally webrooming is impacted by a broad range of its antecedents (Aw, 2019; Santos & Gonçalves, 2019).

However, there is one more aspect that makes online purchasing and webrooming different: the requirement to disclose personal data at the final stage of purchasing that is present in online purchasing but non-existent in webrooming. From the standpoint of privacy, an online purchase might be considered rather risky (Marriott *et al.*, 2017; Dai *et al.*, 2014), and privacy concerns have a substantial impact on purchasing intentions (Balapour *et al.*, 2020, Liao *et al.*, 2011). This might be partially reduced by the implementation of safe transactions and by demonstration of assurance seals that are aimed at ensuring the safety of data handling (Kim *et al.*, 2008). However, buyers are not always well aware of them (Youn, 2009), and then perceived privacy risks remain a substantial obstacle for using the online channel (Anic *et al.*, 2018). As a result, consumers might seek other alternatives that do not require the disclosure of personal data, one of them being webrooming. Therefore, we predict:

H5: Privacy risk positively impacts webrooming behaviour.

Personal data disclosure for online retailers is a relatively common concern that buyers have. The disclosure of personal data is perceived as a barrier that reduces the willingness to disclose personal data. However, if consumers feel that the barrier is low (online channel is secure and trusted), they are rather willing to disclose personal data and purchase online (Guru *et al.*, 2020; Urbonavicius *et al.*, 2021). Therefore, we predict that:

H6 Willingness to disclose personal data positively impacts online buying.

The relationship between willingness to disclose personal data and webrooming appears to be the opposite. It is suggested that attitudes towards webrooming and actual webrooming behaviour could be impacted by online trust perceptions and lack of trust (Arora & Sahney, 2017). If the data disclosure is perceived as a serious obstacle and a barrier to finalising a purchase online, other alternatives might be considered (Chou *et al.*, 2016). The most obvious of them-webrooming-does not require a significant amount of data disclosure in the final stage of the process. Put together with the natural advantages of webrooming, such as the possibility of having contact with a product and obtaining the assistance of sales personnel (Heitz-Spahn, 2013; Flavian *et al.*, 2019; Aquila-Natale & Iglesias-Pradas, 2020), webrooming becomes a highly attractive alternative for buyers that are worried about the disclosure of their personal data online. Hence, low levels of willingness to disclose personal data could generate higher levels of webrooming behaviour. There is no known

empirical evidence regarding this relationship, but based on the logics presented above, we propose:

H7: Willingness to disclose personal data negatively impacts webrooming.

Sometimes, it appears that online channels do not always address all expectations of a buyer; poor online experiences increase consumers' intentions to look for options, such as webrooming (Schiessl *et al.*, 2023). This issue might occur because of the necessity to physically approach a product before buying as a result of the need for touch (De Canio & Fuentes-Blasco, 2021) or due to the need of immediate possession of a product (Aw, 2019). This is even more important for previously dissatisfied buyers, who have acquired experience of issues with the quality of products acquired online or inconveniences of returning them to sellers, particularly if the products are highly important to them (Jang *et al.*, 2017). Buyers who have substantial experience in online buying tend to know the types of products and occasions of online purchasing that are not really satisfactory to them, and in these instances, webrooming may serve as a risk-reducing strategy (Elliot *et*

al., 2012; Shankar & Jain, 2021). Therefore, active purchasing online might be a reason to better know instances when webrooming is superior to online purchasing (Maggioni *et al.*, 2020). All together this makes various forms of channel integration and research shopping increasingly important to buyers (Swoboda & Franzel, 2022; Weber & Maier, 2020). Therefore, we predict that online buying is positively linked with webrooming:

H8: Online buying positively impacts webrooming.

Method

Model

The above-presented hypotheses are integrated into a research model that is built on the basis of Social Exchange Theory and links the discussed factors with two buying behaviours. In the model (Figure 1), perceived benefits and perceived trust represent two initial antecedents that are opposite by their very essence and known impacts.

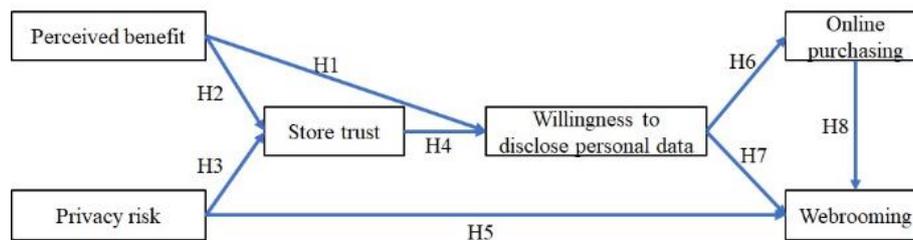


Figure 1. Research Model

Store trust presents a key situational factor in this model, since trust by definition takes a very important place in the framework of the applied Social Exchange Theory. Hypotheses H5-H8 reflect the relationships that are largely under-researched, since two buying behaviours (online buying and webrooming) are rarely modelled together (Acquila-Natale & Iglesias-Pradas, 2020). The key justification for such modelling in this study lies in the nature of the two behaviours: the first step in both instances is performed online, and the second step is performed in two different channels due to one's level of willingness to disclose personal data and general perceptions of risks of personal data disclosure.

