

## Personalization effects in online retail: Case of the Russian market

Artem Pliatinskii<sup>1</sup>

**Abstract:** The research aims to classify the personalization techniques as optional and those that are taken for granted, define the influence of consumer-related characteristics and purchase channel on the perception of personalization effects. The results are both practical and theoretical in nature. The classification of personalization techniques is conducted, and optional and critically important techniques are identified. The influence of digital literacy, hedonic shopping behavior and purchase channel on the perception of personalization effects is examined and a multifactor model is constructed. It has been identified that these factors do not play the deciding role in the perception of personalization effects.

**Key words:** personalization, personalization techniques, personalization effects, digital literacy, purchase channels

**JEL:** M31

### Introduction

E-commerce has already become an indispensable part of every consumer's day-to-day life. It has changed the buying patterns and expectations of consumers, with Covid-19 accelerating the shift to online platforms. Brick-and-mortar retailers cannot keep pace with the competition without new technologies applications, which is illustrated by the closure of offline retail stores (Green & Harney, 2017). Nevertheless, online shopping gaining popularity quickly is also accompanied by the 'revitalization' of offline channels through new technologies implementation such as VR, AR, data analytics, and robots. McKinsey (2021) shares the insights into the future of retailing, emphasizing the importance of personalization in omnichannel retail. More than that, customers expect a personalized approach in most touchpoints with companies, which puts additional pressure on the company's marketing strategies. These factors underline the importance of the

research in the area and allow to receive practically beneficial results.

As it can be seen, retailers are presented with the task to provide a personalized experience to the customers throughout the omnichannel customer journey. There is a complication with the provision of seamless customer experience, but the issue is complicated even more by the personalization-related problems. Though it might sound as if the more personalized the offer, the better for the company and consumers, it is not always the case. On the one hand, personalization enables retailers to provide an experience tailored to the needs of customers, which is the desired outcome as Martin & Palmatier (2020) highlight that 70% of consumers are dissatisfied with impersonalized customer experience. On the other hand, more than 70% of consumers are concerned about how companies use the data they collect (Auxier et al. 2019). This is one of the most popular paradoxes that complicates the personalization process, but it is the only one out of many. As more and more retailers

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switch to the omnichannel model, it has become an important issue to understand how personalization methods and customer experience differ depending on the channel and the stage of the customer journey. Since a company's resources are limited and should be utilized efficiently, it is crucial to understand which personalization techniques are valued the most by the customers and at which stages. This will potentially allow retailers to concentrate their efforts and resources where customers expect them to provide personalization and know what personalization techniques are taken for granted by the customers.

Speaking about the research gap, it is necessary to stress that two areas of research intersect in this study: personalization and customer experience. The author touches upon the problem of personalization throughout the customer journey in online retail. In the field of research on retail channels such areas as the impact of going multichannel, operational problems and customer experience with little regard to personalization are covered by the existing research. Large amount of research is focused on cannibalization and complementarity effects when adding retail channels. An example of such research is the article by Luo, Zhang, et al. (2020). Though there are some articles that consider customer experience in omnichannel retail, they are mainly focused on customer preference in terms of channels and categories of goods. Other articles such as Bilgihan, et al. (2016) investigate the unified customer experience based on literature investigation. As for the research in personalization field, there are articles that study personalization paradoxes and how to overcome them (Kaaniche, Laurent and Belgith, 2020), customer attitude towards personalized ads depending on different variables (Bleier, Eisenbeiss M, 2015), trust-building strategies (Aguirre, Mahr, et al., 2015) and the use of recommendations

(Dellaert, Häubl, 2012). The article that is closely connected with this research is the work by Riegger, Klein, et al. (2021), which focuses on technology-enabled personalization in retail stores. Their research relies on 25 qualitative interviews and the authors point out, 'Subsequent quantitative studies could offer more objective assessments of the effects of different drivers and barriers on TEP success' (p.152).

There are two main research questions that addressed in this study. The first one is to define which types of personalization are taken for granted and which are considered optional in the customer journey in the context of online retail. Secondly, the research strives to identify the interconnection between the mitigating effects such as purchase channel and the value from personalization and privacy concern. Thus, the aim of the research is to investigate the influence of costumer characteristics and purchase channels on the perception of personalization effects and to classify the personalization techniques. To achieve the aim several tasks are proposed:

1. To investigate the role of personalization in the omnichannel retail through the literature analysis.
2. To define the customer journey in online retail and identify the touchpoints that can be personalized.
3. To identify the factors that influence the perception of personalization effects by consumers.
4. To analyze the influence of identified factors on the perception of personalization effects.
5. To define the basic types of personalization and optional ones.

## **Literature review**

### **Conceptualizing personalization**

To start with, there is no definition of personalization that is accepted by the whole research community (Vesanen, 2007). Though

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usually it is referred to as a targeted, individual-level marketing action or strategy (Tam & Ho, 2006), which implies that a consumer is passive, while all personalization efforts are done by the company. It is also highlighted that one of the key characteristics of personalization is the delivery of the right content to the right person, which maximizes value both for a company and a client. According to Lee and Cranage (2011) 'in e-business, personalization refers to tailoring and recommending products and services according to specific consumer characteristics before a customer begins a search'. Personalization provides such benefits for the consumer as efficiency, convenience, individualization, and hospitality (Chellappa & Sin, 2005). Historically, personalization was attributed to the services due to interpersonal character in contrast to goods. Nevertheless, with the advent of technology, personalization has become a feature embedded in the websites that is no longer for services only (Gogua & Smirnova, 2020). In its current form personalization can be described as embedded communications points, instant communication with an e-store (Song, Zinkhan, 2008).

There are several classifications of personalization techniques. To begin with, personalization can be characterized based on a consumer engagement in communication, which allows to define several personalization types: pull personalization (when a customer explicitly requests personalization), passive personalization (still requires customer's action, but is more reliant on the company), push personalization (company provides personalization service directly to a customer without request from him/her) (Wedel, Kannan, 2016). Apart from that, authors suggest that personalization techniques can be divided into those establishing the feeling of personal communication (achieved through anthropomorphization) and those creating the sense of belongingness to the group and

awareness of a customer preferences (achieved through recommendation systems) (Gogua & Smirnova, 2020). Anthropomorphization refers to such tools as chatbots, intelligent agents and conversation agents, while recommendation systems involve displaying the offers to a customer based on his previous searching history, actions of similar customers or the average preferences of a similar group (Gogua & Smirnova, 2020).

Despite helping customers to gain value from companies faster and improving customer experience, personalization requires the use of personal data, which might lead to misunderstanding and rejection of ads, for example, by the consumers. The additional value delivered by personalization and the constraints related to it are the two factors that underline the necessity of research in the field. Personalization is one of the key instruments to provide value to the customer in the fastest manner. That is why the research also relies on the concept of the value and experiential value, which according to Mathwick et al. (2001, p. 41) is manifested in 4 dimensions: playfulness, aesthetics, service excellence and consumer return on investment (CROI).

Personalization can be implemented with the help of different tools and in various contexts. Examples of personalization may vary from a primitive name addition in marketing materials to customer-specific recommendations with the application of AI. Some of these techniques are already regarded by the consumers as 'must-haves' and those which help to distinguish a retailer from the others. Though 'must-haves' do not add value to the consumers, if those methods are not in place, the retailer is sure to lose points in the eyes of customers. As for the personalization techniques that are considered in this study, the list is formulated through literature analysis and the 16 most common and relevant techniques are chosen for the prioritization in accordance with the prior research (8th International GSOM Emerging Markets

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Conference ,2021). Among the considered personalization techniques are recommendations based on search history, similar products recommendations, chatbots, purchase basket, mobile app and personalization based on geolocation. As for the mobile apps, it is important to consider them due to the fast development of m-commerce. For example, in the USA m-commerce is expected to grow by 13% CAGR, reaching \$ 710 billion by 2025 (Mobile retail e-commerce sales..., 2022).

