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# Cross-Border Shopping on the European Union Fast-Moving Consumer Goods Market: Determinants of Lithuanian Shoppers' Behavior in Poland

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**Abstract:** The sustainable economic development of a country or region can be encouraged by cross-border trade as it enables transnational cooperation and encourages entrepreneurs to search for more innovative and socially responsible practices. The Fast-Moving Consumer Goods (FMCG) sector was chosen for the research, as consumers purchase and use or consume these products frequently as they satisfy continuous consumer needs. The research supplements the scientific discussion on cross-border shopping and trade by presenting the research results from the Lithuania–Poland border region. The aim of the article is to identify the factors encouraging and suppressing Lithuanian customers shopping for FMCG in Poland. A questionnaire survey was provided in Poland and Lithuania by interviewing Lithuanians shopping for FMCG, and logistic regression was used. Key determinants of Lithuanian shopping behavior in the Polish FMCG market were established, i.e., economic and regional factors, income level, and professional activity. Finally, based on the research results, a model of Lithuanian consumer behavior in the cross-border FMCG market in Poland was composed and might be used and practically applied by local authorities and businesses to manage customer flows.

**Keywords:** consumer behavior; cross-border market; cross-border trade; FMCG; shopping

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## 1. Introduction

The phenomenon of cross-border shopping has gained scholars' attention and has been widely discussed in academia since at least the 1930s [1]. The global economic impact of cross-border shopping makes this phenomenon an indispensable topic for scholarly research and is also warranted, considering the gaps in our existing knowledge of it [2]. Various aspects promoting cross-border shoppers' behavior have been discussed, i.e., economic [3–5], marketing, socio-cultural [5], psychological [5], situational or regional [4,6], and also risks that might suppress cross-border shopping [6] analyzed since then. Also, scholarly research in the domain represents various periods, areas [7,8], taxes [1], and goods and services [4].

The existing research in the field widely recognizes the impact of existing differences between countries on promoting cross-border shopping [7]; however, every case is unique because of the differences in consumer characteristics [5] and in the policies and specifics of bordering countries [7–9]. Therefore, the determination of the principal factors affecting cross-border shopping helps regulate its flows and, afterwards, fosters the border region's development [9].

Borders between countries are intended to serve as a barrier for various exchanges and movements [10] of products, services, humans, and capital [11]. Moreover, differences

in taxation might exist between bordering countries, leading to differences in the price of the same products [1,7]. Inflation differences also exist in the Central and Eastern European (CEE) countries [12]. On the other hand, contemporary consumers are not limited by country borders in their search for optimal assortment, best prices, and easily accessible locations [4], and such endeavors might encourage them to shop in another country. Michalkó and Rátz [13] emphasize that although contemporary customers are not confined to the supply provided by local retailers, despite the emergence of online trade, people are still willing to travel hundreds of kilometers for a better deal or a more enjoyable shopping experience.

In the early 1990s, the CEE countries started the transformation and liberalization of their economies [14]. The "fall of the Iron Curtain" corrected Europe's political map [9] and also encouraged the establishment of the EU's single market [4] by eliminating the obstacles created by the formal borders between European countries. The free-market reforms mostly affected finance and trade sectors, and trade volumes significantly increased [14]. The border opening encouraged cross-border activities both in human movement and trade [9]. On the other hand, borders and border areas can all be considered unique, being important areas because of their closeness to the country border [6]. The scientific literature [1] indicates that shoppers travel from smaller countries to larger ones, driven by the perception of higher quality.

Cross-border shopping is common among almost all borders in Europe [13]. Being members of the EU, Lithuania and Poland are the bordering countries in the CEE region. Having a common border, the countries share historical, cultural, and national heritage and events. A Polish–Lithuanian Union, although informal, was established in 1386, when the pagan Lithuanian Grand Duke married a Polish queen and was baptized [15]. Despite the similarities between countries in geographical location and historical social–political structures, the timing of reformation attempts, economic performance, cultural affinities, and consumer expectations have formed dissimilarly over the last decade [5]. Currently, Poland can be considered a "Supermarket of Europe", where shoppers from neighboring countries come to search for cheaper goods and services. The cheapness of products and services in Poland is determined by a wide national market in line with a competitive exchange rate of the Polish currency (PLN). The price level dissimilarities between Poland and Lithuania have resulted in 20 percent during 2022; therefore, consumer goods and services in Lithuania are about five times more expensive than in Poland [16]. However, the scientific literature provides more factors that might also affect the consumers' choice to shop cross-border.

The Fast-Moving Consumer Goods (FMCG) sector was considered for the research. FMCG are frequently purchased and consumed products that are intended to satisfy continuous consumer demand and are commonly sold as single-use and disposable products [17]. Currently, companies offering FMCG products are facing growing managerial challenges because the competition is very high in this market, and enterprises are forced to operate in a turbulent and fast-changing environment [18]. Despite the relevance of the research for the FMCG sector, the search on the Scopus database identified only 400 documents analyzing cross-border shopping, and none of them indicated FMCG, thus outlining the existence of the gap in the scientific literature. Therefore, this research will be among the first studies identifying the factors encouraging and suppressing cross-border shopping for FMCG.

The current article supplements the scientific discussion on cross-border shopping and trade by presenting the research results from the Lithuania–Poland border region. The aim of the article is to identify the factors encouraging and suppressing Lithuanian customers shopping for FMCG in Poland. To reach the aim, a hypothetical model is elaborated to demonstrate the theoretically established factors affecting the behavior of cross-border shoppers. To verify the established relationships, a questionnaire survey was provided in Lithuania and Poland by interviewing Lithuanians shopping for FMCG. Logistic regression was used to approve or reject the relationships of the model. Finally, a verified model is

provided. The model of Lithuanian consumer behavior in the cross-border FMCG market in Poland might be useful and practically applied by local authorities and businesses in order to manage tourist as well as customer flows. The FMCG market must constantly change and adapt to current trends: the market is constantly developing, and new stores are opening to offer new FMCG, therefore serving even more people [18]. Moreover, as sustainable consumers are individuals, considering social and economic issues of their behavior [19], this study will contribute to the body of knowledge by assessing the influence of these issues on Lithuanians shopping for FMCG in Poland. Also, this study will provide a background for further research in the field of cross-border shopping for FMCG.

The article contains six main chapters: Conceptual Framework and Research Hypotheses are provided in Section 2, Materials and Methods, where the main procedures of the research are presented and explained in Section 3, followed by Research Results (Section 4) and Discussion (Section 5) presenting main aspects for consideration and their performance in line with the results obtained by the other scholars. Finally, Conclusions and Recommendations in line with research limitations provided to guide the other authors in their research regarding cross-border consumer behavior can be found in Section 6.

## 2. Conceptual Framework and Research Hypotheses

Cross-border shopping is a complex phenomenon; therefore, it requires an understanding of the consumers' motivation to make international out-shopping [4]. The scientific literature provides two opposing groups of factors affecting consumer choice to shop cross-border: (i) the first group of factors includes factors that pull people to the neighboring countries, as consumers perceive shopping in the country of residence less attractive, and (ii) factors pushing people from their country of residence to shop abroad as it is more attractive [20]. To elaborate on the model of Lithuanians' choice of cross-border FMCG market in Poland, it is necessary to substantiate the factors that might pull or promote and push or suppress consumer endeavors to shop outside their local shopping area.

### *2.1. Factors Promoting Cross-Border Shopping*

"Shopping tourism" is the activity induced by the shopping reasons [21]. "Shopping" occurs when goods and services are purchased while visiting various places to satisfy purchasing desires [22]. According to Bygvrå [4], if there are factors that promote cross-border shopping or triggers that make it attractive for customers, a field for cross-border shopping opens.