Measures

The factors have been assessed with the help of scales that have been successfully used in earlier studies. Perceived benefit was measured with the 7-item scale that was used by Gomez-Barroso *et al.* (2018) and have asked to express opinion on whether a store or a buyer received more from the exchange of personal into the benefits offered by the store. The variable has been measured after respondents have been presented with a scenario that described the benefits a store offers in exchange for the registration to its site: one percent discount for all purchases and personalized offerings for future browsing. Privacy risk was measured with a 3-item scale taken from the study of Xu *et al.* (2009),

like “providing this store with my personal information would involve many unexpected problems”. In order to ensure robustness of findings and cover instances ranging from very strict to less strict legal contexts of privacy regulations, half of the respondents have been informed that the store operates in a country that applies highly demanding regulation of privacy (such as GDPR). Another half of respondents have been informed that a store operates from a country that does not apply strict regulations of privacy.

Trust in a store was assessed with 2-item scale used by King (2018). Willingness to disclose personal data was measured with the scale suggested by Gupta *et al.*, (2010), later used by Robinson (2017) and Urbonavicius *et al.* (2021). In each study, the scale was modified and included a different number of types of personal data. This study included six items of the most frequently required personal data: first name, last name, age, home address, mobile phone number and e-mail address. This strategy was used to develop a good consistency of the measure because it has been observed that the scale might be sub-divided into several parts that interact with other variables in different ways (Degutis *et al.*, 2020). Typical buying behaviours (online buying and webrooming) were measured as responses to the following question: How typical is this purchasing behaviour when you buy apparel products? In the case of online buying, the behaviour was described as “You browse online and purchase online”, whereas for

webrooming, the description was “You browse online and purchase in an offline store”. All items of scales were assessed with a 7-point Likert scale.

Procedure and Data

The data were collected using a representative survey in Lithuania that generated a sample of 964 respondents. Representing Lithuania’s population within no more than 5 % error, this sample included 41.1 % males and 59.9 % females. The participants were aged 18–65 years; 30.0 % of respondents were 18–34 years of age, 31.8 % 35–49 years and 38.2 % 50–65 years.

At the beginning of the survey the respondents were asked about their typical purchasing modes and responded to the statements in regard to online buying and webrooming. After that they have been presented with the scenarios that explained the benefits offered by a store for

the personal data disclosure and with the description about the strictness of privacy regulation applied to a store. After that, they sequentially answered questions about perceived benefits, risks, trust in a store and willingness to disclose personal data in a described situation.

The suitability of measures for the analysis has been assessed with the help of confirmatory factor analysis. The fit of the model was acceptable (CMIN/DF=4.878; TLI=0.953; CFI=0.961; RMSEA=0.055; PCLOSE=0.062). The reliability and validity of the obtained scales were assessed by measuring the composite reliability (above 0.70, as suggested by Bagozzi & Yi, 2012). As recommended by Fornell and Larcker (1981), the standardised factor loadings exceeded 0.50; the average variance extracted (AVE) exceeded 0.50; squared AVE values for each construct were higher than the correlation values of that construct (Table 1).

Table 1

Validity and Reliability of Scales

	CR	AVE	Store Trust	P_Benefit	WTD	P_Risk
Store trust	0.889	0.800	0.895			
Perceived benefit	0.929	0.685	0.684	0.828		
Willingness to disclose personal data	0.897	0.594	0.588	0.513	0.77	
Privacy risk	0.863	0.681	-0.113	-0.087	-0.09	0.825

* CR – composite reliability; AVE – average variance extracted; P_Benefit – Perceived benefit; WTD – Willingness to disclose personal data; P_Risk – Privacy risk.

The common latent factor test was found to be positive; the difference between fully restricted and unrestricted models was 203.2 in chi-square and 17 degrees of freedom. The fit of the model that includes common latent factor was appropriate: CMIN/DF=3.613; TLI=0.968; CFI=0.978; RMSEA=0.051; PCLOSE=0.350. Based on that, factors were imputed with consideration of the common latent factor.

Findings

The fit of the structural model (Figure 2) was satisfactory: CMIN/DF=4.932; TLI=0.927; CFI=0.971; RMSEA =0.063; PCLOSE=0.151. The model was used for testing hypotheses.