Previous and current research in the field of personalization can be divided into several broad directions: the effect of personalization on customer experience, privacy-related dilemmas, technologies used in personalization and the ways to mediate negative personalization-related impact. The proposed study will mainly focus on customer experience with the integration of privacy-related problems to understand what factors impact the perception of personalization throughout different touchpoints on the customer journey. Martin, & Palmatier (2020) suggest that future research is concentrated on how data privacy issues arise on the entire journey. This is an important aspect since several articles state that the way personalization is perceived varies depending on the channel (Tyrväinen, et al. 2020). Furthermore, research into how personalization effects differ between online channels can help to fill a knowledge gap since previously many papers focused on the personalization in the context of a specific channel. For example, the social media channel is a distinctive touchpoint, and one of the future research questions may investigate whether people are more relaxed with data privacy there. As for instore personalization, there is an interesting study about how people react to the personalization in public, which is sure to add different variables to the resulting perception of personalization (Hess, et al., 2020). In the omnichannel context the

concept of technology-enabled personalization is important. It is defined as ‘the integration of physical and digital personalization dimensions at the point of sale to provide individual customers with relevant, context-specific information, according to historic and real-time data in combination’ (Riegger, et al., 2021, p.142). The concept emphasizes an ability to provide personalization in omnichannel retail based on the available data on the customer. Though it might sound as a desired result, there are some factors that complicate the personalization process.

There are several personalization paradoxes that show how complicated the issue is. The most studied in the literature are personalization-privacy and humanization-dehumanization paradoxes, but the authors (Riegger, et al., 2021) pointed out that there some other issues that require analysis. Those issues include staff presence – absence, personal – retailer device and exploitation – limitation, which implies the desire to explore on the one hand and the fear of being restricted in choice on the other. The digital literacy is also a complicating factor since without understanding of technology application any personalization techniques make no sense. In the current research the problem of personalization vs privacy is more explicitly reflected in the literature on targeted advertisements and recommendations.

Speaking about the privacy concern, in the literature there are several definitions and the factors that it arises from. Concern about privacy is conceptualized in the work by Smith, Milberg and Burke (1996). The authors initially identify several dimensions of the concern about privacy, including collection, unauthorized secondary use of data, improper access, errors, reduced judgement and combining data (Smith, et al., 1996). Featherman and Pavlou (2003) highlight that ‘privacy concerns refer to the potential loss of control over personal information when released to a firm’. Inman (2017) points out

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that consumers' privacy concerns usually result from the 'three distinct dimensions: collection of personal data, control over the use of personal information by firms, and awareness of privacy practices and how personal data are used'. For this research the variables as privacy concern, which represents collection of personal data and concern about its safety, and vulnerability as fear of loss of control over the personal data are used, while the third dimension, awareness of privacy practices is out of the scope of the research due to resource limitations and different focus. As for the vulnerability, authors state that it arises when there is lack of a sense of control over personal data, which might result in a consumer feeling exposed and powerless (Aguirre, et al., 2015).

On the other hand, a consumer is likely to receive value from personalization. The value is constructed of utilitarian and hedonic components. Two main utilitarian components include decrease in time and effort, better product fit. Authors also point out that "the value of online personalization to a user primarily stems from the fit that a product or service provides, and the convenience of having it delivered in a proactive fashion" (Chellappa & Sin, 2005, p.4), which confirms the constructed dimensions of the value from personalization. As for the hedonic value, it is related to the positive emotional value from personalization, which can be presented in the form of inspiration, intrinsic satisfaction, pleasure at getting discounts, or the shopping experience (Riegger, et al., 2021, p.144), which is comprised of the feeling of uniqueness and better communications. Whether the customers will receive the value from the personalization will depend heavily on how the data on the customers was collected, whether customers were notified about the use of their personal data and where and when the advertisement was shown. It is highlighted that being unaware of data collection and

receiving personalized offers and advertising a customer is likely to be exposed to a higher degree of vulnerability (Aguirre, et al., 2015). That is why inefficient management of these aspects may result in a customer being taking advantage of because of the inappropriate use of personal data.

There are certain techniques that allow to manage negative consequences of personalization. Most of them are related with establishing trustworthy relationships between a company and a consumer. For example, trust-commitment model (Ameen, et al., 2020) and technology acceptance model (Davis, 1989) are useful when it is necessary to understand how to build trust with the consumers and how technology can be accepted by the users. Before mitigating the negative sides of personalization, it is necessary to understand whether customers are even aware of the use of personal data.

### **Hypotheses derivation**

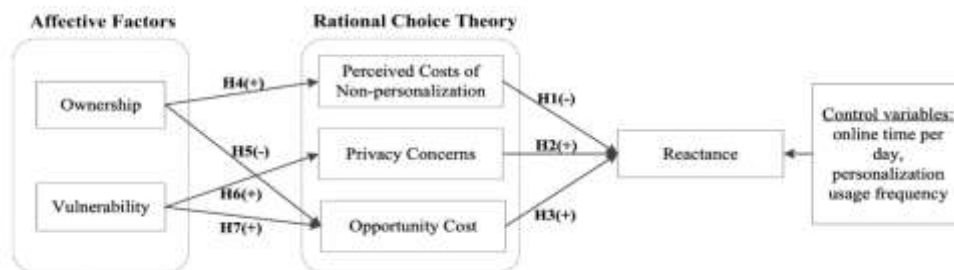
To begin with, it is necessary to operationalize such variables as negative effects of personalization and value from it. The theory on negative effects of personalization is studied and two main factors such as privacy concern and vulnerability are derived. The analysis of the hypotheses is based on the theory provided by Chen, et al. (2019), who designed the model according to which a consumer perceives reactance to the online personalized ads. The authors highlight rational factors such as perceived costs of non-personalization, privacy concerns, and opportunity costs in line with affective factors such as ownership and vulnerability. Speaking about the rational factors, it is important to emphasize that perceived costs of non-personalization are referred to the situation when non-personalization will result in increased effort and time costs for the consumers, which means that the negative reactance to personalization will decrease in this case. On



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the other hand, privacy concerns and opportunity costs positively influence negative reactance to personalization since privacy concern implies that a consumer loses control of personal information. For the research such constructs as vulnerability and privacy concern will be utilized since other factors are out of scope of the research due to the focus on

privacy-personalization paradox. Based on the literature analysis, the privacy concern is in its turn divided into personal data security issues, possibility of data misuse by the company and the possibility of personal data transfer to the 3rd parties. The model proposed by the authors looks as follows.



Source: Chen, Q., Feng, Y., Liu, L., & Tian, X. (2019). Understanding consumers' reactance of online personalized advertising: A new scheme of rational choice from a perspective of negative effects. *International Journal of Information Management*, 44, 53-64.

**Figure 1:** The conceptual model of reactance to the personalization

After looking at how the negative effects of personalization are operationalized, it is worth exploring how the value from personalization can be operationalized. The main values from the personalization are providing products and services that fit a consumer and the convenience of product delivery in the proactive form (Chellappa & Sin, 2005). Another interesting and relevant concept is 'searching in choice mode', which implies that personalized recommendations help to compare the utility of similar products and make a stopping decision even with the increased product variability (Dellaert, Häubl, 2012). Vesanen J. (2007) highlights that the benefits from the personalization for a customer include better preference match, better products and services, better communication, and experience. From the analysis of the literature, it can be seen that the value from personalization is formed by the decrease in time and efforts needed for the consumer to find the desired product, better product match, improved customer experience, and communication. This

classification reflects both utilitarian and hedonic benefits as it is noted in the literature (Chen, et al., 2019).