The primary motivation for purchasing goods and services in a framework of shopping tourism is induced by a favorable price–quality ratio, a wider assortment, or the value related to escaping from a routine living environment [5,13].

#### 2.1.1. Economic Factors

Cross-border demand is evident in the global shopping tourism sector due to the utilitarian nature of the travelers' motivation [13]. Utilitarian shopping behavior is logical and rational, resulting in spending and associated with information gathering [2]. The factors promoting cross-border shopping might serve such market conditions as a better assortment or lower prices [4]. The research provided by Dmitrovic and Vida [5] indicated that cross-border shopping was primarily economically driven for Croatians. Favorable prices were also indicated as one of the major reasons for Hungarians to shop cross-border; also, the product choices were influenced by the better price–quality ratio of specific goods or brands [13]. The economic literature suggests that the quality of goods is determined by their appearance, reflected health values, certificates, and attestations, as well as improving the quality of consumer life [23]. Also, the superior quality of a product can be emphasized through the specialization in shopping products for tourists [22].

The scientific literature suggests that the consumers engaging in cross-border shopping exhibit lower levels of "economic patriotism" [5], meaning that improving quality of life is placed before thinking about the local welfare.

Based on the findings provided in the analyzed literature, seven features of economic factors might be defined: price, functional features, quality perceived according to physical features, product appearance/design, health values reflected by product, product's presupposed impact on the life quality, and product-related certificates and approvals.

Considering the latter insights, we hypothesize that:

**H1.** *Economic factors encourage Lithuanians to choose cross-border shopping in Poland.*

2.1.2. Marketing Factors

Marketing is considered a dominating area of shopping tourism research [22]. Developed commercial facilities and shopping infrastructures (e.g., shopping centers and outlet parks) enable people to shop facing an extended selection of goods at favorable prices [22]. One of the major reasons for Hungarians shopping cross-border was found to be the possibility of acquiring goods absent in their motherland [13].

Consumer decision-making and behavior are led by emotional and cognitive processes evoked by marketing efforts [24]. Consumers' choices are strongly affected by promotions, i.e., advertisements, product catalogs, and other information sources [13]. Moreover, the contrast of market opportunities related to the availability of products, prices, and shopping spaces between the two bordering countries should be substantial to motivate consumers to cross the border for shopping [25]. However, country borders might suppress the available information [4]. On the other hand, the research provided by Baruca and Zolfagharian [2] revealed that Mexican shoppers know well when and how to shop as they are informed about the specific shopping days such as Black Friday and post-Christmas sales.

Research provided in Hungary [13] proved the rationality of consumer decisions: after comparing the travel costs (i.e., fuel consumed) with endeavored savings, the average travel expenses resulted in only 12–17 percent of the savings of buying the product abroad. Thus, a destination is visited only if it is easily reachable or provides good offers [4].

Based on the literature analysis, four features of the marketing factor may be established: product selection, commercial promotions, advertising, and product brand.

Regarding the marketing-related factors, we hypothesize:

**H2.** *Marketing factors encourage Lithuanians to choose cross-border shopping in Poland.*

2.1.3. Regional Factors

Cross-border shopping might appear at any border with at least some degree of permeability [26]. After the collapse of the socialist regimes, East Central Europe is still considered as one of the significant areas for international shopping tourism [13]. After the end of the Cold War, Poland attracted Germans to shop for cheaper food, alcoholic beverages, cigarettes, and other FMCG [27]. The possibility of cross-border shopping depends on "formality and rules", including general border formalities, i.e., a required tourist visa or bureaucratic procedures [4]. European integration enabled the overcoming of this barrier, fostering inter-country interactions, movements, and trade in a Single European Market [28]. Accordingly, regional factors can be reflected by one single feature: the good transporting possibility across the border.

**H3.** *Regional factors encourage Lithuanians to choose cross-border shopping in Poland.*

2.1.4. Socio-Cultural Factors

Existing international studies of cross-border shopping are relatively scarce and mostly concentrate on macro-economic factors rather than on consumer socio-psychological and personal characteristics as predictors of frequent shopping abroad [5]. However, shopping tourism has not only economic but also socio-cultural aspects [22,26]. Consumers are driven not only by utilitarian motives but also by hedonic ones when crossing country

borders to shop for the goods and services sold across the border [2]. Thus, the differences and similarities that may be found in a borderland are experienced mentally [29].

Busch [27] emphasizes the intercultural exchange in tourist settings: shopping tourists expand their goals to the level of experience and an acceptance of cultural diversity; thus, an intercultural dialog occurs. Considering the socio-cultural aspect, the distinct features of local cultures are experienced through shopping [22].

The research provided among Hungarians shopping cross-border indicated that respondents of both genders were relying on recommendations provided by relatives and friends [13]; in this case, local people's suggestions were not highly trusted. Moreover, people encountering different socio-cultural backgrounds, languages and customs, and physical surroundings, i.e., different squares, streets, shops, restaurants and bars, often relate them to the shopping experience [30]. For instance, Russian residents who crossed the border for shopping appreciated the service quality they faced in Poland and were trying to attain a similar level of service in Kaliningrad Oblast; similarly, while shopping in Finland, Russian consumers became familiar with Western culture and lifestyles and subsequently brought their experience into their everyday lives in Russia [26].

On the other hand, the scientific literature suggests that consumption globalization is a consequence of the intensifying consumer mobility, which results in acquiring behaviors and consumption habits from other cultures. Enterprises that act globally direct integrated offerings to various cultural groups, thus influencing consumer experiences and preferences [31–33].

The analysis of the scientific literature suggests two main features of the socio-cultural factor: recommendations obtained from family and/or friends and learning the behavior of other countries' residents.

Considering socio-cultural factors as important, we hypothesize:

**H4.** *Socio-cultural factors encourage Lithuanians to choose cross-border shopping in Poland.*

#### 2.1.5. Psychological Factors

Besides its utilitarian benefits, hedonic aspects of cross-border shopping also exist [4]. People are not only homo oeconomicus, but they are also, and perhaps above all, beings activated to act by a system of values and beliefs [23]. Cross-border shoppers might also find a shopping trip interesting; thus, people would visit a neighboring country because of the charm of novelty [4]. Researchers identify several psychographic variables that stimulate cross-border shopping, e.g., shopping enjoyment, self-confidence, and innovativeness [5]. Shopping enables consumers to get to know the cultural peculiarities of the country they visit, and purchasing stimulates satisfaction and pleasure [22]. Michalkó and Rátz [13] also indicate fashion and status as factors playing an important role in affecting cross-border shopping decisions: typically, such products are of rather high value. The research provided with Serbian out-shoppers indicated the importance of a favorable overall image of a bordering country and its products [5]. Mexicans intend to shop in the US, seeking to demonstrate their power to other Mexicans and become known as opinion leaders or for being dominant or successful [34]. Crossing the border also means experiencing a better environment, a different "reality", and enjoying the blur between fantasy and truth [2]. On the other hand, consumer experience may be strongly related to the history of the country border and the borderland in people's minds [30]; thus, crossing the border for shopping might be related to some level of prestige and reflection of consumer wealth. Previous research [23] also enabled the identification of such components of the psychosocial factor as habits [25], customs, imitation, and aspirations.

Based on the literature analysis, five features of the psychological factor are established: market novelty, uniqueness of the product, fashion trends met, prestige and demonstration of wealth, and habits.