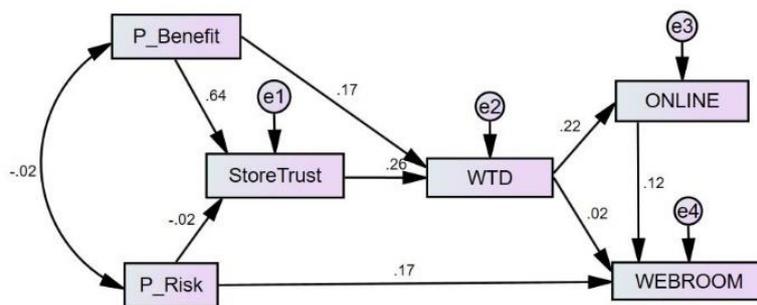


Figure 2. Structural Model

Tests of hypotheses were performed on the basis of the standardised regression weights.

Two hypotheses predicted the impacts of perceived benefit: H1 – positive impact on willingness to disclose personal data; H2 – positive impact on store trust. Both hypotheses were confirmed ($\beta=0.167$ and $\beta=0.644$, respectively). In both instances, $p \leq 0.001$.

H3 predicted the negative impact of privacy risk on store trust. This hypothesis was rejected because the relationship was not significant ($p=0.427$). H4 proposed that store trust positively impacts the willingness to disclose

personal data, and it was accepted ($\beta=0.259$, $p \leq 0.001$). H5 predicted the direct positive impact of privacy risk on webrooming—it was accepted ($\beta=0.170$, $p \leq 0.001$). It was expected that the willingness to disclose personal data positively impacts online buying (H6) but negatively—webrooming (H7). H6 was accepted ($\beta=0.255$, $p \leq 0.001$); however, H7 was rejected due to the insignificance of the relationship ($p=0.510$). The final hypothesis—H8—predicted the positive influence of online buying on webrooming, and it was accepted ($\beta=0.117$, $p \leq 0.001$). A summary of these tests is presented in Table 2.

Table 2

Standardised Regression Weights

Hypothesis	Relationship		Estimate	p	Result
H1	WTD	<--- Perceived benefit	0.167	***	Accepted
H2	Store trust	<--- Perceived benefit	0.644	***	Accepted
H3	Store trust	<--- Privacy risk	-0.019	0.427	Rejected
H4	WTD	<--- Store trust	0.259	***	Accepted
H5	Webrooming	<--- Privacy risk	0.170	***	Accepted
H6	Online buying	<--- WTD	0.255	***	Accepted
H7	Webrooming	<--- WTD	0.021	0.510	Rejected
H8	Webrooming	<--- Online buying	0.117	***	Accepted

***significant at $p \leq 0.001$

Discussion, Conclusions and Implications

The study has addressed several research gaps, and elaborated knowledge on important interactions between analysed factors.

The analysis disclosed the relationship between the perceived benefit of data disclosure and the willingness to disclose personal data. The relationship is interpreted by social exchange theory as a form of social exchange between an individual and a store (Urbonavicius *et al.*, 2021; Zimaitis *et al.*, 2022). This result agrees with former studies and extends their findings by adding the additional aspect: the direct impact of perceived benefit remains significant even when modelled together with the indirect effects that is mediated by store trust.

It was observed that perceived benefit was strongly linked with the trust in a store. This result was expected because a store is the subject of the offered benefits, and they are interrelated (Grosso *et al.*, 2020). Additionally, this is in line of the concept of reciprocal relationships known from the interpretations of social exchange theory (Molm, 2003). Considering the model used in this study, these findings allow to draw the conclusion that perceived benefit is an important antecedent of online behaviours that indirectly influences both online buying and webrooming.

It was expected that privacy risk would negatively impact store trust due to the fact that a store asks for personal data disclosure-an important aspect of the risk in purchasing (Schomakers *et al.*, 2019). The current data did not allow to confirm this assumption; the relationship was insignificant. However, the concept of a negative relationship remains under consideration and may be seen as a direction for further studies.

The relationship between store trust and willingness to disclose personal data was confirmed. This finding agrees with the overall importance of trust in the framework of social exchange theory and with the former studies on data disclosure (Urbonavicius *et al.*, 2021; Zimaitis *et al.*, 2022). However, the findings of the current study add the robustness to the scientific knowledge on this issue, since it scenario that was different from the previous studies (included requirement to register to a store, offered different benefits and covered two contexts of privacy regulation environments for a sore).

It was predicted that privacy risk would positively impact webrooming behaviour. This assumption was based on the fact that webrooming might be a choice for buyers

who endeavour to avoid online buying because of the requirement to disclose personal data in the final stage of a buying process (Swani *et al.*, 2021). This assumption appeared to be correct-there is a positive relationship between privacy risk and webrooming. Therefore, we conclude that privacy risk is one of the reasons for webrooming behaviour, updating the observation of Shankar (2020).

