

The competitive advantage of enterprises from the customer perspective

Vanda Maráková¹, Anna Wolak-Tuzimek², Marzanna Lament³, Lenka Dzúriková⁴

¹ Matej Bel University in Banská Bystrica, Faculty of Economics, Department of Tourism, Slovakia, ORCID: 0000-0002-1148-8393, vanda.marakova@umb.sk;

² Kazimierz Pulaski University of Technology and Humanities, Faculty of Economic and Finance, Department of Economics, Poland, ORCID: 0000-0002-2998-909X, awt@uthrad.pl;

³ Kazimierz Pulaski University of Technology and Humanities, Faculty of Economic and Finance, Department of Accounting, Poland, ORCID: 0000-0003-3450-5122, m.lament@uthrad.pl;

⁴ Matej Bel University in Banská Bystrica, Faculty of Economics, Department of Tourism, Slovakia, ORCID: 0000-0001-5080-8487, lenka.dzurikova@umb.sk

Abstract: The ability to achieve and maintain a competitive advantage in the long term is one of the most valuable abilities of a company in the modern economy. Companies strive to achieve a competitive advantage in order to be recognised by customers, which is expected to lead to increased revenues and profits. It is important to choose factors serving to achieve a competitive advantage. More desirable are factors that are difficult to copy by competitors and adapted to the opinions and needs of consumers. The aim of the article is to identify the sources of competitive advantage of enterprises in the opinion of consumers from Slovakia and Poland. The article analyses the literature on the subject and uses the methods of descriptive statistics and exploratory factor analysis (EFA). The analysis of the results is based on surveys conducted on a group of consumers from Slovakia and Poland using statistical software. A questionnaire assesses the importance of competitive factors utilised by companies. The obtained results confirm that quality is an important source of competitive advantage and country is a variable differentiating the selection of sources of competitive advantage. The research contributes to the ongoing scientific discussion, more specifically taking into account the consumer focus. To summarise, gaining a competitive advantage is a complex task influenced by a number of factors. To a large extent, they are related to the capacity for innovation, to the resources possessed, including human capital, and to the ability to respond to market needs and the use of marketing tools. The research contributes to the development of theories in the field of enterprise competitiveness, and its results can serve as recommendations for enterprise managers to identify the key sources of enterprises' competitive advantage.

Keywords: Competitiveness, enterprises, competitive advantage, customer, exploratory factor analysis (EFA).

JEL Classification: M14, P12.

APA Style Citation: Maráková, V., Wolak-Tuzimek, A., Lament, M., & Dzúriková, L. (2023). The competitive advantage of enterprises from the customer perspective. *E&M Economics and Management*, 26(3), 158–175. <https://doi.org/10.15240/tul/001/2023-3-010>

Introduction

The ability to achieve and maintain a competitive advantage in the long term is a prerequisite

for harmonious development in a rapidly changing environment and is one of the most valuable capabilities of a company in the modern

economy. For this reason, it is very important to choose factors leading to gain a competitive advantage. The literature review suggests a company that wants to obtain a competitive advantage must offer a product that will be perceived by the consumer as providing the highest value and will be more attractive than competitors. For this purpose, companies most often use factors such as innovation, knowledge management, environmental protection activities, or the implementation of the concept of corporate social responsibility (CSR). This is confirmed by research carried out in the following areas:

- Innovation (Sobczak et al., 2022; Xueling et al., 2020);
- Knowledge management and intellectual property (Fomina & Zvontsov, 2017; Wang & Sun, 2018; Wang et al., 2020);
- Cooperation in the value chain and shared services (Sun et al., 2021; Yang et al., 2021);
- R&D technology and resource-based management (Mohamed & Noorliza, 2021; Monkova et al., 2017);
- Environmental protection (Cao et al., 2022; Klemke-Pitek & Majchrzak, 2022);
- Management systems and strategies (Wolak-Tuzimek & Luft, 2021);
- CSR (Marakova et al., 2021);
- Marketing tools (Pavlenchyk et al., 2021);
- Employees (Shukla & Srivastava, 2016);
- Customer service (Yu et al., 2022).

It should be noted, however, that these sources of competitive advantage of companies are quite easy to overcome by competitors. Therefore, factors that are difficult to copy by competitors and adapted to consumer opinions are more desirable. For this reason, the authors have carried out their research on a group of consumers from Slovakia and Poland to identify the most important factors enabling companies to gain a competitive advantage.

The aim of the article is to identify the sources of competitive advantage of enterprises perceived by consumers from Slovakia and Poland.

The paper analyses the literature on the subject as well as uses the methods of descriptive statistics and exploratory factor analysis (EFA). The analysis is based on a survey with a group of consumers from Slovakia and Poland using the Statistica 13.3 software. The survey questionnaire assesses the importance of competitive factors used by companies. The sample is selected at random. The survey

covers 472 respondents – 236 respondents from Slovakia and Poland.

