



## MODELING THE MARKET FOR EXPORT OF COSMETIC PRODUCTS

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**Abstract.** Selection of export market is a key step for a company which is seeking to expand its business globally. Engaging in international exporting presents a thoughtful challenge to many companies because it is not only expensive to enter but it is also very competitive. Due to this fact, company should carefully select the market in which export activity will be made. Different criteria and methods are used in order to choose the most attractive and valuable market. After determination of the most important criteria in the selection process of export market and applying different methods, the most attractive market can be identified. The aim of this article is to test modeling of the export market for cosmetic products based on performed analysis and selection method. Analysis of scientific literature, statistical analysis and TOPSIS method are used.

**Keywords:** international business; international competitiveness; export market selection; export; cosmetic market; TOPSIS method; cosmetic products.

### Introduction

The global integration within cosmetic industry has definitely increased. During the last decade many cosmetic companies were driven by globalization and has growth their market shares all over the world. Regarding to rapid growth of international business, exporting plays a key role in many cosmetic firms' growth.

Europe is the global leading producer of cosmetic products. In 2017, approximately 77,7 billion euros worth of cosmetics and personal care products were consumed, which made Europe the largest market for cosmetic products in the world (Statista, 2018). The cosmetics industry include a wide range of products such as skin care, hair care, body and oral care to decorative cosmetics and perfumery. Cosmetic products play an important part of people's everyday life and bring the emotional benefit to human beings. Strong desire among males and females to retain youthful appearance has boosted the cosmetic industry growth worldwide.

The globalization of the world economy has provided companies with great opportunities to expand abroad whether through exporting, Foreign Direct Investment (FDI) or franchising. Majority of cosmetic companies are engaged in exporting their products to foreign countries as the level of productivity for exporting companies are much higher than non-exporters. However, engaging in international exporting presents a thoughtful challenge to many companies because it is not only expensive to enter but it is also very competitive. Due to this fact, identification and selection of the right market to enter is very important for many reasons:

- It can be a key determinant of success or failure in foreign markets;
- It impacts further actions in the selected counties;
- The nature of geographic location of chosen market has an impact of the firm's ability to coordinate foreign operations.

Many companies fail to internationalization due to poor market selection which is often caused by inadequate evaluation of markets. The importance for selecting the right foreign markets has been stressed by many researches and even several models were developed that help to evaluate and select foreign markets but there is still a gap between these models and practice (Rahman, 2003). What is more, several researchers also conclude that there is still a shortage of empirical research on which criteria firms use to select the foreign market for export (Ozturk,

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Joiner, & Cavusgil, 2015). Accordingly, this leads to question: how to determine the destination to which company export their cosmetic products?

The aim of this article is to test modeling of export market for cosmetic products based on performed analysis and selection method.

The methods applied in this article are: analysis of scientific literature, statistical analysis of cosmetic industry, TOPSIS method.

## **1. Theoretical aspects of international business and export market selection**

There are two main types of business in terms of geographical limit: domestic and international. Business that includes transactions between parties within the boundaries of one country belongs to domestic business. On another hand, business that includes transactions that are crossing national boundaries, it is called international business. International business includes main activities such as export and import, as well as, other forms of international business activities such as: franchising, licensing, management contracts (Hill & Hult, 2016).

Globalization is one of the main reasons why companies becoming international and increasingly looking for global rather than domestic markets (Parboteeah & Cullen, 2018). Even knowing the fact that particular countries have a different culture, businesses are prepared to adapt the other cultural specifics which may include different norms, values, the way business has to be done and others (Griffin & Pustay, 2015).

International competitiveness is also very important part of international business. It is defined as a process in which higher levels of competitiveness are achieved at different levels, that is, at national, firm, regional levels. There are numerous definitions of competitiveness that must be taken into consideration before one can build a particular understanding of international competitiveness. Furthermore, competitiveness includes "efficiency (reaching goals at the lowest possible cost) and effectiveness (having the right goals). It is this choice of industrial goals which is crucial. Competitiveness includes both the ends and the means toward those ends" (Buckley, Pass, & Prescott., 1988).