It was predicted that the willingness to disclose personal data impacts online buying positively, but webrooming – negatively. The first assumption was grounded on the fact that individuals with high levels of willingness do not perceive data disclosure as an obstacle to online buying, and the relationship between them is positive. Thus, based on the findings we conclude that the willingness to disclose personal data reflects the reduction of one of the barriers to online buying behaviour (Chou *et al.*, 2016). The assumption about the negative relationship between the willingness to disclose personal data and webrooming was also based on the understanding that data disclosure might be a barrier towards online buying, but it is not important in webrooming, where disclosure is not necessary. The findings did not allow to confirm this assumption because the relationship between the willingness to disclose personal data and webrooming appeared insignificant. Statistically, this result might, to some degree, be explained by the presence of the direct impact of privacy risk on webrooming, reducing the indirect effect of privacy risk via mediation of the willingness. However, this issue remains a promising direction for future research.

The relationship between online buying and webrooming was predicted with a relatively small amount of former empirical evidence (Fernandez *et al.*, 2018; Acquila-Natale & Iglesias-Pradas, 2020; Weber & Maier, 2020). and was more based on the assumption that experts of online buying are aware of cases when it is not completely perfect, and contact with a physical product and/or salesperson might be beneficial. This relationship could be associated with the need to touch products and with inconveniences when online purchased products need to be returned (Flavian *et al.*, 2019). Although not strongly supported by former findings, this assumption appeared correct-the conclusion is that online buying positively impacts webrooming behaviour. This is a strong managerial insight inviting to consider the linkage between the two buying behaviours. Another managerial implication

suggests that trust in a store is a key predictor of willingness to disclose personal data to it, and it is strongly impacted by the perceived benefits. Since privacy risk, in contrary, has no impact on the store trust, managers should concentrate on the benefits' aspect when building trust in a store.

Limitations and Further Research

The study includes several limitations that simultaneously outline the directions and point out important elements for further research.

The study was successful in terms of putting two online buying behaviours on the same theoretical ground and integrating them into one research model. This is a strong encouragement to continue this concept in future studies that will analyse the two behaviours. However, the current study included a methodological limitation in measuring online buying and webrooming: these behaviours have been measured based on the respondents' self-assessment of their purchasing habits. There are many more methodological approaches (including experiments) that may measure these factors in other ways. This would be very important, since

it would allow to re-assess relationship between willingness to disclose personal data and webrooming.

Another limitation of this study may be related to the choice of the scale that measured store trust. Though the scale was well performing in former studies and allowed to test H2 and H4 in the current study, there is still a possibility that the insignificant relationship between privacy risk and trust in a store is partially subjected by the used scale. Therefore, another scale for this factor would be an option. However, much stronger suggestion for future studies is to concentrate on the analysis of relationship between privacy risk and trust in a store with considerations of additional factors and theoretical considerations. Strong evidence of the absence of relationship between privacy risks and trust in a store would help to develop interesting insights about the relationship between privacy and trust.

Finally, an interesting direction for future studies is the elaboration on impact of online purchasing on webrooming. The current study just stated the presence of the relationship, which is appropriate for an exploratory finding. However, the reasons of this relationship need to be elaborated in further studies.

Acknowledgement

This project has received funding from the Research Council of Lithuania (LMTLT), Agreement No S-MIP-19-19.

References

- Acquila-Natale, E., & Iglesias-Pradas, S. (2020). How to measure quality in multi-channel retailing and not die trying. *Journal of Business Research*, 109, 38–48. <https://doi.org/10.1016/j.jbusres.2019.10.041>
- Anic, I.-D., Budak, J., Rajh, E. Recher, V., Skare, V., & Skrinjaric, B. (2018). Extended model of online privacy concern: what drives consumers' decisions? *Online Information Review*, 43(5), 799–817. <https://doi.org/10.1108/OIR-10-2017-0281>
- Anic, I.-D., Skare, V., & Milakovic, I. K. (2019). The determinants and effects of online privacy concerns in the context of e-commerce, *Electronic Commerce Research and Applications*. <https://doi.org/10.1016/j.elerap.2019.100868>
- Arora, S., & Sahney, S. (2017). Webrooming behaviour: a conceptual framework. *International Journal of Retail & Distribution Management*, 45(7/8), 762–781. <https://doi.org/10.1108/IJRDM-09-2016-0158>
- Aw, E. C. X. (2019). Understanding the webrooming phenomenon: shopping motivation, channel-related benefits and costs. *International Journal of Retail & Distribution Management*, 47(10), 1074–1092. <https://doi.org/10.1108/IJRDM-01-2019-0026>
- Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8–34. <https://doi.org/10.1007/s11747-011-0278-x>
- Balapour, A. Nikkhah, H. R., & Sabherwal, R. (2020). Mobile application security: Role of perceived privacy as the predictor of security perceptions. *International Journal of Information Management*, 52. <https://doi.org/10.1016/j.ijinfomgt.2019.102063>
- Bhatia, V. (2020). Drivers and barriers of permission-based marketing, *Journal of Research in Interactive Marketing*, 14(1), 51–70. <https://doi.org/10.1108/JRIM-07-2018-0088>
- Chen, X., Sun, J., & Liu, H. (2021). Balancing web personalization and consumer privacy concerns: Mechanisms of consumer trust and reactance. *Journal of Consumer Behaviour*. 1–11. <https://doi.org/10.1002/cb.1947>
- Chou, S. Y., Shen, G. C., Chiu, H. C., & Chou, Y. T. (2016). Multichannel service providers' strategy: Understanding customers' switching and free-riding behavior. *Journal of Business Research*, 69(6), 2226–2232. <https://doi.org/10.1016/j.jbusres.2015.12.034>
- Dai, B.; Forsythe, S. & Kwon, W-S. (2014). The impact of online shopping experience on risk perceptions and online purchase intentions: does product category matter? *Journal of Electronic Commerce Research*, 15(1), 2014, 13–24.