Having operationalized the key variables for the research, it is possible to switch to the hypothesis's description. The first assumption on which the first hypothesis is based is the suggestions that the perception of personalization varies depending on different circumstances. Personalization is sure to bring benefits for the company and customers, and most customers are expecting personalized experiences from firms. Despite being widely accepted as a prominent technique, personalization is a complicated issue, which can negatively influence customer experience due to data privacy issues. This means that what outcome personalization brings is highly dependent on the circumstances and how it is implemented. That is why it is interesting to look at how the perception of personalization differs with respect to the platform, on which a customer is interacting with a company.

**H1: A consumer experiences fewer negative effects from personalization**

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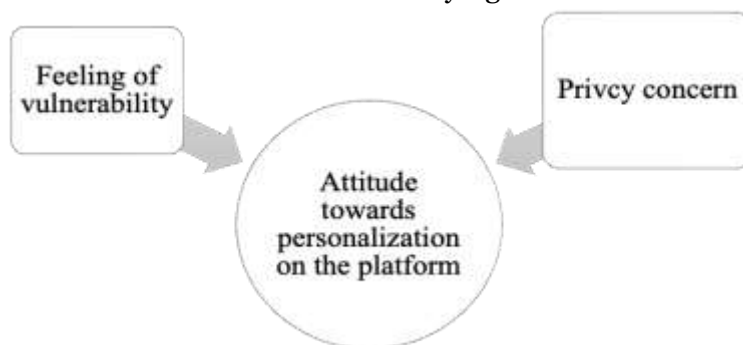
**when encountering personalization on social media than on other retailers' websites.**

**H1.1: Purchase on the social media decreases vulnerability experienced by a consumer.**

**H1.2: Purchase on the social media decreases privacy concern experienced by a consumer.**

To operationalize the hypothesis the concept of negative effects from the personalization will be used. In case of purchases on different platforms the concept of trust is relevant. Furthermore, in this case, the authors usually consider the multidimensional issue of trust when buying

through social platforms. It includes the trust to a social platform itself and a selling company (Martínez-López, et al., 2021). Some people do not see a social platform as a selling platform, which requires specific technology and regulations. Nevertheless, to simplify the research and data gathering procedures the trust to the platform will be omitted in this case, while the author will focus on privacy concern and vulnerability. Summing the operationalization part up, it is necessary to point out that to analyze the hypothesis, the concepts of privacy concern and vulnerability will be used with regard to the platform.



Source: created by the author

**Figure 2:** Factors influencing personalization on the social platforms

Apart from that, digital literacy is analyzed as a positive factor that decreases the influence of vulnerability and privacy concerns. Digital illiteracy prevents a consumer from utilizing the benefits of personalization since he/she experiences increasing discomfort when confronted with digital solutions. Consumers are unlikely to use the functions or settings that are perceived complicated even if they improve customer experience (Burke, 2002). In the context of the study the impact of the level of digital literacy on the vulnerability and privacy concerns experienced by a consumer when encountering personalization techniques. EY (2021) reported that an increasing number of people are willing to share personal data amid the Covid pandemic. It has been found out that when a consumer feels that he/she is in control of the data,

he/she is more likely to share personal data. It is then hypothesized that when a certain person has a higher level of digital literacy, one is more likely to be better equipped for understanding how the data is protected and which data can be shared. This means that a person has control over data and is less likely to experience vulnerability. That is why it is supposed that there is a negative correlation between the level of digital literacy and the level of stress and vulnerability experienced when encountering personalization.

**H2: There is a negative correlation between the level of digital literacy and negative effects from personalization experienced by a consumer when faced with personalization.**

**H2.1: Digital literacy is negatively correlated with vulnerability experienced by a consumer.**

**H2.2: Digital literacy is negatively correlated with privacy concern experienced by a consumer.**

To test the hypothesis, it is necessary to operationalize the concept of digital literacy, while the concept of negative effects from personalization has been described earlier. Speaking about the ways to measure digital literacy, it is worth stating that there are several ways to do that. UNESCO, as an example, measures seven areas of competencies: devices and software operations, information and data literacy, communication and collaboration, digital content creation, safety, problem-solving and career-related opportunities (UNESCO, 2018).

Nevertheless, in case of this research due to certain constraints it is more appropriate to measure digital literacy based on the skills proficiency of the respondents on the 7-point Likert scales. The skills set that is going to be measured is taken from the work of Labazanov R.S. (2020), who developed the Digital Competence Research (DCR) model. The model resembles the Digital Literacy Global Framework (DLGF), developed by UNESCO's Institute for Statistics and Digital Competence Framework for Citizens (Dig Comp), developed by European Commission's Joint Research Centre. The author combined two models by adding the "Devices and software operations" competences from the DLGF framework to the Dig Comp model.

Thirdly, in the literature there is an understanding that the level of trust to a retailer can moderate negative effects from personalization. The authors (Bleier, et al., 2015) studied how click-through rate differs between ads with various depth and width of personalization in case of two different retailers with different levels of trust. It has been found out that although the trust is a strong mitigating factor, it is not the only

requirements for successful personalization. Thus, the authors point out the necessity to research more thoroughly the mitigating role of trust in the perception of personalization in broader context and the situational characteristics of consumers such as shopping habits. In this study the influence of trust to online retailers on the negative and positive effects of personalization is studied.

**H3: Trust to online retailers decreases the negative effects from personalization.**

**H3.1: Trust to online retailers decreases vulnerability experienced by a consumer.**

**H3.2: Trust to online retailers decreases privacy concern experienced by a consumer.**

The negative effects from personalization have been previously operationalized, while it is necessary to describe how the variables 'Trust to online retailers' is constructed. Based on the previous research, the trust variable is constructed as the ability to trust a retailer and the perception of the online retailers as trustworthy and reliable.

Moreover, the authors highlight the importance of shopping behavior in defining how personalization techniques are perceived as in the example of personalized ads perception (Bleier, et al., 2015). Hedonic and utilitarian values of shopping have been discussed in the literature as the driving motives of shopping behavior (Childers, et al., 2001). That is why such concepts are introduced in the study to check how these motives influence the perception of personalization and positive effects from personalization in particular. This allows to see which shopping motives are more consistent with the benefits from personalization and what type of consumer is more likely to feel the benefits.

Apart from that, the researchers study the interrelation of emotions and personalization techniques (Pappas, et al, 2014), highlighting



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that personalization tends to invoke positive emotions, while positive emotions encourage the shopping intention. Thus, one of the further directions of research is to analyze whether hedonic shoppers experience more value from personalization.

#### **H4: Hedonic shopping influences the value from personalization.**

Based on the previous studies the hedonic shopping variables is constructed. The 'hedonic shopping' is conceptualized using the following dimensions: joy during shopping, ability to enjoy shopping for its own sake, experiential element of escaping from problems. The value from personalization is conceptualized in the paragraphs above.