**H5.** *Psychological factors encourage Lithuanians to choose cross-border shopping in Poland.*

#### 2.1.6. Socio-Demographic Factors

Shopping can become a part of the experience of travel or its primary focus; moreover, shopping is an activity characterizing all the segments in a market [21]. Research regarding the demographic characteristics of out-shoppers still lacks consistent evidence [5]. Results of the research provided in Hungary suggested the existence of differences between male and female cross-border shopping behaviors [13]. Many researchers indicated positive relationships between out-shopping behavior and consumers' income and education; however, the evidence of the role of household size in the phenomenon is mixed [5]. Batyk [23] emphasizes that rational behavior occurs mainly in people with at least average income and are young and better educated, for whom shopping for goods is a pleasure. The effect of age and family or household structure (e.g., marital status and having children) on Mexican tourist shopping expenditures in the US cross-border region was also analyzed by Bojanic [35], who found that age and marriage were not important factors regarding shopping expenditures. On the contrary, results obtained by Baruca and Zolfagharian [2] show that older cross-border shoppers search for non-utilitarian results, such as discovering one's roots, reliving childhood memories, and visiting relatives and friends.

Socio-demographic (seven features): gender, age, education, place of residence, number of people in the household, professional activity, and income.

**H6.** *Socio-demographic factors, namely (a) gender; (b) age; (c) education; (d) place of residence; (e) number of people in the household; (f) professional activity; and (g) income influence Lithuanians' choice of cross-border shopping in Poland.*

### *2.2. Factors Suppressing Cross-Border Shopping*

Country border can act not only as a trigger but also as a barrier in a framework of cross-border shopping [4]. In the case of shopper behavior in the market the other side of the border, the most emergent risks were established: physical, functional, economic, socio-cultural, and regional.

#### 2.2.1. Physical and Functional Risks

During the process of cross-border shopping, cultural and mental factors might suppress consumer behavior; also, the lack of knowledge and uncomfortable shopping environments might act as barriers [6]. Formal rules for crossing country borders might be linked to national health care and suppress some kinds of purchases due to security or veterinarian reasons [4]. In a framework of Russian–Polish cross-border shopping, Russian consumers feared the risk of buying an imitation instead of the real product [23], which would result in lower quality or even be health-harmful. On the other hand, the importance of obtaining cheaper products and services was worth the risk for the citizens of the US shopping in Mexico [2]. It is worth mentioning that the Single European Market in a framework of cross-border shopping does not always provide a necessary level of consumer protection [36]. On the other hand, the perceived better quality of domestic goods might also suppress cross-border shopping behavior [5]. However, Mexican shoppers think that goods sold in the United States are better and that they will not be deceived while shopping in the US [2].

Accordingly, five physical and functional risks can be identified: low quality, no guarantee, no possibility of return, damage during transportation, allergies caused by unknown products, laying a background for the following hypothesis:

**H7.** *Physical and functional risks suppress Lithuanians' choice of cross-border shopping in Poland.*

#### 2.2.2. Economic Risks

Taking into account the risk conditions in which the decision-making process takes place, rational choices were described by the expected value maximization theory [23]. One of the constraints for cross-border shopping was indicated as unfavorable price levels [13].

Moreover, a country border may suppress the availability of information about the offerings provided in the market; thus, overpaying for goods might be expected [4].

Another economic factor fostering cross-border purchases might be envisioned in the possibility of reselling goods: cross-border trade has become an important prime or secondary source of income for families located in the borderlands of Poland [25]; however, the possibility of reselling goods does not always exist.

Regarding the economic risks, three features can be identified: the products will be more expensive, no resale possibility in the home country will exist, and money will be spent unnecessarily. Also, the following hypothesis can be raised:

**H8.** *Economic risks suppress Lithuanians' choice of cross-border shopping in Poland.*

#### 2.2.3. Socio-Cultural Risks

Dmitrovic and Vida [5] relate international cross-border shopping to the patriotic sentiments of consumers, i.e., consumer ethnocentrism, stating that consumers will prefer domestic products over others, primarily due to their patriotic feelings. Moreover, due to the same reasons, cross-border shopping might be negatively accepted by family and friends of the consumer. On the other hand, the same ethnocentrism might cause a negative attitude towards foreigners by the shop personnel. Scholars emphasize that Lithuanian consumers prioritize national production; however, while considering a choice of beauty product, they prefer foreign products [37].

Therefore, three socio-cultural factors-related risks can be named: families and friends might criticize the choice, citizens of other countries might be arrogant, and shop personnel might express a negative attitude toward foreigners. The following hypothesis is established:

**H9.** *Socio-cultural risks suppress Lithuanians' choice of cross-border shopping in Poland.*

#### 2.2.4. Regional Risks

The country border is always some kind of a barrier, even in strongly integrated areas such as the European Union [20]. Actually, the obstacles arising in the area of Cross-Border Cooperation can be considered as significantly limiting sustainable development, particularly in Europe and European Union countries [38]. As cross-border shopping, in its essence, is related to "formality and rules", some general border formalities might exist and suppress it [4]. The presence of such border-crossing barriers like custom controls is also indicated by Hardi [6] and Bar-Kołelis and Wendt [25]. The ability and predisposition to travel of people living in the border areas, directly connected with the available means of transport and the existing infrastructure, should be strong enough for them to engage in the travel; otherwise, the shopping endeavors will be suppressed [25].

Another problem regarding cross-border shopping is the issue of communication, resulting in language differences [20,38]. The research provided by Michalkó and Rátz [13] indicated that the language barrier occurring in a foreign environment mainly stopped Hungarian women from engaging in shopping cross-border. Language barriers are also emphasized by Hardi [6].

Considering the latter-mentioned, two features related to regional risks can be named: problems of transporting the purchased products across the border and misunderstandings due to the unknown language. Also, the following hypothesis is provided:

**H10.** *Regional risks suppress Lithuanians' choice of cross-border shopping in Poland.*

### *2.3. The Model*

Based on the analyzed literature, the hypothetical model encompassing the research hypotheses explaining Lithuanian consumers' choice to shop in Poland was elaborated (Figure 1). Verification of the model in terms of acceptance and/or rejection of the hy-

potheses will enable local authorities as well as businesses to better understand the factors promoting and suppressing cross-border shopping behavior exhibited by Lithuanian citizens choosing the Polish border market. The model will be tested in the FMCG sector; therefore, the space for its verification in other sectors or other border regions will be left for further research.