- De Canio, F. & Fuentes-Blasco, M. (2021). I need to touch it to buy it! How haptic information influences consumer shopping behavior across channels. *Journal of Retailing and Consumer Services*, 61, 102569. <https://doi.org/10.1016/j.jretconser.2021.102569>
- Degutis M., Urbonavicius S. & Skare, V.(2021). Willingness to disclose personal data in online shopping as a case of reciprocal social exchange. *Proceedings of the European Marketing Academy*, 50th, (104265).
- Degutis, M., Urbonavičius, S., Hollebeek, L.D. and Anselmsson, J. (2023). Consumers' willingness to disclose their personal data in e-commerce: A reciprocity-based social exchange perspective. *Journal of Retailing and Consumer Services*, 74, p.103385. <https://doi.org/10.1016/j.jretconser.2023.103385>
- Degutis, M., Urbonavicius, S., Zimaitis, I., Skare, V., & Laurutyte, D. (2020). Willingness to disclose personal information: How to measure it? *Inzinerine Ekonomika-Engineering Economics*, 31(4), 487–494. <https://doi.org/10.5755/j01.ee.31.4.25168>
- Dinev, T. & Hart, P. (2006). An Extended Privacy Calculus Model for E-Commerce Transactions. *Information Systems Research*, 17(1), 61–80. <http://www.jstor.org/stable/23015781>. <https://doi.org/10.1287/isre.1060.0080>
- Elliot, M.T., Fu, F.Q. & Surgi Speck, P. (2012). Information Search and Purchase Patterns in a Multichannel Service Industry. *Services Marketing Quarterly*, 33, 292–310. <https://doi.org/10.1080/15332969.2012.714703>
- Fernandez, N. V., Perez, M. J. S., & Vazquez-Casielles, R. (2018). Webroomers versus showroomers: are they the same? *Journal of Business Research*, 92, 300–320. <https://doi.org/10.1016/j.jbusres.2018.08.004>
- Flavian, C., Gurrea, R., & Orus, C. (2016). Choice Confidence in the Webrooming Purchase Process: The Impact of Online Positive Reviews and the Motivation to Touch. *Journal of Consumer Behaviour*, 15, 459 –476. <https://doi.org/10.1002/cb.1585>
- Flavian, C., Gurrea, R., & Orus, C. (2019). Feeling confident and smart with webrooming: understanding the consumer's path to satisfaction. *Journal of Interactive Marketing*, 47, 1–15. <https://doi.org/10.1016/j.intmar.2019.02.002>
- Foa, U. G., & Foa, E. B. (1974). *Societal Structures of the Mind*, Springfield, IL: Charles Thomas.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Gomez-Barroso, J. L., Feijoo, C. & Martínez-Martínez, I. J. (2018). Privacy calculus: Factors that influence the perception of benefit. *El profesional de la informacion (EPI)*, 27(2), 341–348. <https://doi.org/10.3145/epi.2018.mar.12>
- Goraya, M.A.S., Zhu, J., Akram, M.S., Shareedf, M.A., Malik, A. & Bhatti, Z.A. (2020). The impact of channel integration on consumers' channel preferences: Do showrooming and webrooming behaviors matter? *Journal of Retailing and Consumer Services*. 102130. <https://doi.org/10.1016/j.jretconser.2020.102130>
- Gouthier, M. H., Nennstiel, C., Kern, N., & Wendel, L. (2022). The more the better? Data disclosure between the conflicting priorities of privacy concerns, information sensitivity and personalization in e-commerce. *Journal of Business Research*, 148, 174–189. <https://doi.org/10.1016/j.jbusres.2022.04.034>
- Gross, M. (2015). Mobile shopping: a classification framework and literature review. *International Journal of Retail & Distribution Management*, 43(3), 221–241. <https://doi.org/10.1108/IJRDM-06-2013-0119>
- Grosso, M., Castaldo, S., Li, H. A., & Lariviere, B. (2020). What information do shoppers share? The effect of personnel-, retailer-, and country-trust on willingness to share information. *Journal of Retailing*, 96(4), 524–547. <https://doi.org/10.1016/j.jretai.2020.08.002>
- Gupta, B., Iyer, L. S. & Weisskirch, R. S. (2010). Facilitating global e-commerce: A comparison of consumers' willingness to disclose personal information online in the US and India. *Journal of Electronic Commerce Research*, 11(1), 41–52.
- Guru, S., Nenavani, J., Patel, V. & Bhatt, N. (2020). Ranking of perceived risks in online shopping. *Decision*, 47, 137–152. <https://doi.org/10.1007/s40622-020-00241-x>
- Guru, S., Nenavani, J., Patel, V., & Bhatt, N. (2020). Ranking of perceived risks in online shopping. *Decision*, 47, 137–152. <https://doi.org/10.1007/s40622-020-00241-x>
- Heirman, W., Walrave, M., Ponnet, K., & Gool, E. V. (2013). Predicting adolescents' willingness to disclose personal information to a commercial website: Testing the applicability of a trust-based model. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 7(3), Article 3. <https://doi.org/10.5817/CP2013-3-3>
- Heitz-Spahn, S. (2013). Cross-Channel Free-Riding Consumer Behavior in a Multichannel Environment: An Investigation of Shopping Motives, Sociodemographics and Product Categories. *Journal of Retailing and Consumer Services*, 20, 6, 570–578. <https://doi.org/10.1016/j.jretconser.2013.07.006>
- Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63, 597–606. <https://doi.org/10.1086/222355>
- Jang, S., Prasad, A. & Ratchford, B. (2017). Consumer Search of Multiple Information Sources and its Impact on Consumer Price Satisfaction. *Journal of Interactive Marketing*, 40, 24–40. <https://doi.org/10.1016/j.intmar.2017.06.004>