Companies, which are planning to enter foreign market mostly begin with exporting that involves least risk and amount of resources, before establishing wholly owned overseas subsidiaries. Usually, the local companies use existing domestic capacity of production, administration, distribution and just a certain part of its home production is designated to a market abroad. As the goods are made locally, they are usually sent by ship, air, rail truck into another country's market. There are two types of export:

- Direct export;
- Indirect export.

In direct export company has a direct contact with parties from the target countries, it may or may not include intermediaries. If the intermediary does not participate, the direct export is conducted by a salesperson of the firm. An intermediary is known as an agent or distributor in the target market, who is responsible for selling the products or services in the target market. The biggest advantage of direct exporting is the ability of the company to control all the international operations and to build a business network with potential partners. However, there are some disadvantages of direct exporting, for example, company may not have enough resources to pursue international opportunities that may be turned into higher profit and sales volume or it may also include a large distance from consumers.

In indirect export company uses an intermediary (broker, export management company or etc.) in the home country, that arranges the export agreements between or among parties. In this way, company does not manage the contract of the export itself but uses another party to do it for them. The main advantage of indirect export is the access to international market, while using a smallest amount of company's resources, which means that not so much risk is involved. On another hand, there are some disadvantages such as not so much control involved over the way the products are handled in the foreign market. Also, company is not able to gain international experience due to the fact that intermediary controls the majority of the export processes.

By choosing the direct exporting, the exporter participates in all the sale and transmittal of merchandise processes, where the indirect exporter basically just hires the expertise of someone else to facilitate the exchange (Ajami & Goddard, 2015).

In order to enter into an export market, it is very important to choose the right the target market, where the enterprise may see the market opportunities for its products or services. As there are many advantages of exporting such as little risk, low allocation of resources for the exporter or it is easy to establish the recognition of a name brand, companies have to take into consideration that exporting may also be expensive (mistakes, the cost of fees, export duties), competitive and sometimes firms may even face restrictions against its goods from the host country.

As selection of export market is a key step for a company that is planning to expand its business, it is very important to identify external factors that will affect the performance of a product or service in a foreign market.

Companies have to determine economic trend of the market, which includes chosen country's economic growth rate, unemployment, foreign direct investment, exchange rates, financial crisis (Reyes, 2013).

Furthermore, income level and population of the country are also very important for determining business expand in the foreign market because most of the income is concentrated in high-population and high-income countries.

The international marketing literature also contributes two main approaches, which help to identify the target market or markets for export, one of them is clustering and the another one is ranking. Both methods are suggested for selecting potential markets during the selection process. Using cluster methods, countries are grouped on the basis of similarities along economic, political, cultural dimensions and commercial. What is more, the identification of similarities helps managers compare countries and identify potential synergies among those markets. The ranking method includes evaluation of markets according criteria by assigning weights.

Other authors also propose that companies should use a screening method for the selection of foreign markets. The indicators that are used for this method are easily obtained and they should be equal and comparable. As an example, it may include macroeconomic indicators, derivative indicators and other ratios that are related to company business (Časas, 2008).

## 2. Analysis of cosmetics market

Cosmetic products which include skin care, makeup, sun care, hair care deodorants and fragrances are mixtures of different chemical compounds that are used to enhance the appearance of the human body. All these beauty products are offered mainly through retail stores and online.

People have been using cosmetic products for many years, and today, the majority of consumers use cosmetics and personal care products daily to protect their health, improve their well-being and increase their self-esteem. Regarding the frequency of cosmetic products use, differences can be seen across countries, between genders and ages. Figure 1. represents a sample of data of most frequently used cosmetic products on the daily basis. Toothpaste and deodorants (roll on and aerosol) are the most often used products during the day. It can be noticed that the biggest difference between genders was in the use of sunscreen because men use it more often than women.