#### **Classification of the personalization techniques**

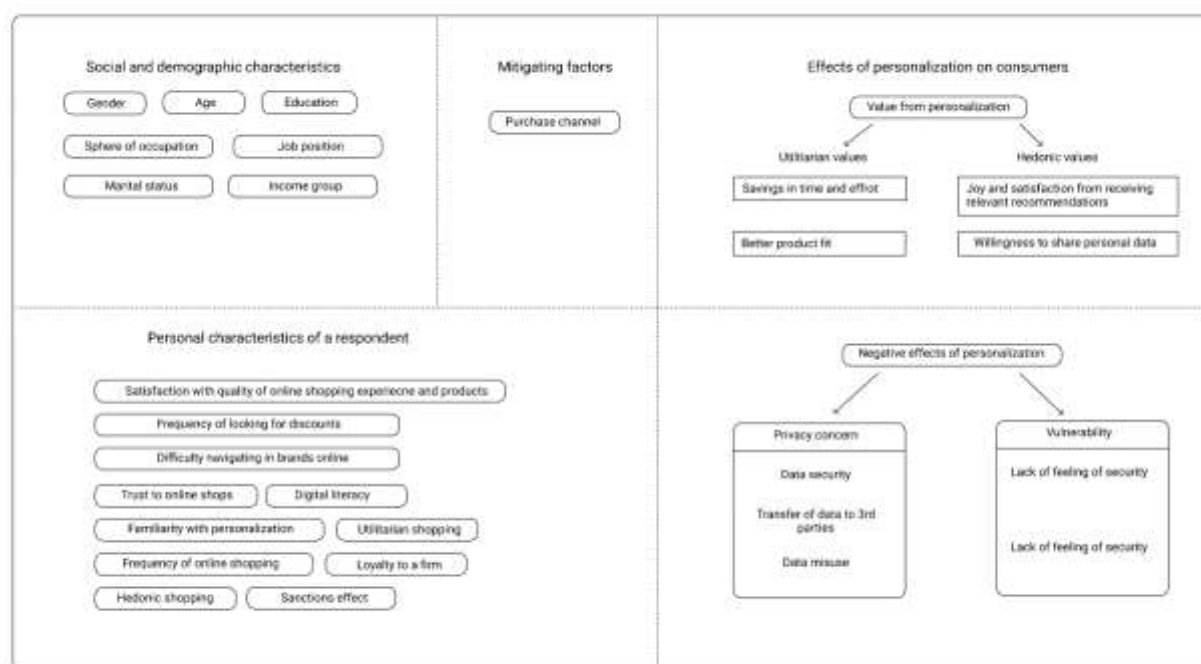
To achieve another aim of the research, which is to identify which personalization techniques are taken by customers for granted and which are seen as value-added ones, the classification of the possible techniques will be made. It is believed that such a classification exists in the eyes of the consumers and companies do need to understand which methods are attributed to which group. As an example of such a classification, it is possible

to look at such a widely used personalization technique as addressing a customer by name. It has become such a standard approach that most consumers take it for granted and do not see it as something unusual. However, it is supposed that if this technique is not in place, it will negatively affect a consumer's customer experience.

Taking the abovementioned argument into consideration, it is hypothesized that some personalization techniques are seen by customers as the "threshold" ones, which means that in case of their absences, a customer is highly likely to be unsatisfied with the company's approach. Other in their turn are seen as "nice to have's".

#### **Methodology Variables**

To start with, it is necessary to define the variables used in the research. The variables are measured on an interval scale. There are several groups of variables used in the research, including such groups as effects from personalization, social and demographic characteristics, other personal characteristics related either to digital literacy or shopping patterns and mitigating factors. The variables are presented on the Figure 3.



Source: created by the author

**Figure 3:** Variables used in the research

### Questionnaire development and sample description

The data is gathered through the questionnaire. For most of the questions five-point Likert scales are applied, which is a common methodology in personalization-related studies (e.g. Aguirre, et al., 2015, Chellappa & Sin, 2005). The questionnaire consists of five parts: general information about the buying patterns, the awareness of personalization techniques, personalization in the purchase process, individual characteristics of a respondent, and social and demographic profile of a respondent.

As for the sampling methods and representativeness, it is vital to point out that the general population of the research are

Russian citizens aged above 18 since this category is likely to be able to make purchases online, which is the most important factor for the survey. The quotas are set for the gender and age groups with the size of quotas of min. 30 respondents for age groups 18-29, 30-39, 40-49 and of min. 10 respondents for the age group 50 and above. This means that quotas are not equal, and the sample is not aimed at replication of the demographic structure since the most frequent users of online shopping are identified above. The quotas for the age groups in the range between 18-49 are higher since they are prioritized in the research due to the prevalence in the statistics on the frequency of online shopping.

**Table 1:** Minimal quotas for the respondents' groups

Age	Gender		
	Male	Female	Total
18-29	30	30	60
30-39	30	30	60
40-49	30	30	60
50 and above	10	10	20
Total	100	100	200

Source: created by the author

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Consequently, the expected size of the sample is at least 200 respondents. More than that, since there are two scenarios embedded into the questionnaire it is necessary to ensure that each scenario receives at least 100 responses. The respondents are divided between the scenarios randomly by selecting the number they like in the questionnaire. The respondents are expected to be recruited through convenience and snowball methods.

### **Methods of analysis**

First of all, the factor analysis is used to decrease the dimensionality of the variables and construct the needed factors. In order to analyze the 1st hypothesis independent t-test is applied. In the study regarding the effectiveness of the advertisement depending on the personalization effects mean comparisons are also applied, which indicates the appropriateness of the methods for the research in personalization field (Aguirre, et al., 2015). To test the 2nd hypothesis regression analysis is applied. The regression analysis helps to identify the causality between variables and is widely applied in studies on personalization (Stevenson and Pasek, 2015). To test the 3<sup>rd</sup> hypothesis regression analysis is also applied. To test the 4<sup>th</sup> hypothesis independent t-test is applied. The respondents are divided into two groups based on the value of the 'Hedonic shopping' variable. The first group is the respondents who have negative attitude towards hedonic shopping (102 respondents), while the second group is positively or neutrally attuned to hedonic shopping or shopping for its own sake (98 respondents). The difference in purchase platform scenarios is not made in this case to obtain the large enough sample. It is possible to do so since the statistical tests does not show significant difference between the scenarios. As for the classification of personalization methods, frequency analysis of the answers is used to conduct the classification

### **Results and discussion**

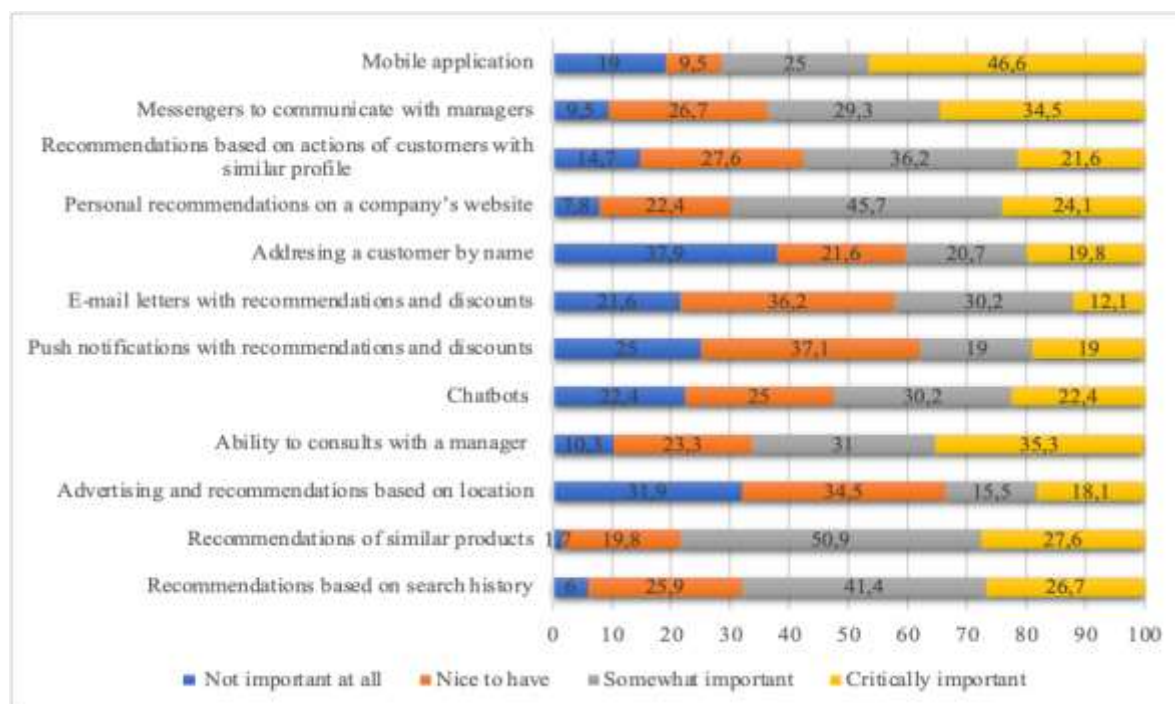
To start with, the classification of the personalization techniques is produced based

on the answers and further the comparison between two scenarios is run. The frequency analysis of answers is conducted to classify the techniques at different stages of the CJM both in purchases on websites and at social media. Firstly, the classification of personalization techniques is provided for each CJM stage at website purchase, then the personalization techniques during the purchase at social media is discussed and after that the results for two platforms are compared.