- Kim D., Park, K., Park, Y. & Ahn, J. (2019). Willingness to provide personal information: Perspective of privacy calculus in IoT services. *Computers in Human Behavior*, 92, 273–281. <https://doi.org/10.1016/j.chb.2018.11.022>
- Kim, D.J., Steinfield, C., & Lai, Y. (2008). Revisiting the role of web assurance seals in business-to-consumer electronic commerce. *Decision Support Systems*, 44(4), 1000–1015. <https://doi.org/10.1016/j.dss.2007.11.007>
- Kim, H., So, K. K. F., & Wirtz, J. (2022). Service robots: Applying social exchange theory to better understand human-robot interactions. *Tourism Management*, 92, 104537. <https://doi.org/10.1016/j.tourman.2022.104537>
- King, J. (2018). Privacy, Disclosure, and Social Exchange Theory (A Dissertation). University of California, Berkeley.
- Kolotylo-Kulkarni, M., Xia, W., & Dhillon, G. (2021). Information disclosure in e-commerce: A systematic review and agenda for future research. *Journal of Business Research*, 126, 221–238. <https://doi.org/10.1016/j.jbusres.2020.12.006>
- Koufaris, M., & Hampton-Sosa, W. (2004). The development of initial trust in an online company by new customers. *Information & Management*, 41, 377–397. <https://doi.org/10.1016/j.im.2003.08.004>
- Lambe, C. J., Wittmann, C. M., & Spekman, R. E. (2001). Social exchange theory and research on business-to-business relational exchange. *Journal of Business-to-Business Marketing*, 8(3), 1–36. https://doi.org/10.1300/J033v08n03_01
- Lazaris, C., Sarantopoulos, P., Vrechopoulos, A., & Doukidis, G. (2021). Effects of increased omnichannel integration on customer satisfaction and loyalty intentions. *International Journal of Electronic Commerce*, 25(4), 440–468. <https://doi.org/10.1080/10864415.2021.1967005>
- Liao, C. Liu, C.-C., and Chen, K. (2011). Examining the impact of privacy, trust and risk perceptions beyond monetary transactions: An integrated model. *Electronic Commerce Research and Applications*, 10(6), 702–715. <https://doi.org/10.1016/j.eierap.2011.07.003>
- Ling, K. C., Daud, D. B., Piew, T. H., Keoy, K. H. & Hassan, P. (2011). Perceived risk, perceived technology, online trust for the online purchase intention in Malaysia. *International Journal of Business and Management*, 6(6), 167–182. <https://doi.org/10.5539/ijbm.v6n6p167>
- Maggioni, I., Sands, S.J., Ferraro, C.R., Pallant, J.I., Pallant, J.L., Shedd, L. & Tojib, D. (2020). Consumer cross-channel behaviour: is it always planned? *International Journal of Retail & Distribution Management*, 48(12), 1357–1375. <https://doi.org/10.1108/IJRDM-03-2020-0103>
- Marriott, H. R., Williams, M. D., & Dwivedi, Y. K. (2017). Risk, privacy and security concerns in digital retail. *The Marketing Review*, 17(3), 337–365. <https://doi.org/10.1362/146934717X14909733966254>
- Molm, L. D. Takahashi, N., & Peterson, G. (2000). Risk and Trust in Social Exchange: An Experimental Test of a Classical Proposition. *American Journal of Sociology* 105.5, 1396–1427. <https://doi.org/10.1086/210434>
- Molm, L. D. (2003). Theoretical Comparisons of Forms of Exchange. *Sociological Theory*, 21(1), 1–17. <https://doi.org/10.1111/1467-9558.00171>
- Molm, L. D., Schaefer, D. R. & Collett, J. L. (2009). Fragile and Resilient Trust: Risk and Uncertainty in Negotiated and Reciprocal Exchange. *Sociological Theory*, 27, 1–32. <https://doi.org/10.1111/j.1467-9558.2009.00336.x>
- Mwesiumo, D., Halpern, N., Budd, T., Suau-Sanchez, P., & Brathen, S. (2021). An exploratory and confirmatory composite analysis of a scale for measuring privacy concerns. *Journal of Business Research*, 136, 63–75. <https://doi.org/10.1016/j.jbusres.2021.07.027>
- Nguyen, A., McClelland, R., Hoang Thuan, N., & Hoang, T. G. (2022). Omnichannel marketing: Structured review, synthesis, and future directions. *The International Review of Retail, Distribution and Consumer Research*, 32(3), 221–265. <https://doi.org/10.1080/09593969.2022.2034125>
- Pallant, J. I., Pallant, J. L., Sands, S. J., Ferraro, C. R., & Afifi, E. (2022). When and how consumers are willing to exchange data with retailers: An exploratory segmentation. *Journal of Retailing and Consumer Services*, 64, 102774. <https://doi.org/10.1016/j.jretconser.2021.102774>
- Palos-Sanchez, P., Saura, J. R., & Martin-Velicia, F. (2019). A study of the effects of programmatic advertising on users' concerns about privacy overtime. *Journal of Business Research*, 96, 61–72. <https://doi.org/10.1016/j.jbusres.2018.10.059>
- Pappas, N. (2016). Marketing strategies, perceived risks, and consumer trust in online buying behaviour. *Journal of retailing and consumer services*, 29, 92–103. <https://doi.org/10.1016/j.jretconser.2015.11.007>
- Robinson, C. (2017). Disclosure of personal data in ecommerce: A cross-national comparison of Estonia and the United States. *Telematics and Informatics*, 34(2), 569–582. <https://doi.org/10.1016/j.tele.2016.09.006>
- Robinson, S. C. (2018). Factors predicting attitude toward disclosing personal data online. *Journal of Organizational Computing and Electronic Commerce*, 28(3), 214–233. <https://doi.org/10.1080/10919392.2018.1482601>
- Santos, S., & Goncalves, H. M. (2019). Multichannel consumer behaviors in the mobile environment: Using fsQCA and discriminant analysis to understand webrooming motivations. *Journal of Business Research*, 101, 757–766. <https://doi.org/10.1016/j.jbusres.2018.12.069>