The study consists of four parts. The first presents an analysis of state-of-the-art literature on the competitive advantages of enterprises, in particular, as viewed from the perspective of consumers. The second part includes research methodology, and the third is research results. The fourth section contains a discussion of the results as compared with the results of research in this or similar fields.

The study will contribute to the development of theories in the field of competitiveness of enterprises, and its results can be recommendations for enterprise managers and serve to identify the basic sources of competitive advantage for enterprises.

1. Theoretical background

All market stakeholders, from companies to countries, are trying to be competitive (Marakova et al., 2016). Since 1985, when Porter introduced the concept of competitive advantage, many studies dealing with the issue of competitive advantages of enterprises have been conducted. Through an in-depth literature review (Tab. 1), we identified the following most common sources of competitive advantage: innovation (Sobczak et al., 2022; Xueling et al., 2020); knowledge management and intellectual property (Fomina & Zvontsov, 2017; Wang & Sun, 2018; Wang et al., 2020); cooperation in the value chain and shared services (Sun et al., 2021; Yang et al., 2021); R&D technology and resource-based management (Mohamed & Noorliza, 2021; Monkova et al., 2017); environmental protection (Cao et al., 2022; Klemke-Pitek & Majchrzak, 2022); corporate social responsibility (Marakova et al., 2021); marketing tools (Pavlenchyk et al., 2021); employees (Shukla & Srivastava, 2016); and customer service (Yu et al., 2022). The critical literature review utilised the Scopus database advance search using the keyword “competitive advantage of enterprise,” searched in the titles, abstracts, and keywords of articles. The final sample of studies consisted of 92 papers, and their publication years were between 2000 and 2022.

The literature also offers some other generators of competitive advantage. According to Choi et al. (2022), marketing, especially word-of-mouth, is among the significant competitive advantages of an enterprise. Anić et al. (2022)

Tab. 1: Most frequently identified sources of competitive advantage of enterprises

Source of competitive advantage	Quantity
Innovation	26
Knowledge management, intellectual property	14
Cooperation in value chain shared services	12
R&D technology, resource-based management	10
Environmental protection	9
Management systems and strategies	7
Corporate social responsibility	5
Marketing tools	4
Employees	3
Customer service	2

Source: own

consider membership in organisations that group several companies in clusters as a possible path to gaining a competitive advantage. Ismail and Alam (2019) report similar results: the ownership of a competitive advantage results from the ability to innovate, human capital, and entrepreneurial orientation.

A critical literature review reveals that most authors focus on the competitive advantage from the enterprise's point of view, while only a few studies concentrate on the competitive advantage perceived by customers. At the purchasing stage of the decision-making process, a customer chooses between several products or services. Customers decide whether a product or service to be purchased already exists among alternative options, allowing for the evaluation of the offer and, ultimately, for the best purchase choice (Handi et al., 2018). An enterprise's competitive advantages lead to profit only when the customer can perceive them (Mende et al., 2015). It is therefore important to investigate how customers see a company's competitive advantage (Pereira et al., 2020; Pinto et al., 2022).

Innovation. The concept of innovation has undergone a transformation over time (Louçã, 2014). In the market, innovation is highlighted as an "engine" for economic growth that creates competitiveness and jobs, not only in high-tech industries but in all economic sectors (Lament et al., 2020; Xiong et al., 2020). Innovations through technological progress are investigated

by several authors, e.g., Wang and Li (2022), and Xue et al. (2022). Giachetti and Marchi (2017), for example, highlight the speed of competitive countermoves through innovation as a crucial aptitude for firms' survival in the global mobile phone industry. Andrevski and Ferrier (2019) observe the frequency of new product introduction, the fast processes of technological innovation, and increasing strategic actions characterising computer-aided software engineering as some sources of competitive advantage. On the other hand, authors such as Liao (2016) and Sobczak et al. (2022) do not perceive innovation only as technological progress but as innovation for a company with the aim of sustainable development through eco-innovation, which implies the implementation of a new or significantly improved process, organisational change or marketing solution that reduces the use of natural resources and limits the release of harmful substances throughout the company's life cycle. Liu and Yang (2020) and Xueling et al. (2020) propose a holistic view of innovation. They do not consider innovation only as a process of improvement or modernisation but as a concept that is perceived as a company's development strategy, which is included in all its activities, accepted by all employees and positively impacts the environment in which the company operates. Karnreungsiri (2022), in his research focused on customer-perceived innovation competitive advantage in the restaurant business, demonstrated that

respondents perceived the most innovative attributes of enterprises as extremely important.