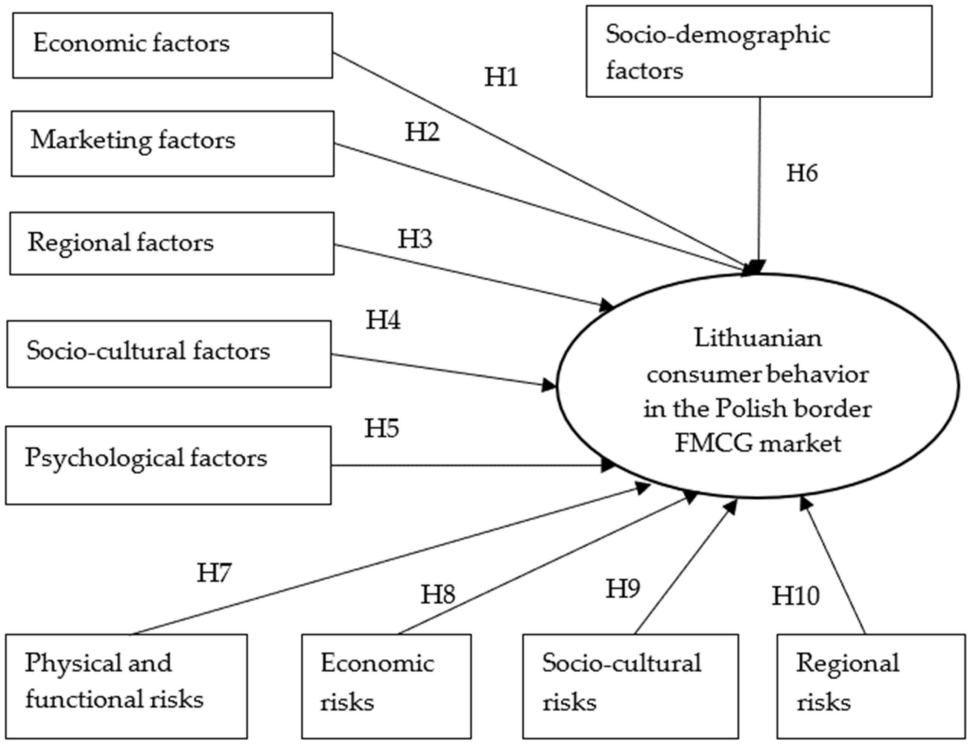



**Figure 1.** Proposed model of Lithuanian consumer behavior in the cross-border FMCG market in Poland.

## 3. Materials and Methods

### *3.1. Data Collection Procedure*

The authors followed the procedure provided by Dmitrovic and Vida [5]. Data were collected by the authors in the bordering countries: Lithuania and Poland. A personal questionnaire survey was conducted in the shopping environment in three cities of Lithuania (Marijampolė, Alytus, and Kaunas) and three cities in Poland (Augustów, Białystok, and Suwałki). Collecting data in six different towns increases the representativeness of the survey. The main criteria for choosing the cities for interviews were (1) the distance to the Lithuanian–Polish border (driving distance less than 150 km), and (2) population size (more than 30,000 inhabitants) assuming that there would be enough places for people to shop. Probability sampling was applied using geographical area sampling methodology within the selected cities.

### *3.2. Questionnaire Development*

The questionnaire was provided in the Lithuanian language. It was composed of four main parts:

Part I. Introductory questions about cross-border shopping behavior. Initially, respondents were asked about the patterns of their shopping in Poland: frequency, purchased products, and spending. Those respondents who indicated that never go to Poland for shopping were asked to finish the questionnaire and were not included in the sample.

Part II. Questions regarding the factors promoting cross-border shopping for FMCG products were provided in this part. This part of the questionnaire enabled the assessment of the impact of five factors promoting Lithuanians' cross-border shopping in Poland (Table 1).

Each factor was represented by a particular number of items identified in theory. The items were represented by statements evaluated by the 5-point Likert scale with possible answers ranging from 1 "Totally disagree" to 5 "Totally agree". This part of the questionnaire was intended to verify hypotheses H1–H5.

Part III. Questions regarding the factors suppressing cross-border shopping for FMCG products were provided in this part. This part contained five theoretically identified risks and was elaborated to verify the hypotheses H7–H10 (Table 1). Each risk was presented by a particular number of items. The items were represented by statements evaluated by the 5-point Likert scale with possible answers ranging from 1 "Totally disagree" to 5 "Totally agree".

Part IV. Finally, the socio-demographic part was composed of seven items. In this part, respondents were asked to indicate seven characteristics in order to verify the hypothesis H6.

**Table 1.** Assessed factors and items.

| Hypothesis | Factor | Items |
| --- | --- | --- |
| **H1.** *"Economic factors encourage Lithuanians to choose cross-border shopping in Poland"* | Economic factors | EF1: price<br>EF2: functional features<br>EF3: quality perceived according to physical features<br>EF4: product appearance<br>EF5: health values<br>EF6: quality of life<br>EF7: certificates and approvals |
| **H2.** *"Marketing factors encourage Lithuanians to choose cross-border shopping in Poland"* | Marketing factors | MF1: product selection<br>MF2: commercial promotions<br>MF3: advertising<br>MF4: product brand |
| **H3.** *"Regional factors encourage Lithuanians to choose cross-border shopping in Poland"* | Regional factor | RF1: cross-border transportation possibility |
| **H4.** *"Socio-cultural factors encourage Lithuanians to choose cross-border shopping in Poland"* | Socio-cultural factors | SCF1: recommendations from family and/or friends<br>SCF2: learning the behavior of other countries' residents |
| **H5.** *"Psychological factors encourage Lithuanians to choose cross-border shopping in Poland"* | Psychological factors | PSF1: novelty on the market<br>PSF2: uniqueness<br>PSF3: fashion<br>PSF4: prestige and reflection of wealth<br>PSF5: habits |
| **H6.** *"Socio-demographic factors, namely (a) gender; (b) age; (c) education; (d) place of residence; (e) number of people in the household; (f) professional activity; and (g) income influence Lithuanians' choice of cross-border shopping in Poland"* | Socio-demographic factors | SDF1: gender<br>SDF2: age<br>SDF3: education<br>SDF4: place of residence<br>SDF5: number of people in the household<br>SDF6: professional activity<br>SDF7: income |
| **H7.** *"Physical and functional risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Physical and functional risks | PHFR1: low quality<br>PHFR2: no guarantee<br>PHFR3: no possibility of return<br>PHFR4: damage during transportation<br>PHFR5: allergies caused by unknown products |
| **H8.** *"Economic risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Economic risks | ER1: paying for goods too much<br>ER2: no possibility to resell in Lithuania<br>ER3: money will be spent unnecessarily |

**Table 1.** *Cont.*

| Hypothesis | Factor | Items |
| --- | --- | --- |
| **H9.** *"Socio-cultural risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Socio-cultural risks | SCR1: criticism of family and friends for their choices<br>SCR2: shop personnel might express a negative attitude toward Lithuanians |
| **H10.** *"Regional risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Regional risks | RR1: problems of transporting the purchased products across the border<br>RR2: misunderstandings due to the Polish language |

The pilot testing of the questionnaire was provided with a sample of 17 students to detect any possible confusion with the questions. After the pilot, the questionnaire was established.

### *3.3. Sample Characteristics*

The survey was conducted from September to December of 2022. The sample was composed of 300 respondents (50 respondents × 6 towns). Probability sampling was used randomly, asking people to devote ten minutes of their time to scientific purposes. After collecting the data, 15 questionnaires were found to have missing values and were removed from the analysis. The sample size was calculated using a Z test for Logistic regression of G*Power [39], indicating that a sample size of 253 observations is necessary to achieve a statistical power of 0.9 ($\alpha$ err prob 0.1) and odds ratio of 1.5. Thus, a sample of 285 respondents is sufficient to reliably detect the effects existing in the population. The socio-demographic characteristics of the sample are provided in Table 2.

**Table 2.** Sample characteristics.

| Characteristics | | Frequency | Percent |
| --- | --- | --- | --- |
| Gender | Men | 115 | 40.4 |
| | Women | 170 | 59.6 |
| Age | 18–24 | 159 | 55.8 |
| | 25–34 | 50 | 17.5 |
| | 35–44 | 34 | 11.9 |
| | 45–54 | 30 | 10.5 |
| | 55–64 | 7 | 2.5 |
| | 65 and more | 5 | 1.8 |
| Education | Basic education | 28 | 9.8 |
| | Secondary education | 116 | 40.7 |
| | Vocational education | 16 | 5.6 |
| | Higher education | 125 | 43.9 |
| Professional activity | Administration employee | 21 | 7.4 |
| | Company employee | 95 | 33.3 |
| | Teacher | 7 | 2.5 |
| | Own business | 21 | 7.4 |
| | Student | 124 | 43.5 |
| | Unemployed | 12 | 4.2 |
| | Retired | 5 | 1.8 |
| Place of residence | Village | 41 | 14.4 |
| | City up to 50,000 inhabitants | 69 | 24.2 |
| | A city with more than 50,000 inhabitants | 175 | 61.4 |
| Household size | 1–2 family members | 87 | 30.5 |
| | 3–4 family members | 150 | 52.6 |
| | 5 and more family members | 48 | 16.8 |

**Table 2.** *Cont.*

| Characteristics | | Frequency | Percent |
|---|---|---|---|
| Income | Definitely above the national average [1] | 26 | 9.1 |
| | Slightly above the national average | 61 | 21.4 |
| | National average | 129 | 45.3 |
| | Slightly below the national average | 38 | 13.3 |
| | Definitely below the national average | 31 | 10.9 |

[1] Average monthly salary in Lithuania in 2022 was 1844 euros before taxes (1153 euros after taxes) [40].