- Schiessl, D., Korelo, J., & Dias, H. B. A. (2023). How online shopping experiences shape consumer webrooming behavior. *Marketing Intelligence & Planning*, 41(1), 16–30. <https://doi.org/10.1108/MIP-08-2021-0254>
- Schomakers, E. M., Lidynia, C., & Ziefle, M. (2019). A typology of online privacy personalities. *Journal of Grid Computing*, 17(4), 727–747. <https://doi.org/10.1007/s10723-019-09500-3>
- Shankar, A. & Jain, S. (2021). Factors affecting luxury consumers' webrooming intention: A moderated-mediation approach. *Journal of Retailing and Consumer Services*, Vol. 58. <https://doi.org/10.1016/j.jretconser.2020.102306>
- Shankar, A. (2020). How does convenience drive consumers' webrooming intention? *International Journal of Bank Marketing*, 39(2), 312–336. <https://doi.org/10.1108/IJBM-03-2020-0143>
- Shi, Z. (2022). Relationship between Social Exchanges and Financial Performance: Examining a Virtual Community Sponsored by a Cloud Provider. *International Journal of Electronic Commerce*, 26(3), 355–387. <https://doi.org/10.1080/10864415.2022.2076198>
- Sierra, J. J., & McQuitty, S. (2005). Service providers and customers: Social exchange theory and service loyalty. *Journal of Services Marketing*, 19(6), 392–400. <https://doi.org/10.1108/08876040510620166>
- Swani, K., Milne, G. R., & Slepchuk, A. N. (2021). Revisiting Trust and Privacy Concern in Consumers' Perceptions of Marketing Information Management Practices: Replication and Extension. *Journal of Interactive Marketing*, 56, 137–158. <https://doi.org/10.1016/j.intmar.2021.03.001>
- Swoboda, B., & Franzel, N. (2022). Links and effects of channel integration in the prepurchase and purchase stages of omnichannel retailers. *International Journal of Electronic Commerce*, 26(3), 331–354. <https://doi.org/10.1080/10864415.2022.2076197>
- Tronnier, F., Harborth, D. and Hamm, P. (2022). Investigating privacy concerns and trust in the digital Euro in Germany, *Electronic Commerce Research and Applications*, Volume 53, <https://doi.org/10.1016/j.elerap.2022.101158>
- Urbonavicius, S., Degutis, M., Zimaitis, I., & Skare, V. (2023). Impacts of Store Trust Antecedents on Willingness to Disclose Personal Data in Online Shopping. *Organizations and Markets in Emerging Economies* (Special Issue), 14(2), (28). <https://doi.org/10.15388/omee.2023.14.90>
- Urbonavicius, S., Degutis, M., Zimaitis, I., Kaduskeviciute, V., & Skare, V. (2021). From social networking to willingness to disclose personal data when shopping online: Modelling in the context of social exchange theory. *Journal of Business Research*, 136, 76–85. <https://doi.org/10.1016/j.jbusres.2021.07.031>
- Ventre, I., & Kolbe, D. (2020). The impact of perceived usefulness of online reviews, trust and perceived risk on online purchase intention in emerging markets: A Mexican perspective. *Journal of International Consumer Marketing*, 32(4), 287–299. <https://doi.org/10.1080/08961530.2020.1712293>
- Verhagen, T., Meents, S., & Tan, YH. (2006). Perceived risk and trust associated with purchasing at electronic marketplaces. *European Journal of Information Systems*, 15, 542–555. <https://doi.org/10.1057/palgrave.ejis.3000644>