Knowledge management and intellectual property. According to Wang et al. (2020), knowledge is closely connected with innovation. In all sectors of the economy, intellectual capital is becoming the main source of creating sustainable competitive advantages for enterprises, strengthening their potential value and satisfying dynamically developing demand (Fomina & Zvontsov, 2017). Intellectual capital is increasingly seen as a key resource of a business. It is also one of the most valuable resources of an enterprise, which enables its sustainable development (Gross-Golacka et al., 2021). According to Fomina and Zvontsov (2017), knowledge is most needed in the information technology sector. They create a proposal for a knowledge management system, which focuses mainly on employees, their growth, cooperation, and motivation. Wang and Sun (2018) consider organisational learning capability to be an important aspect of a company's competitiveness while pointing out the importance of knowledge embeddedness in the construction of organisational learning capability in the textile and apparel manufacturing industry. Wang et al. (2020) investigate the impact of knowledge flow on competitive advantage in companies participating in cooperative innovations in an innovation network. According to the authors, through the knowledge flow between people, organisations, places, and time, showing changes, shifts and applications, it is possible to create a sustainable competitive advantage for enterprises.

Cooperation in value chain shared services. In order for a company to be successful in the market, knowledge should be developed not only intra-organizationally but also inter-organizationally. Knowledge sharing has a positive and meaningful impact on gaining a competitive advantage (Ganguly et al., 2019; Lota et al., 2019). In addition to knowledge sharing, some researchers also investigated competitive advantage through information sharing (Myšková & Kuběnka, 2019), labour income share in the global value chain (Sun et al., 2021), the sharing of financial costs (Yang et al., 2021) or through resource sharing (Ferasso et al., 2022). Some authors did not focus on the investigation of existing cooperation but on the question of whether cooperation between competing enterprises is even possible and whether it will create a competitive advantage. Rafi-Ul-Shan

et al. (2022) investigate the cooperation of enterprises in the fashion industry market. Their results show that capacity sharing, communication and information sharing, and relationship/partnership building emerge as motives for cooperation between competing companies. On the contrary, Fuentes-Fernández and Gilinsky Jr. (2022), who investigated market collaboration in the Spanish natural wine industry, found that such collaboration and shared services are not yet possible, despite the fact that collaboration and cooperation would enable producers to access shared resources, networks, farm technology, and know-how to improve the image and reputation of natural wine in Spain and internationally. Rare and controversial research by Paulsen and Roulet (2017), which focused on social bonding between boundary spanners, demonstrated that relations between enterprises have a positive effect on the competitive advantage of the enterprise from the customer's point of view.

R&D technology and resource-based management. Investments in research and development and innovative products trigger the growth of enterprises and translate into competitive advantages (Karna et al., 2022). Studies in recent years have linked R&D in enterprises with modern technologies, such as computer-aided process planning (Monkova et al., 2017), enterprise resource planning software (Mohamed & Noorliza, 2021) or artificial intelligence (Chen & Xing, 2022). Patenting is also closely related to R&D. Plečník et al. (2022) investigate the effect of patent disclosure on the value of innovations. They conclude research and development can be a source of competitive advantage when new innovative research and development projects are sufficiently refined. Otherwise, these projects can lead to wasted costs and reduced competitive advantage.

Environmental protection. Environmental protection is sometimes a subject of research into the competitive advantage of a company in the field of innovation (Liao, 2016, Sobczak et al. 2022). On the other hand, research by Cao et al. (2022) is solely focused on the impact of environmental practices on competitive advantage. The results of their research showed that top managers' environmental awareness and green ambidexterity innovation are both positively related to the green competitive advantage of enterprises. The study further demonstrates that the influence of exploratory green innovation on enterprises' green

competitive advantage is greater than that of exploitative green innovation. The aim of the research by Klemke-Pitek and Majchrzak (2022) was to identify the pro-environmental activities of small and medium-sized enterprises in Poland, which lead to the achievement of competitive advantage. These activities are: the use of renewable energy sources; improvement of energy efficiency of buildings; replacement of windows and doors; energy-saving machine park; vehicles with electric or hybrid engines; and the use of other renewable energy sources. However, despite these selected activities, it is important to note that entrepreneurs rank taking pro-ecological actions sixteenth as an element of competitive advantage. Research by González-Rodríguez and Díaz-Fernández (2020) demonstrates that the perception of a company's environmental activity by customers becomes a decisive factor in achieving sustainable competitive advantage.

Management systems and strategies.