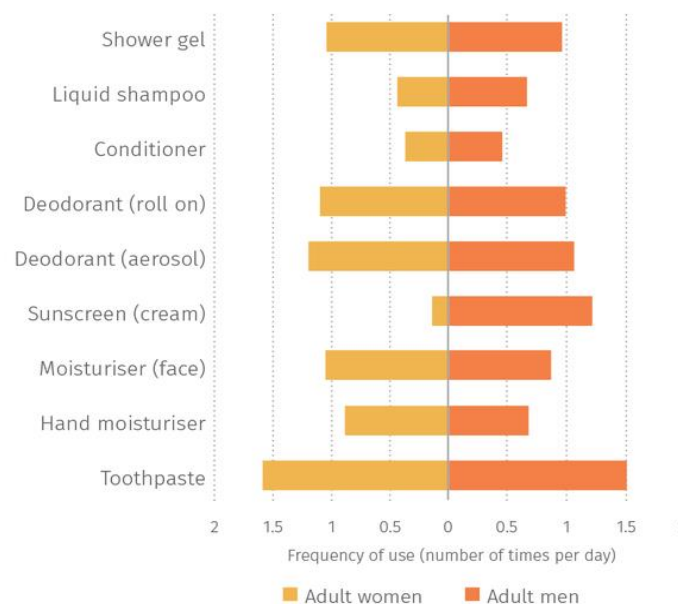


Figure 1. Frequency of use (number of times per day) (Europe, 2015)

Main factors that have the impact on the growth of cosmetic market include:

- Rise in disposable income;
- Change in lifestyle;
- Climatic conditions;
- Awareness;
- Change in packaging style;
- Attractive marketing strategies.

What is more, the demand for organic or natural beauty products is increasing and it creates potential opportunities to develop and innovate new products for manufactures, which will meet the consumers' needs.

The world cosmetics market is segmented on the basis of category, gender, mode of sale and geography. The category segment includes makeup and color cosmetics, sun care and skin care products, hair care products, deodorants and fragrances. Skin and sun care as well as hair care products are used more often than others and it holds a considerable share in global cosmetics market. Gender basically includes men, women. Moreover, the mode of sale includes retail and online sale, where retail mode is also classified into supermarkets, general departmental store, drug stores and others. The cosmetics market may be segmented by geography, for example, North America, Europe, Asia-Pacific, and Latin America Middle East and Africa (LAMEA) (LLP, 2016).

The production of cosmetics and beauty products is controlled by a few of multi-national corporations, which includes L'Oréal, Unilever, Procter & Gamble Co., The Estee Lauder Companies, Shiseido Company and others. According to Statista (2018) the L'Oréal was the leading beauty manufacturer in the world, generating about 28.6 billion U.S. dollars in revenue in 2016. The market leader was also one of the leading companies in cosmetic innovation, which registered a total of 314 patents in 2015.

Figure 2. represents consumer goods by industry size and growth from 2013 till 2017. Among twelve industries, beauty and personal care took 6th place with nearly 500000 USD dollars.

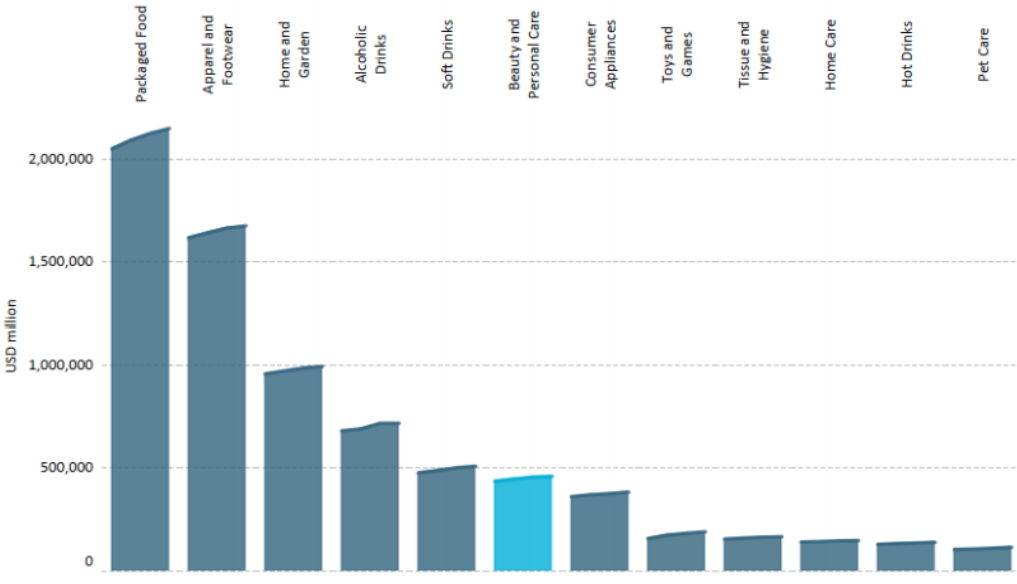


Figure 2. Consumer Goods by Industry Size and Growth 2013-2017 (Euromonitor, 2018)