Data analysis was provided using the IBM SPSS Statistics V.28 package.

### *3.4. Data Analysis*

Factor analysis is used to analyze the relationship between the identified determinants and the declared decision to make cross-border purchases in the FMCG market. The determinants of purchase decisions included in the analysis were: seven socio-demographic characteristics, 19 items assigned to five groups of factors promoting cross-border shopping (described in Section 2.1), and 12 items limiting purchase decisions distinguished into four risk groups (described in Section 2.2). Logistic regression was used to classify variables to reduce their number and detect relationships between them. Logistic regressions are provided to establish the relationship between the dependent variable and multiple independent variables [41]. In our analysis, the dependent variable was a purchase on the cross-border FMCG market or no purchase.

In the next stage, logistic regression was used to build a scoring model describing purchasing decisions on the cross-border FMCG market of the European Union based on the example of analyzing determinants influencing the behavior of Lithuanians buying in Poland. Scoring methods are widely used methods to predict possible results of a particular occurrence. Latter methods are also applied to study consumer behavior [42] to analyze the effects of market activities [43] and the risks faced during the process of management [44]. They are used to test the likelihood that such behavior will be expressed in the future. The probability of an event occurring is determined using the so-called feature predictors of the scoring model. The obtained results provide the basis for determining the occurrence of the analyzed event, both in individual people and in the entire population [45]. The results of the scoring analysis are presented using numerical values (points) that are assigned to the analyzed features. The sum of points shows the probability of the phenomenon under study occurring.

An assessment of the obtained data was made for controlling their multicollinearity and estimating model parameters. The assumption was made that each variable and respondent's assessment was equally important and had an impact on purchasing decisions in the cross-border FMCG market to the same extent. Then, the influence of direction and strength of the features included in the own research (identified on the basis of the literature on the subject and described in Sections 2.1 and 2.2) on purchasing decisions were examined. The key stage of building the scoring model was the identification and elimination of variables that had no significant effect on the modeled phenomenon. These variables could have a destabilizing effect on the model, and they provide no relevant information. The procedure of building the scorecards included discretization, which consisted of dividing the values of all variables into homogeneous intervals depending on the intensity of purchase decisions in the cross-border FMCG market. Discretization eliminates outliers and makes it possible to model non-monotonic changes in the impact of individual features on the phenomenon. The criterion for maximizing the measure (Kulback-Leibler divergence) was used to classify the analyzed variables into categories, which allowed the indication of the predictive power of a particular variable.

In the next step, the explanatory variables were ascribed point values. Slope coefficients determining the impact of specific factors on the probability of purchase can be positive and negative. The higher the point value, the greater the probability of purchase.

In the next step of the scoring method, the estimated odds ratios were converted into points. Numerical values defining the importance of individual factors in purchasing decisions have been calculated. Based on the added values, an overall result was obtained that indicates the likelihood of Lithuanians' purchasing decisions on the cross-border FMCG market in Poland. The scoring table contains all possible variants of explanation of the variables and the calculated scoring points. The final logit model demonstrates the probability of Lithuanians purchasing in the FMCG market in Poland.

The questionnaire was approved by the Ethics Committee of the Faculty of Economics and Management, Vytautas Magnus University.

## 4. Results

Based on the analyses, the impacts of seven socio-demographic characteristics (gender, age, education, place of residence, number of people in the household, professional activity, and income), the analyzed five determinants (economic, marketing, socio-cultural, psychological, and regional factors), and also the four risks (physical and functional, economic, socio-cultural, and regional) of the purchasing decisions of Lithuanians on the cross-border FMCG market in Poland were determined. The discretization of the explanatory variables identified five groups of factors having different strengths of influence on shopping behavior. To indicate the degree of significance of the influence of factors on purchasing decisions, factor loadings were calculated for each individual variable (Table 3). The following variables in five groups (G obtained significant factor loadings (>0.700)):

- G1—economic factors (0.848) and, on the verge of significance, professional activity (0.697);
- G2—psychological factors (−0.712);
- G3—regional factors (0.737);
- G4—all the factor loadings were below 0.700, the highest loading for marketing factors (−0.523);
- G5—income level (−0.740).

**Table 3.** Matrix of representative variables.

| | **Factor Loadings (Varimax Normalized)** | | | | |
|---|---|---|---|---|---|
| **Variable** | **G1** | **G2** | **G3** | **G4** | **G5** |
| Gender | 0.044300 | −0.044926 | 0.081289 | 0.414293 | −0.029766 |
| Age | 0.130065 | 0.603491 | −0.446910 | −0.309799 | −0.077413 |
| Education | −0.332009 | −0.338115 | 0.341371 | 0.135544 | 0.186173 |
| Place of residence | 0.048286 | −0.032669 | 0.014082 | −0.236171 | 0.676025 |
| Number of people in the household | −0.572030 | −0.120484 | 0.198982 | −0.458245 | −0.004099 |
| Professional activity | 0.696907 | −0.147273 | 0.016042 | 0.461237 | 0.011727 |
| Income level | 0.028559 | −0.066192 | 0.031022 | −0.135287 | −0.739605 |
| Economic factors | 0.847970 | 0.161456 | 0.122123 | 0.013637 | −0.034501 |
| Marketing factors | 0.509079 | 0.122365 | 0.564909 | −0.522642 | −0.031018 |
| Psychological factors | 0.205784 | −0.712365 | −0.098274 | 0.075188 | 0.043204 |
| Socio-cultural factors | 0.252106 | 0.250336 | −0.117279 | 0.557357 | −0.036184 |
| Regional factors | 0.231526 | −0.043306 | 0.736885 | 0.082164 | 0.091172 |
| Risk related to the physical and functional characteristics of the product | −0.034661 | 0.599511 | 0.099466 | 0.077477 | 0.003522 |
| Risk related to economic factors | 0.426456 | 0.306402 | 0.019852 | 0.045718 | −0.013959 |
| Risk related to socio-cultural factors | 0.450036 | 0.501269 | −0.045073 | 0.211705 | 0.065657 |
| Risk related to regional factors | 0.216310 | 0.595624 | 0.253484 | 0.085013 | 0.156623 |

Table 4 presents eigenvalues, cumulative values, and the percentage of total variance obtained for the factor groups. The largest percentage of variance (18%) is explained by the first group of factors, the second group—14.1%, the third—9.5%, the fourth—7%, and the fifth—6.4%.