In the questionnaire the respondents were asked to assess the importance of the personalization methods at each stage of the CJM. There are 4 categories in which they can place the considered personalization methods: not important at all, nice to have, somewhat important and critically important. In this classification critically important personalization techniques are believed to be the threshold ones, while nice to have techniques are not required by consumers but are appreciated if they are in place. The classification for the purchase both at website and social media is provided below.

#### **The purchase at website.**

As for the pre-purchase stage, it can be seen that the technique required by many respondents is mobile application, followed by the ability to consult with a manager and messengers to communicate with managers and recommendations based on search history, while the fact that company's employees address customers by name is not considered to be an important aspect as well as chatbots. This can be explained by the fact that m-commerce is gaining popularity in online shopping, while the ability to consult with managers allows to get the information as soon as possible. As for the value-adding, optional techniques it is necessary to point out push notification and advertising based on location.



Source: created by the author

**Figure 4:** Personalization techniques at pre-purchase stage in website purchase

**Table 2:** Classification at pre-purchase stage in website purchase

Category	Personalization techniques
Not important at all	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> </ul>
Nice to have	<ul style="list-style-type: none"> <li>Advertising based on location</li> <li>Push notifications</li> <li>E-mails</li> </ul>
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations of similar products</li> <li>Recommendations based on search history</li> <li>Chatbots</li> <li>Personal recommendations on a website</li> <li>Recommendations based on actions of customers with similar profile</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Ability to consults with a manager</li> <li>Messengers to communicate with managers</li> <li>Mobile application</li> </ul>

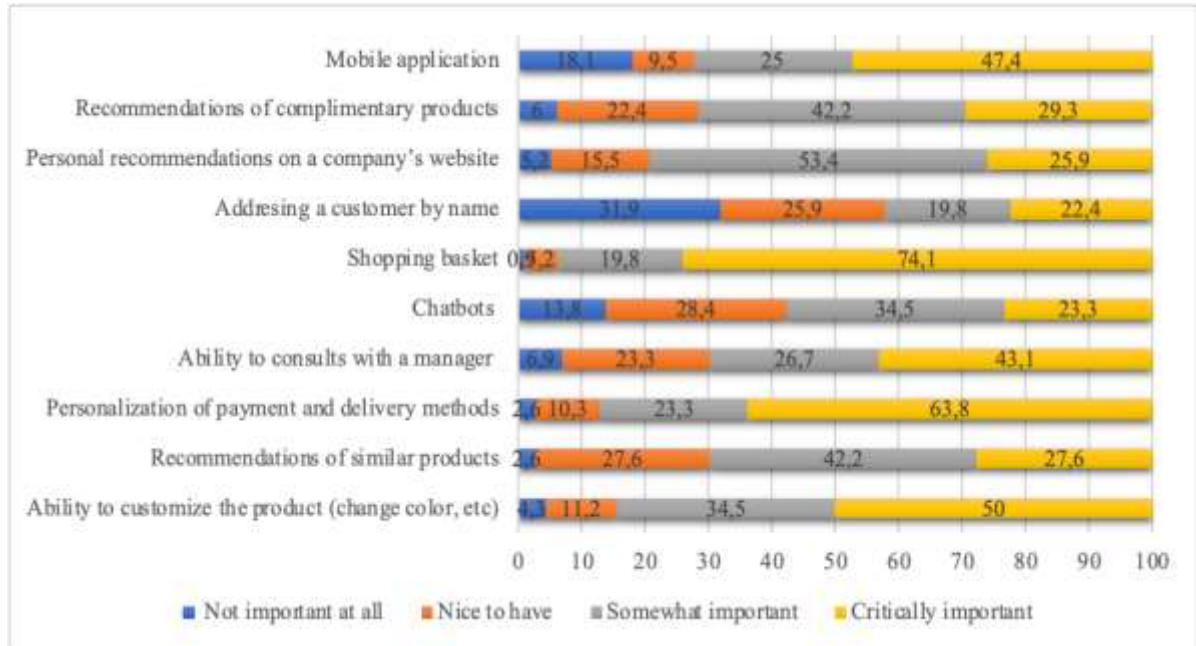
Source: created by the author

Moving to the purchase stage, it is necessary to emphasize that overall, the importance of personalization techniques increases at this stage, which might be explained by the importance of the smoothness of the process to the customer. It can be seen that the shopping basket and personalization of payment and delivery methods are an absolute 'must', followed by an

ability to customize product and mobile application. It is possible to say that at the purchase stage the requirement from the customers increases with particular attention to personal approach. Another conclusion that can be made from this data is that consumers value functional techniques that are sure to make the purchase process easier (shopping

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basket, personalization of payment and delivery methods) or to customize the product.



Source: created by the author

**Figure 5:** Personalization techniques at purchase stage in website purchase

**Table 3:** Classification at purchase stage in website purchase

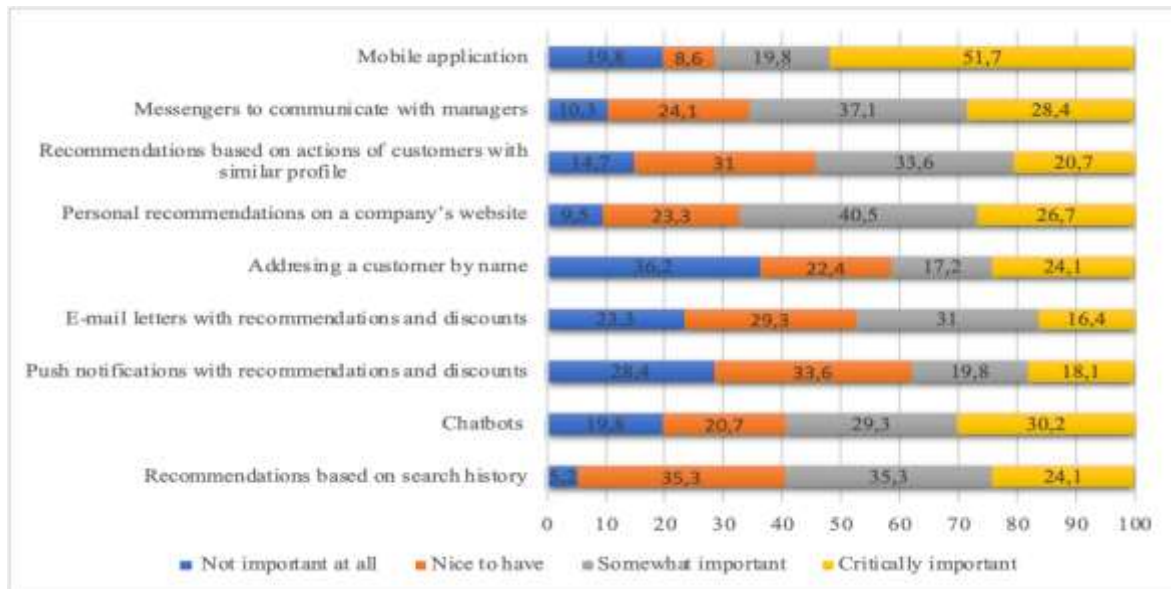
Category	Personalization techniques
Not important at all	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> </ul>
Nice to have	
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations of similar products</li> <li>Chatbots</li> <li>Personal recommendations on a website</li> <li>Recommendations of complimentary products</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Ability to consult with a manager</li> <li>Mobile application</li> <li>Ability to customize the product (change color, etc)</li> <li>Personalization of payment and delivery methods</li> <li>Shopping basket</li> </ul>