As the Figure 3. shows, the European cosmetics and personal care market is the largest in the world at retail sales price in 2017. The consumption value of the cosmetics in Europe from 2012 to 2017 has been increasing for the past few years and around 77.7 billion euros worth of cosmetics products were consumed in 2017 (Statista, 2018). These numbers show that cosmetic industry is increasing in the European markets and it is forecasted to increase even further. The cosmetics industry makes an important influence to the European economy. The cosmetics industry brings at least 29 billion euros in added value to the European economy every year, where 8 billion euros is contributed by the manufacture of cosmetic products.

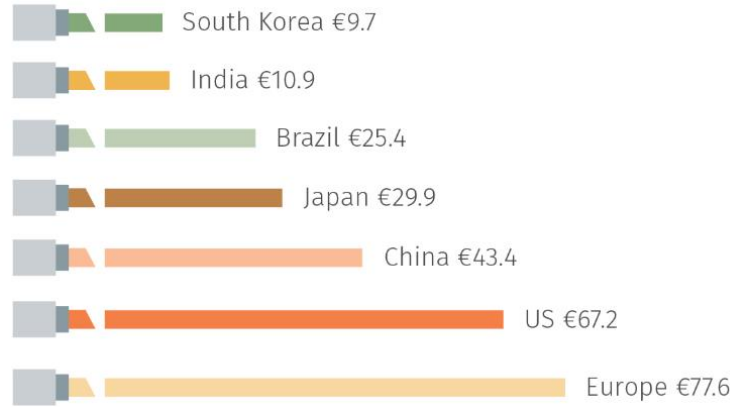


Figure 3. Global market for cosmetics products (Billion Euros) (Europe, 2018)

According to Statista (2018) the consumption value of cosmetics and personal care in Europe in 2016, Germany consumed the largest number of cosmetics, which is equal to 13563 million euros. What is more, it is expected that market value for German beauty and personal care products will reach around 17 billion euros. In 2016, Sweden consumed about 1986 million euros where Lithuania consumed the smallest number of cosmetics, valuing at approximately 235 million euros.

As the analysis shows, the consumption of cosmetic products has been increasing due to the changing environment, innovation and people perception of healthy lifestyle. What is more, Europe is very attractive market for companies that operates in cosmetic industry, as it has been constantly growing for the last decates.

### 3. Practical application of multi-criteria method and statistical analysis to solve the problem of export market selection for cosmetic products

According to the aim of this work, TOPSIS method is chosen for the research part. TOPSIS method is going to be used in order to determine which Germany, Sweden or Lithuania is the most attractive for exporting cosmetics. This chosen method is going to be explained more into detailed below.

The Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) developed by Hwang & Yoon (1981) is a technique, which is used to evaluate the performance of alternatives through the similarity with the ideal solution. What is more, the alternative that is the closest to the positive ideal solution and farthest from the negative ideal solution is the best one. It also shows that the positive ideal solution maximizes the cost criteria and at the same time minimizes the benefit criteria. The TOPSIS algorithm steps can be classified as follows:

Step 1. Construct the decision matrix and determine the weight of criteria.

Step 2. Calculate the normalized decision matrix.

$$n_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^m x_{ij}^2}} \quad (1)$$

Step 3. Calculate the weighted normalized decision matrix.

$$v_{ij} = w_j n_{ij} \text{ for } i = 1, \dots, m; j = 1, \dots, n. \quad (2)$$

$w_j$  – the weight of the  $j$ -th criterion

Step 4. Determine the positive ideal and negative ideal solutions.

$$V^+ = (v_1^+, v_2^+, \dots, v_n^+) = \left( \left( \max_i v_{ij} \mid j \in I \right), \left( \min_i v_{ij} \mid j \in J \right) \right) \quad (3)$$

$$V^- = (v_1^-, v_2^-, \dots, v_n^-) = \left( \left( \min_i v_{ij} \mid j \in I \right), \left( \max_i v_{ij} \mid j \in J \right) \right) \quad (4)$$

where  $I$  is associated with benefit criteria and  $J$  with the cost criteria,  $i = 1, \dots, m; j = 1, \dots, n$ .