**Table 4.** Factor group parameters.

| Group of Factors | Eigenvalues | Main Components | | |
|---|---|---|---|---|
| | | Percentage of the Total Variance | Cumulative Values | % of the Variance |
| 1 | 3.059234 | 17.99549 | 3.059234 | 17.99549 |
| 2 | 2.403734 | 14.13961 | 5.462968 | 32.13511 |
| 3 | 1.621825 | 9.54015 | 7.084794 | 41.67526 |
| 4 | 1.198402 | 7.04943 | 8.283196 | 48.72468 |
| 5 | 1.080062 | 6.35330 | 9.363258 | 55.07799 |

Based on the categorization of variables, the Information Value (IV) coefficient was calculated as the predictive ability for individual variables. Gender, age, education, place of residence, and number of people in the household had very weak predictive power. The highest predictive power concerns the following features: professional activity (IV = 2.23), economic factors (IV = 2.20), regional factors (IV = 1.39), and income level (IV = 0.60). The following factors had very low predictive power: marketing (IV = 0.21), socio-cultural (IV = 0.06), and psychological (IV = 0.02). The types of risks analyzed had no or very low predictive power: risks related to the properties of the product (IV = 0.14), economic factors (IV = 0.09), socio-cultural factors (IV = 0.18), and regional (IV = 0.00). After calculating the correlation of factors, the latter variables were eliminated from the model: gender, age, education, place of residence, and number of people in the household.

The results of the point analysis indicate the socio-demographic determinants of FMCG purchases (Table 5). The following had a statistically significant impact ($p < 0.05$) on income level ($p = 0.00213$) and professional activity ($p = 0.00078$). In the model determining the determinants of FMCG purchases, the highest positive values for the socio-demographic characteristics of Lithuanians were given to professional activity: unemployed (241 points), student (172 points), and retired (132 points). A teacher (−11 points), an administrative employee (2 points), an employee of a company (19 points), and own business (41 points) showed a very low probability of purchasing FMCG. Considering the income, the range of points was from 10 (definitely above the national average) to 153 (significantly below the national average). People declaring the lowest income and below the national average income were characterized by a very high probability of purchase.

**Table 5.** Scoring of socio-demographic characteristics of Lithuanians buying on the cross-border FMCG market in Poland.

| Variable | WoE | Rating | s. Walda | Level *p* | Scoring | Rounded Scoring |
|---|---|---|---|---|---|---|
| Professional activity | | | | | | |
| Own business | 15.699 | 0.01680 | 10.48721 | 0.00078 | 40.887 | 41 |
| Company employee | −15.996 | 0.01680 | 10.48721 | 0.00078 | 18.897 | 19 |
| Administration employee | −48.875 | 0.01680 | 10.48721 | 0.00078 | 2.433 | 2 |
| Teacher | −47.221 | 0.01680 | 10.48721 | 0.00078 | −10.544 | −11 |
| Unemployed | 474.166 | 0.01680 | 10.48721 | 0.00078 | 241.042 | 241 |
| Student | 411.743 | 0.01680 | 10.48721 | 0.00078 | 172.339 | 172 |
| Retired | 155.231 | 0.01680 | 10.48721 | 0.00078 | 131.754 | 132 |

**Table 5.** *Cont.*

| Variable | WoE | Rating | s. Walda | Level *p* | Scoring | Rounded Scoring |
|---|---|---|---|---|---|---|
| Neutral value | - | - | | | 47.645 | 48 |
| Income level | | | | | | |
| Definitely below the national average | 172.551 | 0.01511 | 6.54221 | 0.00213 | 153.21 | 153 |
| Slightly below the national average | 21.447 | 0.01511 | 6.54221 | 0.00213 | 89.778 | 90 |
| National average | 14.112 | 0.01511 | 6.54221 | 0.00213 | 33.957 | 34 |
| Slightly above the national average | −10.883 | 0.01511 | 6.54221 | 0.00213 | 15.641 | 16 |
| Definitely above the national average | −22.815 | 0.01511 | 6.54221 | 0.00213 | 9.817 | 10 |
| Neutral value | - | - | | | 98.041 | 98 |

The presented scoring analysis enables identification of the determinants of Lithuanians' purchasing decisions on the FMCG market in Poland (Table 6). A statistically significant impact ($p < 0.05$) was found by the economic factor ($p = 0.00093$) and regional factor, which is the possibility of transporting the acquired products through the border ($p = 0.00234$). Logistic regression analysis did not indicate a significant impact of other groups of determinants or types of risk. The *p*-significance level for individual factors was: economic ($p = 0.21408$), marketing ($p = 0.17468$), psychological ($p = 0.73501$), and socio-cultural ($p = 0.19479$). Logistic regression analysis showed no significant impact of risk related to the product characteristics ($p = 0.48371$), risk related to economic ($p = 0.38751$), socio-cultural ($p = 0.51269$), and regional ($p = 0.07466$) features.

**Table 6.** Scoring table for the determinants of purchasing decisions on the cross-border FMCG market in Poland.

| Variable | WoE | Rating | s. Walda | Level *p* | Scoring | Rounded Scoring |
|---|---|---|---|---|---|---|
| Economic factors | | | | | | |
| 1 factor | 129.403 | 0.01775 | 11.28336 | 0.00093 | 66.521 | 67 |
| 2–3 factors | 291.008 | 0.01775 | 11.28336 | 0.00093 | 157.778 | 158 |
| >3 factors | 355.221 | 0.01775 | 11.28336 | 0.00093 | 180.661 | 181 |
| Neutral value | - | - | | | 140.890 | 141 |
| Marketing factors | | | | | | |
| 1 factor | 57.288 | −0.01894 | 1.54113 | 0.17468 | −8.266 | −8 |
| 2–3 factors | −18.325 | −0.01894 | 1.54113 | 0.17468 | 45.369 | 45 |
| >3 factors | −58.478 | −0.01894 | 1.54113 | 0.17468 | 71.291 | 71 |
| Neutral value | - | - | | | 30.044 | 30 |
| Psychological factors | | | | | | |
| 1 factor | 1.421 | −0.01033 | 0.03763 | 0.73501 | 12.122 | 12 |
| 2–3 factors | −26.887 | −0.01033 | 0.03763 | 0.73501 | 40.157 | 40 |
| >3 factors | −64.745 | −0.01033 | 0.03763 | 0.73501 | 4.883 | 5 |
| Neutral value | - | - | | | 21.687 | 22 |
| Socio-cultural factor | | | | | | |
| 1 factor | −10.144 | 0.01722 | 0.84502 | 0.19479 | 21.421 | 21 |
| >1 factor | 61.020 | 0.01722 | 0.84502 | 0.19479 | 50.126 | 50 |
| Neutral value | - | - | | | 37.073 | 37 |

**Table 6.** *Cont.*

| Variable | WoE | Rating | s. Walda | Level *p* | Scoring | Rounded Scoring |
|---|---|---|---|---|---|---|
| Regional factors | | | | | | |
| 1 factor | 245.887 | 0.01566 | 9.54211 | 0.00234 | 140.548 | 132 |
| Neutral value | - | - | | | 140.548 | 141 |
| Product's physical and functional characteristics-related risk | | | | | | |
| 1 factor | −12.542 | 0.01002 | 0.99102 | 0.48371 | 25.442 | 25 |
| 2–3 factors | 29.877 | 0.01002 | 0.99102 | 0.48371 | 40.213 | 40 |
| >3 factors | −25.566 | 0.01002 | 0.99102 | 0.48371 | 21.998 | 22 |
| Neutral value | - | - | | | 31. 311 | 31 |
| Economic factors-related risk | | | | | | |
| 1 factor | −1.007 | 0.15831 | 1.18571 | 0.38751 | 29.155 | 29 |
| 2 factors | −4.451 | 0.15831 | 1.18571 | 0.38751 | 21.199 | 21 |
| >2 factors | 101.336 | 0.15831 | 1.18571 | 0.38751 | 87.933 | 88 |
| Neutral value | - | - | | | 42.018 | 42 |
| Socio-cultural factors-related risk | | | | | | |
| 1 factor | −15.422 | −0.01668 | 0.54872 | 0.51269 | 28.185 | 28 |
| >1 factor | 55.877 | −0.01668 | 0.54872 | 0.51269 | 10.560 | 11 |
| Neutral value | - | - | | | 20.699 | 21 |
| Regional factors-related risk | | | | | | |
| 1 factor | −2.774 | 0.11875 | 2.55189 | 0.07466 | 21.446 | 21 |
| >1 factor | −5.420 | 0.11875 | 2.55189 | 0.07466 | 42.115 | 42 |
| Neutral value | - | - | | | 24.336 | 24 |

The analysis showed that the purchasing decisions of Lithuanians on the cross-border FMCG market in Poland were influenced by economic factors such as price, functional features, quality perceived according to physical features, product appearance, health values, quality of life, certificates and approvals, and cross-border transportation possibility. Among the analyzed socio-demographic factors, professional activity and income level have an impact. Considering the perceived threats, there was no impact of any of the analyzed risks. The results of hypothesis testing are presented in Table 7.