Source: created by the author

Speaking of the post-purchase stage, it is evident that mobile application is again the feature that customers are waiting for the most, followed by messengers to communicate with managers and recommendations based on search history. Compared to the pre-purchase stage the importance of e-mail

letters, messengers to communicate with managers and even addressing a customer by name increase, which can be explained by the fact that after the purchase the client might have questions about the products and requires more personalized approach.





Source: created by the author

**Figure 6:** Personalization techniques at post-purchase stage in website purchase

**Table 4:** Classification at post-purchase stage in website purchase

Category	Personalization techniques
Not important at all	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> </ul>
Nice to have	<ul style="list-style-type: none"> <li>Push notifications</li> </ul>
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations of similar products</li> <li>Recommendations based on search history</li> <li>Personal recommendations on a website</li> <li>Recommendations based on actions of customers with similar profile</li> <li>E-mails</li> <li>Messengers to communicate with managers</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Mobile application</li> <li>Chatbots</li> </ul>

Source: created by the author

Concluding the paragraph about the personalization techniques classification at website purchase channel, it can be highlighted that the most importance in terms of personalization techniques is attributed to the purchase stage. The methods that are highly important and taken for granted are mobile app, recommendations based on search history, shopping basket, personalization of delivery and payment methods, ability to customize the product and the ability to consult with a manger. The value-adding, optional methods include push-notifications, e-mails, chatbots and location-

based ads. It is also crucial to point out that in some cases there is a relatively large proportion of people, who see the methods as not important at all in case of addressing a customer by name, e-mails, push-notifications, chatbots and location-based ads.

### The purchase in social media

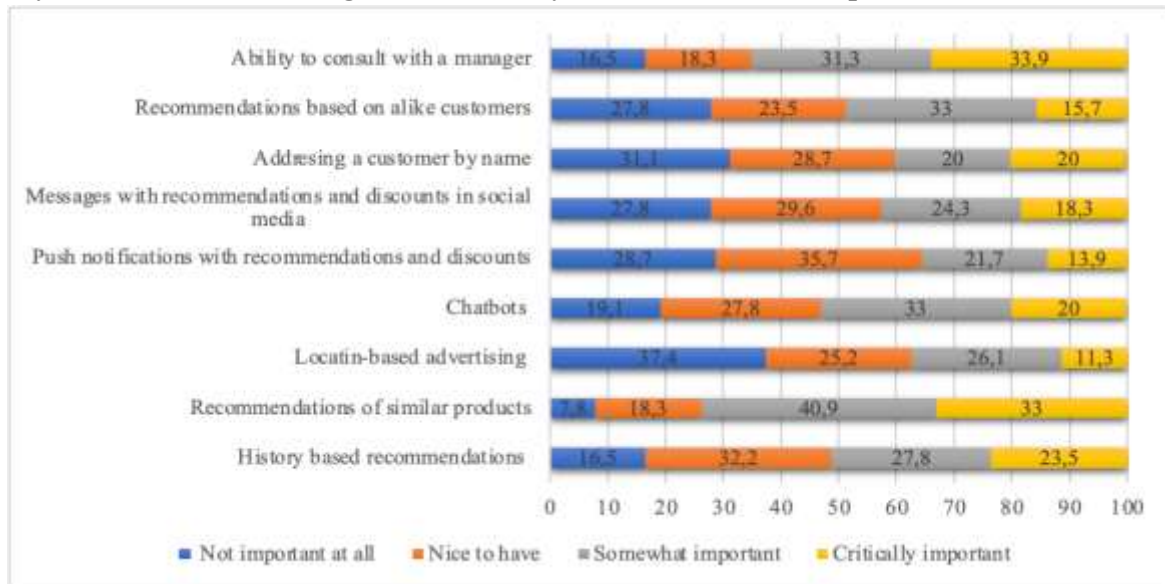
To start with, it is necessary to point out that in case of purchase via a shop at social media, the number of respondents, who consider the described personalization techniques important decreases. Probably, it can be the cause of lower trust to the social

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media or the inability to see a social media as a selling platform or the perceived ability of a respondent to navigate in social media without any additional help.

The personalization techniques at pre-purchase stage are considered at the social media purchase channel. In this case the most important personalization technique is an ability to consult with managers, followed by

recommendations of similar products and chatbots. The value-adding, optional techniques in this case are push notifications, messages with recommendations and discounts. Apart from that, large percentages of the respondents see addressing a customer by name, location-based ads and recommendations based on actions in social media as unimportant.



Source: created by the author

**Figure 7:** Personalization techniques at pre-purchase stage in social media purchase

**Table 5:** Classification at pre-purchase stage in social media purchase

Category	Personalization techniques
Not important at all	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> <li>Advertising based on location</li> </ul>
Nice to have	<ul style="list-style-type: none"> <li>Push notifications</li> <li>Recommendations based on actions in social media</li> <li>Messages with recommendations and discounts in social media</li> </ul>
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations of similar products</li> <li>Recommendations based on actions of customers with similar profile</li> <li>Chatbots</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Ability to consult with a manager</li> </ul>

Source: created by the author

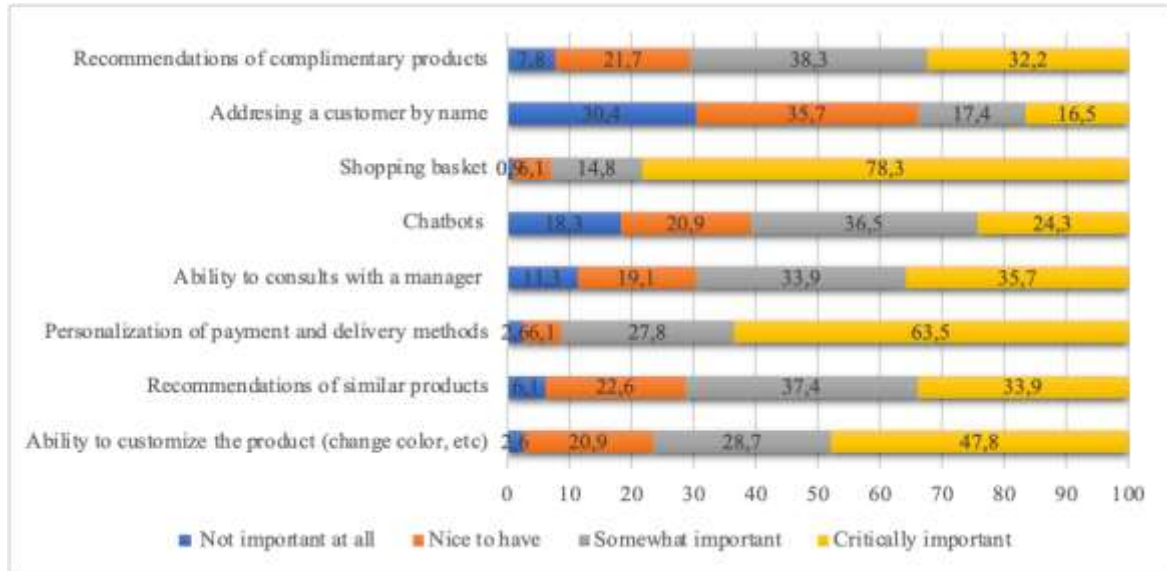
Moving to the purchase stage, it is vital to emphasize that the importance of personalization techniques increases at this stage as well as at purchase stage in website purchase. The tendency is almost similar to the purchase in website channel as the shopping basket, personalization of payment and

delivery methods and an ability to customize the product are the most important personalization techniques. These methods are followed by recommendations of similar products, an ability to consult with a manager and recommendations of complimentary products. At this point it is difficult to tell

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which techniques are not essentials with the exception of chatbots. Addressing a customer

by name is considered not important at all again.