Step 5. Calculate the separation measures from the positive ideal solution and the negative ideal solution.

$$S_i^+ = \sqrt{\sum_{j=1}^n (v_{ij} - v_i^+)^2}, \quad i = 1, 2, \dots, m. \quad (5)$$

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_i^-)^2}, \quad i = 1, 2, \dots, m. \quad (6)$$

Step 6. Calculate the relative closeness to the positive ideal solution.

$$P_i = \frac{S_i^-}{S_i^- + S_i^+} \quad (8)$$

Step 7. Rank the preference order.

As the first step includes construction of the decision matrix and determination of criteria weight. The alternatives are: A1 - Germany; A2 - Sweden; A3 - Lithuania. In this case, Germany represents Western European countries, Sweden represents Scandinavian countries and from Baltic countries was chosen Lithuania. The population of chosen countries in 2017 were:

- Germany – 82,52 million;
- Sweden – 9,99 million;
- Lithuania – 2,85 million.

Table 1. The decision matrix and weight of criteria (Economics, Germany GDP per capita, 2018), (Economics, 2018), (Economics, 2018), (Euromonitor, 2018)

	GDP per capita (USD dollars)	Wages (USD dollars/ Hour)	FDI per Capita (USD dollars)	Import per Capita (USD dollars)	Export per Capita (USD dollars)
Weight	0,25	0,15	0,20	0,20	0,20
Germany	46747,19	26,45	373,40	2711,25	4331,04
Sweden	56935,19	18,48	1280,84	3859,85	3827,53
Lithuania	16793,25	5,69	185,37	2829,66	2096,54
Total	120475,63	50,62	1839,60	9400,76	10255,11

The criteria by which alternatives will be rated includes:

- C1 –GDP per capita;
- C2 – Wages per hour;
- C3 – Foreign direct investment per capita;
- C4 – Import per capita;
- C5 – Export per capita.

In the scientific literature the chosen criteria are identified as the most used for selecting export markets. However, there are no data, which may be applied to cosmetic products that are specific. According to this, these criteria can also be used to model the export markets for cosmetic products, if the appropriate combination (weights) is chosen. As the weights are very important while applying multi-criteria method, the experts were carefully chosen for this purpose. The experts were selected from small and medium size companies, who had no less than 10 years experience in the international marketing field. After selecting five experts, the weights of different indicators were determined by them. What is more, the direct method of weight determination assessment was applied, which means that every expert evaluated the weight of separate indicator (in percent). The most important indicators/criteria got the higher percentage than other but the sum of all the weights of all indicators is equal to 100 percent. The evaluations of 5 indicators by the experts are as follows: C1 = 0,25 C2= 0,15 C3=0,20 C4=0,20 C5=0,20.

As the data of decision matrix come from different sources, it is necessary to normalize it in order to transform it into dimensionless matrix see Table 2. By doing it, it will allow the comparison of the various criteria.

Table 2. The normalized decision matrix (Made by Author)

	GDP per capita (USD dollars)	Wages (USD dollar/ Hour)	FDI per capita (USD dollars)	Import per capita (USD dollars)	Export per capita (USD dollars)
Weight	0,25	0,15	0,20	0,20	0,20
Germany	0,619	0,807	0,277	0,493	0,704
Sweden	0,754	0,564	0,951	0,702	0,623
Lithuania	0,222	0,174	0,138	0,514	0,341

After normalization, the weighed normalized decision matrix is calculated. As the results are shown in the Table 3., it was calculated simply by multiplying the normalized decision matrix by its associated weights.

Table 3. Calculation of the weighted normalized decision matrix (Made by Author)

	GDP per capita (USD dollars)	Wages (USD dollars/ Hour)	FDI per capita (USD dollars)	Import per capita (USD dollars)	Export per capita (USD dollars)
Germany	0,155	0,121	0,055	0,099	0,141
Sweden	0,188	0,085	0,190	0,140	0,125
Lithuania	0,056	0,026	0,028	0,103	0,068

Positive ideal solution and the negative ideal solution is calculated according to the formula. In the following step the relative closeness to the positive ideal solution is calculated. In order to calculate that, the positive ideal will be divided by the sum of the positive and negative ideals and the results, which were got are shown in the Table 4. below.