**Table 7.** Results of hypotheses testing.

| Hypothesis | Status | Result |
|---|---|---|
| **H1.** *"Economic factors encourage Lithuanians to choose cross-border shopping in Poland"* | Supported | $p = 0.00093$ * |
| **H2.** *"Marketing factors encourage Lithuanians to choose cross-border shopping in Poland"* | Rejected | $p = 0.17468$ |
| **H3.** *"Regional factors encourage Lithuanians to choose cross-border shopping in Poland"* | Supported | $p = 0.00234$ * |
| **H4.** *"Socio-cultural factors encourage Lithuanians to choose cross-border shopping in Poland"* | Rejected | $p = 0.73501$ |
| **H5.** *"Psychological factors encourage Lithuanians to choose cross-border shopping in Poland"* | Rejected | $p = 0.19479$ |

**Table 7.** *Cont.*

| Hypothesis | Status | Result |
|---|---|---|
| **H6.** *"Socio-demographic factors, namely (a) gender; (b) age; (c) education; (d) place of residence; (e) number of people in the household; (f) professional activity; and (g) income level influence Lithuanians' choice of cross-border shopping in Poland"* | Supported partially | (f) professional activity ($p$ = 0.00078) *(g) income level ($p$ = 0.00213) * |
| **H7.** *"Physical and functional risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Rejected | $p$ = 0.48371 |
| **H8.** *"Economic risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Rejected | $p$ = 0.38751 |
| **H9.** *"Socio-cultural risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Rejected | $p$ = 0.51269 |
| **H10.** *"Regional risks suppress Lithuanians' choice of cross-border shopping in Poland"* | Rejected | $p$ = 0.07466 |

* Statistically significant.

## 5. Discussion

Cross-border shopping can be considered to be a source of investment and jobs for the border regions [46]; therefore, understanding consumer motivations for choosing to cross the country border for shopping is an important task for every sector of consumer goods. It is crucial to gain a deeper comprehension of motivation and make use of the elements that influence it [47].

The research results indicate a great consumer desire to cross the borders of neighboring countries for FMCG shopping; therefore, the study supported the convenience of border-free regions for shopping [28,48]. However, only four factors were found to have an influence on Lithuanian consumers' choice to cross the Lithuanian–Polish border for FMCG shopping, i.e., income level and professional activity (socio-demographic factors) and economic and regional factors. The results of the research prompted changes in the hypothetical model (Figure 2).

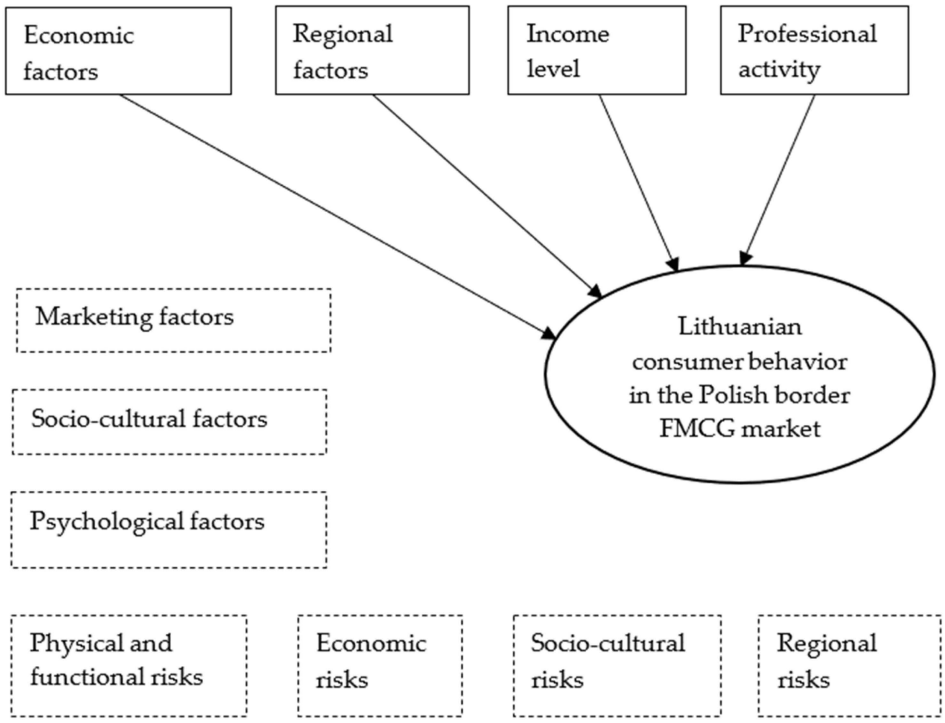



**Figure 2.** The model of Lithuanian consumer behavior in the Polish border FMCG market.

Apparently, socio-demographic factors are important shopping predictors. Income level and professional activity were also significant for Lithuanian food shoppers in Poland [49]. Considering that, traditionally, consumers dedicate a substantial part of their budget to FMCG [47], people declaring their income as equal to the national average and lower were characterized by a very high probability of choosing cross-border shopping for FMCG in Poland. A contradiction may be envisioned with an assumption that rational behavior occurs mainly in people with at least average income and are young and better educated, for whom shopping for goods is a pleasure [23]; moreover, utilitarian shopping motivations have strengthened during the pandemic [50].

It must be noted that the research encompassed seven socio-demographic factors, namely: gender, age, education, professional activity, place of residence, household size, and income (income level). Five of them, i.e., gender, age, education, place of residence, and household size, had no significant influence on Lithuanians choosing to shop for FMCG in Poland. Also, Mexican tourist cross-border shopping research found that age and marital status were not significant factors in regard to this choice [35]. As FMCG are the items privately used every day [47], it might be assumed that consumer gender, age, education, or household size are not very relevant in regard to shopping decisions. If considering the place of residence, most respondents (61.4 percent) indicated coming from cities with more than 50,000 inhabitants; however, as their place of residence had no impact on their choice to shop cross-border, it might be assumed that regional factors were more important in this regard.

The research results confirmed a statistically significant impact of economic factors on the purchasing behavior of Lithuanians in the Polish FMCG market. Lithuanians know about prices in Poland and consider them to be much lower than in Lithuania. In addition, they are informed about the functional characteristics and quality of goods in the FMCG market in Poland. This information has a positive impact on purchasing decisions. The obtained research results confirm the thesis of other authors [4] that when shopping, consumers look for the lowest price and the best quality. Similarly, the financial factor also was significant for Serbians' choice to cross their country border for shopping [5].