Source: created by the author

**Figure 8:** Personalization techniques at purchase stage in social media purchase

**Table 6:** Classification at purchase stage in social media purchase

Category	Personalization techniques
Not important at all	
Nice to have	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> </ul>
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations of similar products</li> <li>Chatbots</li> <li>Recommendations of complimentary products</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Ability to consults with a manager</li> <li>Ability to customize the product (change color, etc)</li> <li>Personalization of payment and delivery methods</li> <li>Shopping basket</li> </ul>

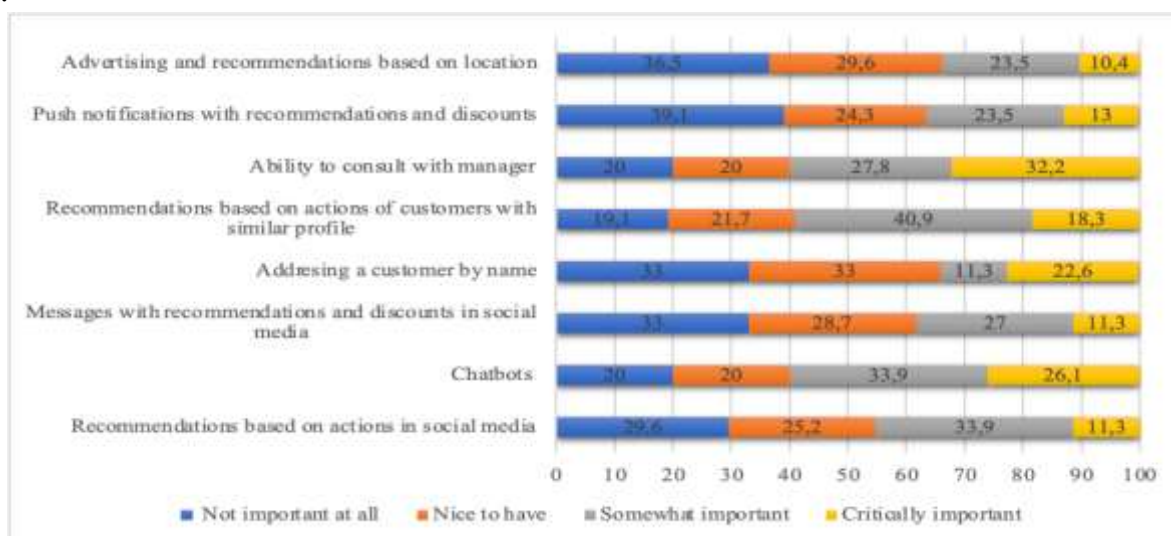
Source: created by the author

Lastly, the personalization techniques at post-purchase stage are considered. It can be seen that the importance of personalization techniques decreases even more compared to the pre-purchase stage. It might indicate that consumers at social media are not willing to communicate with shops out of the purchase stage. After making a purchase consumers are even less likely than at the pre-purchase stage to see personalization techniques as important, which also might be explained by the fact that social pages are private places to

communicate with friend, relatives, etc., but not with brands. The most important techniques in this case are an ability to consult with a manager and recommendations based on actions of customers with similar profiles, one of which is the method which is in line with the main function of social media, communication, and which allow to solve the issues after the purchase. In this case it is interesting that four methods (location-based ads, push notifications, addressing a customer by name, messages with recommendations)

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can be left aside since large percentages of the respondents consider them not important at all.



Source: created by the author

**Figure 9:** Personalization techniques at post-purchase stage in social media purchase

**Table 7:** Classification at post-purchase stage in social media purchase

Category	Personalization techniques
Not important at all	<ul style="list-style-type: none"> <li>Addressing a customer by name</li> <li>Advertising based on location</li> <li>Messages with recommendations and discounts in social media</li> <li>Push notifications</li> </ul>
Nice to have	
Somewhat important	<ul style="list-style-type: none"> <li>Recommendations based on actions of customers with similar profile</li> <li>Chatbots</li> <li>Recommendations based on actions in social media</li> </ul>
Critically important	<ul style="list-style-type: none"> <li>Ability to consult with a manager</li> </ul>

Source: created by the author

### Factor analysis

Moving to the analysis of the hypothesis, it is necessary to emphasize that the factor analysis is conducted to reduce dimensionality

of the set and create the variables for further testing. The resulting factors are presented below.

**Table 8:** Factor analysis results

Nº	Factor name	% of variance explained after rotation	Cronbach's alpha
1	Hedonic shopping	10,759	0,921
2	Digital literacy	7,791	0,858
3	Value from personalization	5,920	0,857
4	Trust to online shops	5,024	0,822
5	Quality of products and online shopping experience	4,708	0,811
6	Privacy concern	4,082	0,812
7	Sanctions effect	3,634	0,765
8	Utilitarian shopping	3,588	0,684

9	Loyalty to a shop	3,385	0,734
10	Vulnerability	3,082	0,851
11	Difficulty navigating in brands online	2,941	0,672

Source: created by the author

By examining the Cronbach's alpha, it can be seen that all scales are reliable.

### Hypotheses testing

**H1:** A consumer experiences fewer negative effects from personalization when encountering personalization on social media than on other retailers' websites. – **Rejected**

Having conducted the factor analysis, it is possible to switch to the hypotheses testing.

**Table 9:** The results of independent t-test – H1.1 privacy concern

Privacy concern	Scenario	Mean	T	P value	F statistics
	Website purchase	0,075240	1,176	0,241	0,139
	Social media purchase	-0,073750	1,177		

Source: created by the author

**Table 10:** The results of independent t-test – H1.2 vulnerability

Vulnerability	Scenario	Mean	T	P value	F statistics
	Website purchase	0,0830784	1,308	0,193	0,736
	Social media purchase	-0,081433	1,308		

Source: created by the author

Judging by the statistics, it is possible to conclude that although the means are different, the difference cannot be considered statistically significant.

**H2:** There is a negative correlation between the level of digital literacy and negative effects from personalization experienced by a consumer when faced with personalization. – **Rejected**

As for the testing of the second hypothesis, the regression analysis is applied to test the causality between the variables 'negative effects of personalization' and 'digital literacy'.

**Table 11:** The results of regression analysis - H2.1 – privacy concern

Dependent variable – Privacy concern Independent variable - Digital literacy	R	R <sup>2</sup>	P value	F statistics
	0,009	0,000	0,901	0,015

Source: created by the author

For the testing of the first hypothesis independent t-test is applied. The test is applied to the variable 'negative effects of personalization' that is generated as the result of factor analysis. The central limit theorem allows to assume the normality of the sample. As for the equality of variances, the Levene's test shows that the variances are /equal.