Table 4. Calculation of the Relative Closeness to Positive Ideal Solution (Made by Author)

	Si+	Si-	Pi	Rank
Germany	0,1450	0,158	0,521	2
Sweden	0,0400	0,229	0,851	1
Lithuania	0,2446	0,004	0,017	3

After using TOPSIS method it was found that the most attractive market for export of cosmetic products is Sweden. In the second place is Germany and in the last one is Lithuania.

Knowing the fact that the proposed method also has some limitations, for instance, if weights of indicators change, it will change values of the criteria of the applied TOPSIS method and the ranking may change as well. Regarding to this, statistical analysis were also made in order to see if the results will be the same. Using statistical data from 2012 till 2017, the numbers of market sizes per capita of three chosen countries are provided in the Figure 4. below.

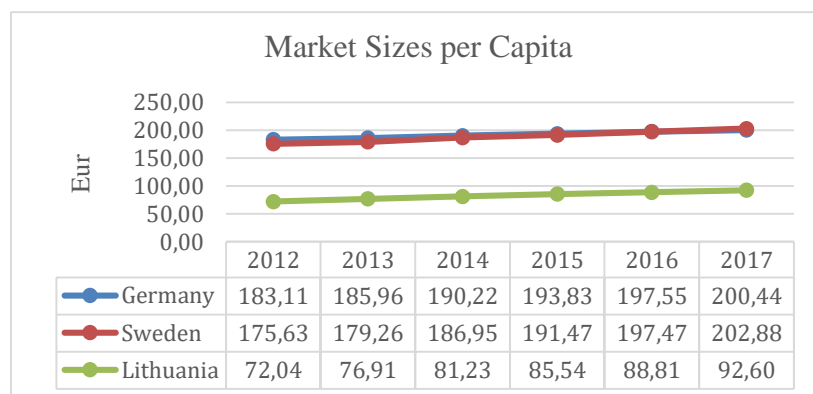


Figure 4. Market size per capita of cosmetic products 2012-2017 (International, 2018)

As it shows, the market size per capita of cosmetic products has been increasing since 2012. In 2016, the market size value beauty products in Germany and Sweden were almost the same. However, the market size per capita of cosmetic products increased more in Sweden than in Germany or Lithuania in 2017. The major factors driving the growth might be:

- Increase of awareness about importance of maintaining a good appearance;
- Weather challenges in form of harsh winters and humid summers in Sweden;
- Growing population that supplement the growth of cosmetic products consumption (Worldometers, 2018);
- Increasing concerns about hygiene.

It is also known that the interest in cosmetic surgery and minimally invasive surgery is increasing, which makes people buy more pre and after treatment products. What is more, oral hygiene and teeth whitening are becoming more and more popular among people, which shows great growth potential as well.

Taking everything into consideration, it could be said that increasing awareness about skin rituals and desire to look young and beautiful is driving the cosmetic product sales, which allows further expansion into newer markets. As multicriteria method TOPSIS and statistical data analysis showed, the most attractive export market for cosmetic products is Sweden.

## Conclusion

1. By analysis scientific literature it can be noticed that globalization is one of the main reasons why companies becoming international and increasingly looking for global rather than domestic markets. A company, which operates in global cosmetic industry may gain a competitive advantage over domestic companies because they not only can find cheaper sources but also add value to their activities and increase sales.
2. Consumers have been spending higher levels of disposable income on cosmetics than they had in the past due to this fact the cosmetic market significantly grows every year.
3. Various authors indicate different criteria, according to which the target market for export is selected but were no information related to cosmetic products that are specific.
4. Modeling the market for export of cosmetic products, the most important criteria (by weight) were used: GDP per capita, wages per hour, foreign direct investment per capita, export per capita and import per capita.
5. For target market selection TOPSIS method and the statistical data analysis were used, which helped to eliminate the less attractive markets and to select the most attractive one.
6. On the basis of the performed research, it was found that the market share value for cosmetic products is increasing in Europe. Sweden was selected as the most attractive market for exporting cosmetic products among other introduced countries.
7. The results of this study can be used in further research to develop effective market modeling techniques for specific products.

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