As regional factors can be reflected by one single feature: the possibility of transporting goods across the border, the obtained results indicate that Lithuanians are frequently using this possibility. Globalization of consumption results in the globalization of markets, particularly those close to country borders [49]. The research results are especially important for Polish border entrepreneurs, as the flow of shoppers from Kaliningrad is decreasing; the research [51] shows that among the citizens of Kaliningrad who were regularly traveling to Poland for shopping, 53% indicated a decline in the frequency of their trips from year to year. Considering the geographic location of the borders between the Kaliningrad area, Lithuania, and Poland, such a decline in shoppers from Kaliningrad can be compensated by attracting Lithuanians. To encourage more Lithuanians to come to Poland for shopping, better transportation possibilities can be offered as they positively affect cross-border exchanges. Also, recent research indicated the necessity of the symbiosis of research in the fields of entrepreneurship, digitalization, smart environments, and sustainability [52], thus emphasizing the possible future changes in the role of regional factors through various forms of e-commerce.

The research results denied that social and legal differences on opposite sides of international borders are the major stimulators behind cross-border shopping [50]. Marketing, socio-cultural factors, and psychological factors were found to be insignificant for Lithuanians choosing to shop for FMCG in Poland. Lithuanians have the same motives as Hungarians: the more attractive prices and the better price–quality ratio of specific goods or brands were indicated as the major reasons for Hungarians to shop cross-border [13]. Although consumers who choose cross-border shopping can be characterized by low levels of economic patriotism [5], this is not the case for Lithuanian FMCG shopping in Poland.

Considering marketing factors, the contrast between Lithuania and Poland in terms of market opportunities, availability of goods, prices, and shopping locations [25] appeared

to be not visible enough to motivate people to want to cross the border for shopping. On the other hand, the research results might be explained by market familiarity: shoppers know well when and how to shop, and they are well aware of existing promotional days on the other side of the border [2]. The market familiarity and similarity for Lithuanians purchasing FMCG in Poland can also explain the absence of the effect of socio-cultural factors. The intercultural exchange while visiting Poland, i.e., an experience and an acceptance of cultural diversity [27], was not important for Lithuanians. Also, maybe because of the very similar assortment of FMCG in Poland and Lithuania, Lithuanians were not likely to rely on recommendations provided by relatives and friends as opposed to the literature [13]. However, to elaborate a more appealing and effective marketing mix, neuromarketing tools based on the consumers' neural responses (for example, emotions, attention, motivation, reward processing, and perception) might be used [53].

Finally, considering psychological factors, the research results denied that such factors as enjoyment in shopping, self-confidence, or innovativeness [5] stimulate cross-border shopping performed by Lithuanian FMCG consumers. As the Polish FMCG market is very similar to the Lithuanian one, respondents denied the effect of novelty and uniqueness, fashion, prestige, and demonstration of wealth on their choice to cross the border for shopping.

Moreover, even more interesting results were obtained regarding the factors suppressing Lithuanians' cross-border shopping for FMCG in Poland. The results denied that a national border can act as a barrier to cross-border shopping [4,20] in the analyzed case. All the theoretically established risks were proved to be irrelevant for Lithuanians choosing to shop for FMCG in Poland. Apparently, the citizens of the border region travel to Poland for shopping without distinguishing any possible risks. Moreover, between Lithuania and Poland, there are no such border-crossing obstacles like border checks indicated in the literature [6,25]; therefore, border crossing is not so evident. Also, as FMCG prices are higher in Lithuania [16], the existence of economic risks was also denied.

Despite the differences between Lithuanian and Polish languages, the problem of understanding the foreign language indicated in the literature [6,13,20,38] was not found to significantly affect the choice of Lithuanians to shop in Poland. To explain the absence of suppressing factors for Lithuanians to shop in Poland for FMCG, globalization and euro-integration processes and the measures simplifying and encouraging cross-border activities applied by the EU might be considered [54].

Finally, the model of Lithuanian consumer shopping behavior in the Polish border FMCG market reveals the major socio-demographic factors to be considered by the Polish entrepreneurs, namely: consumer professional activity and income level. Knowing that for FMCG in Poland, shoppers are mainly unemployed, students, and retired people having an income of average and much below the country's average, local entrepreneurs can adapt their marketing, merchandising, and pricing strategies to better serve specific consumer segments.

Considering the regional factors, the possibility of transporting goods across the border is already evident. However, it might be facilitated even more by offering more convenient types of transportation and engaging in cross-border e-commerce.

## 6. Conclusions and Recommendations

As cross-border trade reinforces the sustainable economic development of a country or region by enabling transnational cooperation and, consequently, encouraging local entrepreneurs to search for innovative and more socially responsible ways of customer attraction, this study contributes to the body of knowledge by identifying the factors to be addressed. The groups of factors included in the model were analyzed in the context of stimuli for making purchasing decisions on the cross-border FMCG market. The determining factors were the socio-demographic characteristics of consumers and economic and regional factors. Although neither marketing, psychological, or cultural factors had

a significant impact on the purchase of FMCG in the cross-border market, consumers' emotional experiences and risk aversion should not be underestimated.

The most significant influence had geopolitical conditions, the most important of which was the possibility of transporting acquired products through the border. Research on the economic and social impact and, especially, regional conditions for shaping consumer behavior on border markets can be used to propose solutions for the functioning of cross-border trade in the European Union's markets located close to the country borders.

Facing the dynamically changing geopolitical conditions, the problem of objectively assessing the behavior of border regions' residents in the market is evident. Despite the restrictions, it is necessary to constantly monitor the operating conditions of border markets and research the factors determining purchasing activity in these markets. Current research reflects only consumer cross-border shopping behavior at the time of the survey and does not estimate or forecast the behavioral changes in five, ten, or more years. For future research, it might be recommended to replicate the research and monitor changes in factors or possibly emerging risks. Also, as the possible impact of seasonality or closing Christmas period was not assessed, it is recommended to replicate the survey at different times of the year (for example, spring or summer) to obtain a more complex picture.

Another limitation of the study may be the fact that the operating conditions of markets in Lithuania and Poland are significantly different. Their most different feature is different currency: the euro in Lithuania and the Polish zloty in Poland, and different VAT rates on food. This means that in border markets with similar characteristics (same currency and taxes on FMCG), research may have different results.

A huge factor limiting the research is difficult access to respondents, reluctant participation in interviews, and uncomfortable conditions of conducting interviews (e.g., in shopping centers). The reluctance to answer is related to fears of reporting the transport of excessive amounts of goods to customs services. The number of observations does not allow for the formulation of representative conclusions.

Moreover, during the time of the research, several factors crucial for the functioning of cross-border markets coincided: the global economic crisis, the changing geopolitical conditions, and the war in Ukraine. The latter factors were followed by high inflation and increased fluctuations in the rate of exchange. Such market conditions resulted in a growth of the purchasing activity of Lithuanians in the Polish market for FMCG.

Hence, the findings and conclusions of this study should be exclusively attributed to the Lithuanian–Polish border market for FMCG until a comparative study is conducted in other country markets.

The authors are aware of the limitations of the study but, at the same time, express their willingness to develop research on purchasing behavior in other cross-border markets, both within and outside the EU. This is especially important from the perspective of expanding the structures of the European Union to other countries, e.g., Ukraine. By conducting broader research, it would be possible to explore more relationships between the determinants of shopping behavior expressed by the inhabitants of border regions.

Research should also be continued on the Polish–Lithuanian cross-border market for other goods and services.

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**Data Availability Statement:** Data are available upon request from researchers who meet the eligibility criteria. Kindly contact the corresponding author privately via e-mail.

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