First of all, the variables are checked for normality once again, which results in 'negative effects of personalization' and 'digital literacy' being normally distributed. There are no missing values and outliers for all observations. The standardized residuals and predicted values do not exceed the threshold values of -3/+3 and Cook's distance is not larger than 1. The residuals are normally distributed since the result of Kolmogorov – Smirnov test is higher than 0,05. The homoscedasticity of residuals is followed.

**Table 12:** The results of regression analysis - H2.2 – vulnerability



Dependent variable – Vulnerability Independent variable - Digital literacy	R	R <sup>2</sup>	P value	F statistics
	0,004	0,000	0,958	0,003

Source: created by the author

The linear regression model with negative effects of personalization as a dependent variable and digital literacy as an independent one does not produce any statistically significant results. This shows that the digital literacy variable is not the most important one in determination of privacy concern and vulnerability, which leaves the room for potential exploration of determining factors.

The digital literacy is likely to be an important factor in combination with other variables or can act as the mitigating factor.

**H3:** Trust to online retailers decreases the negative effects from personalization. -

**Rejected**

As for the test of the third hypothesis, regression analysis is ran again. Before running the regression analysis, all requirements are checked and satisfied. The data is normally distributed according to Kolmogorov-Smirnov test, there are no missing values or outliers. The homoscedasticity of residuals is followed.

**Table 13:** The results of regression analysis – H3.1 – privacy concern

Dependent variable – Privacy concern Independent variable – Trust to online shops	R	R <sup>2</sup>	P value	F statistics
	0,013	0,000	0,857	0,033

Source: created by the author

**Table 14:** The results of regression analysis – H3.2 – vulnerability

Dependent variable - Vulnerability Independent variable - Trust to online shops	R	R <sup>2</sup>	P value	F statistics
	0,006	0,000	0,934	0,007

Source: created by the author

The linear regression model with negative effects of personalization as a dependent variable and trust to online shops as an independent one does not produce any statistically significant results. This shows that the trust to online shops variable is not the most important one in determination of privacy concern and vulnerability, which leaves the room for potential exploration of determining factors. The trust to online shops is likely to play an important role in mitigating

effects with other factors being the main determinators.

**H4:** Hedonic shopping influences the value from personalization. – **Rejected**

For the 4th hypothesis the independent t-test has been run, which indicates that there is no statistically significant difference in value from personalization between people who love shopping for its own sake and those who do shopping only to buy products.

**Table 15:** The results of independent t-test – H4

Value from personalization	Scenario	Mean	T	P value	F statistics
	Rational shoppers	-0,009259	-0,144	0,886	0,518
	Hedonic shoppers	0,009637	-0,144		

Source: created by the author

It can be seen that the shopping behavior in this case does not affect the value received from personalization. It means that consumers value personalization techniques in the same way. This fact might be further used in marketing studies and campaigns when segmenting the shoppers bases on their shopping patterns.

Since all the hypotheses have been rejected, which means that these factors on their own do not influence the privacy concern or vulnerability significantly, it has been decided to conduct further exploratory analysis and construct a model with several factors based on previous research. In this model the

dependent variable is vulnerability since it is the emotional state of a consumer and privacy concern, which is a more rational characteristic, is likely to influence the emotional state. The independent variables in this model include utilitarian shopping, hedonic shopping, the scenario (website purchase or purchase in social media), digital literacy, trust to online shops, privacy concern and value from personalization. The value from personalization is included due to the previous conclusions about the fact that value from personalization can decrease the vulnerability because value will outweigh potential risks at some point.

**Table 16:** The alternative model

Dependent variable - Vulnerability Independent variables - Utilitarian shopping, Hedonic shopping, Scenario, Digital literacy, Trust to online shops, Privacy concern, Value from personalization	R	R <sup>2</sup>	P value	F statistics
	0,511	0,261	0,001	9,636

Source: created by the author

It can be seen that the model has a relatively good descriptive power. As for the significance of the predictors, trust, digital literacy and hedonic shopping and scenario are not significant ones, while utilitarian shopping, value from personalization and privacy concern are significant. It can be seen that the model confirms previous conclusions about the influence of privacy concern on vulnerability. Apart from that, utilitarian shopping, when a person wants to complete a purchase faster without enjoying shopping for its own sake, decreases the vulnerability. Moreover, the more value from personalization a customer receives, the less vulnerability he/she will experience. It can be explained by the fact that at some point the

value outweighs all the potential risks and a person stops worrying about negative effects of personalization. At the same time, the purchase channel and digital literacy do not influence vulnerability.

The study has contributed both in practical and theoretical ways. The largest contribution lies within the prioritization of personalization techniques at different CJM stages in two different purchase channels, though the study also highlighted how several factors such as purchase channel, shopping behavior and trust influence the perception of personalization effects.

## Conclusion

### Theoretical contributions

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As for the theoretical contribution, the study analyzes the yet not very research field of intersection of customer experience, customer journey and personalization. After the research, it is possible to tell whether CJM stage influences the perception of importance of personalization techniques. Furthermore, the interrelation of digital literacy and personalization is tested, and it has been found out that digital literacy is not the deciding factor when it comes to the perception of personalization effects. More than that, the influence of the shopping behavior, rational vs hedonic shopping in particular, and overall trust to online shops on personalization perception has been tested. The situation is similar to the influence of the digital literacy in both cases, which means that although these factors can be mitigating ones in a larger model, they are not the deciding ones. The findings allow to look at other factors that are more important for the perception of value and negative effects of personalization. Thirdly, the study contributes to the theoretical field by prioritizing personalization techniques at different CJM stages. Apart from that, the study sheds the light on the issues of the personalization perception in different purchase channels, which also contributes to the literature on the multichannel retail. The findings show that consumers perceive personalization effects equally on website and social media, which makes it possible to make no distinction for strategies in these platforms.

### **Practical contributions**

The practical implications are also important for the business since they allow to decide which personalization techniques to use at all costs and which one can be omitted. This makes it possible to economize the needed resources without disappointing the consumers, which is important especially amid such turbulent times. More than that, the study indicates that consumers are less likely to perceive personalization techniques

important in social media, which shows the importance to increase trust between shop and customers in social media. There is also a practical implication for social media platforms, which should provide such techniques as shopping basket or equivalent, which is already implemented in VK. It might be suggested that popularization of this technique can be beneficial.

As for the testing of the factors that influence the perception of personalization effects, it is necessary to say that there are several practical implications. First of all, the fact that consumers perceive negative effects from personalization similarly in purchases on the websites and in social media indicates that the companies can adapt marketing strategies related to personalization when changing purchase channels. Secondly, it has been found out that rational and hedonic shopping behavior do not influence the value from personalization, which highlights that when segmenting the market to conduct personalized campaigns it is possible to overlook such characteristics of the respondents. Thirdly, the overall trust to the online shops does not influence the perception of negative effects from personalization, which means that the perception depends on the particular retailer and not the group on the whole. This fact implies that consumers typically do not have biases when it comes to trust to online retailers and, apart from that, each retailer should conduct campaigns to increase trust to it. Moreover, vulnerability is decreased by providing more value from personalization, which means that if companies provide high-quality personalization mechanisms and consumers appreciate them, then there should be less issues with privacy and vulnerability. This fact in its turn will result in better customer experience, which is a desired outcome for a company.

### **Limitations and further research**

There are several limitations and, thus, areas for further research. The first limitation is related to the characteristics of a sample. Although the research aimed to decrease the biases related to a sample, the respondents were collecting via convenience and snowball methods and mostly include people with higher education. Apart from that, due to the resource limitations of the research it was impossible to conduct the study and classification of personalization techniques in the experimental, which can be a potential area to develop the research. Thirdly, the research is narrowed down to such online purchase channel as social media and traditional online retail, while it is possible to consider other channels and not only the online ones.

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