- Weber, A., & Maier, E. (2020). Reducing competitive research shopping with cross-channel delivery. *International Journal of Electronic Commerce*, 24(1), 78–106. <https://doi.org/10.1080/10864415.2019.1683706>
- Wolny, J., & Charoensuksai, N. (2014). Mapping Customer Journeys in Multichannel Decision Making. *Journal of Direct, Data and Digital Marketing Practice*, 15, 317–326. <https://doi.org/10.1057/dddmp.2014.24>
- Xu, H., Teo, H. H., Tan, B. C., & Agarwal, R. (2009). The role of push-pull technology in privacy calculus: the case of location-based services. *Journal of management information systems*, 26(3), 135–174. <https://doi.org/10.2753/MIS0742-1222260305>
- Yang, Q., Pang, C., Liu, L., Yen, D. C., & Tarn, J. M. (2015). Exploring consumer perceived risk and trust for online payments: An empirical study in China's younger generation. *Computers in Human Behavior*, 50, 9–24. <https://doi.org/10.1016/j.chb.2015.03.058>
- Yin, C. C., Chiu, H. C., Hsieh, Y. C., & Kuo, C. Y. (2022). How to retain customers in omnichannel retailing: Considering the roles of brand experience and purchase behavior. *Journal of Retailing and Consumer Services*, 69, 103070. <https://doi.org/10.1016/j.jretconser.2022.103070>
- Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, 43(3). <https://doi.org/10.1111/j.1745-6606.2009.01146.x>
- Zimaitis, I., Urbonavicius, S., Degutis, M., & Kaduskeviciute, V. (2022). Influence of trust and conspiracy beliefs on the disclosure of personal data online. *Journal of business economics and management*, 1–18. <https://doi.org/10.3846/jbem.2022.16119>

Authors Biographies

Sigitas Urbonavičius, Dr., is a Professor at Vilnius University, Department of Marketing. Having his educational background from the universities in the US and Lithuania, he developed his experience working on research/teaching/consulting projects in more than 20 countries. He serves as an Editor-in chief for the journal *Organizations and Markets in Emerging Economies*. His research interests include numerous aspects of consumer behavior, especially concentrating on the privacy issues online. He has published in *Journal of Consumer Behavior*, *Journal of Marketing Education*, *Journal of Business Research*, *International Journal of Market Research*, *Journal of Retailing and Consumer Services* and others.

Mindaugas Degutis, Dr., is an Associated Professor at Vilnius University, Department of Marketing since 2010. His research interests are in areas of consumer behaviour, subjective well-being, electoral studies, political marketing. Mindaugas consults extensively with industry working on a number of marketing research projects. He has published in *Journal of Marketing Education*, *Journal of Business Research*, *Journal of Retailing and Consumer Services*, *Baltic Journal of Management* and others.

The article has been reviewed.
Received in August 2023; accepted in October 2023.



This article is an Open Access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 (CC BY 4.0) License <http://creativecommons.org/licenses/by/4.0>