The survival, continuation, and growth of any enterprise depend on the nature of the strategies adopted (Abdulwase et al., 2020). Omopariola and Windapo (2019) and Potjanajaruit (2022) focus on financial management strategies in their studies. While Omopariola and Windapo (2019) argue that businesses will perform better when a combination of financial management strategies are used in their operations, Potjanajaruit (2022) concludes that an appropriate cost management strategy has a positive impact on operational efficiency, especially in terms of focus, proactive targeting, appropriate planning, and forecasting, and thus a company's competitive advantage. A different view of management systems and their impact on competitive advantage is proposed by Wolak-Tuzimek and Luft (2021), who investigates the impact of the implementation of an integrated enterprise resource management system on the competitiveness of enterprises. His study demonstrates that data flows and integration, as well as the identification of weaknesses, can be optimised through enterprise resource planning systems and their functionalities, which are a source of competitive advantage. According to Pereira et al. (2020), it is of the utmost importance to adopt a value-based pricing strategy, as with products and services defined by this strategy, the value perceived by the customers becomes a competitive advantage.

Corporate social responsibility. Marakova et al. (2021), in their research focused on large enterprises in Poland, demonstrate that marketing activities, innovation activities, and the application of corporate social responsibility are the key sources of competitive advantage in large enterprises operating in the market. Another study focused on companies in Poland (Cader et al., 2022) demonstrated that the social dimension of corporate social responsibility has the greatest impact on competitive advantage, especially offering products and services of the highest quality, considered the most important among the analysed indicators. Bukowski and Lament (2021) investigate the role of perceived corporate social responsibility in relation to marketing and customer repeat purchases. The results of their research show that perceived corporate social responsibility helps businesses increase their intangible assets and competitive advantages through enhanced brand image and stronger customer satisfaction.

Marketing tools. Contrary to the findings from our literature review, Nurlatifah et al. (2021) claim that marketing capability is an internal strength of an organisation that has a high value in terms of scarcity, inimitability, and irreplaceability, therefore, it should be considered as a determining factor of competitive advantage. Based on the resource-based view, Kim and Hu (2021) study aims to investigate the conditions under which small and medium-sized enterprises can improve their competitive advantages from the perspective of brand equity and strategies for competitive advantage in retail purchasing groups. Wiktor and Sanak-Kosmowska (2021) identified and empirically evaluated the importance of online advertising in the development of corporate competitive strategies in the area of online advertising in Poland. The results of their analysis indicate that companies consciously use online advertising in the industry market competition, monitor and analyse competitors' advertising activities, create content that has a great impact on consumer behaviour, and thus ensure their competitive advantage. Research by Pinto et al. (2022) shows that customer satisfaction and attitude towards a brand are relatively important due to the existence of high brand loyalty, which creates a competitive advantage for a company in the field of marketing.

Employees. In a rapidly changing economy, competition between organisations is

a competition between talents, and intellectual capital becomes the key to building the fundamental competitive advantage of enterprises (Shukla & Srivastava, 2016). Angelini and Gilli (2022), in their research focusing on wineries in Tuscany, state that it is essential for companies to invest in the education and development of their employees, who represent an experiential offer and act as a link between the internal and external world of business. The customer experience can be used to enrich an enterprise's value proposition and improve its competitive advantage. Buonomo et al. (2022), whose research addresses information and technology enterprises in Italy, also agree on the role of investments in employee training. They believe educational activities within an organisation are the core of knowledge management practices and represent the main source of sustainable competitive advantage. However, Banmairuoy et al. (2022) do not agree. Their research demonstrates that knowledge-oriented leadership directly influences sustainable competitive advantage, while human resource development does not have a significant direct impact on sustainable competitive advantage. Moreover, knowledge-oriented leadership and human resource development indirectly influence sustainable competitive advantage through factors that are part of organisational innovation. An interesting insight into the relationship between employees and the competitive advantage perceived by customers is brought by Rosenbaum et al. (2017). They demonstrate that retail enterprises may be able to gain a competitive advantage by employing people with disabilities on the front lines.

Customer service. As an excellent management tool, a service guarantee can improve the competitive advantage of enterprises and enable consumers to obtain high-quality products and services (Yu et al., 2022). Customer relationship management is currently considered a trend in business that aims to secure and maintain the competitive advantage and market share of an enterprise (Lokesh et al., 2022). Research by Rodríguez-Cañamero et al. (2018), which concentrates on customers in fitness and wellness centres, proves the need to implement client-oriented management strategies to avoid customer loss. Customer loyalty-building strategies focused on providing personalised service and creating emotional bonds are essential to avoid high customer loss, which will result

in a competitive advantage. Similar results are reported by Herjanto et al. (2022), who study low-cost carriers (LCCs) and the emotional experience of passengers. Maintaining a high level of customer service and providing easy access to information reduces the negative emotions of LCC passengers and meets LCC passenger expectations and satisfaction.

As a result of the critical literature review, we can confirm that customer focus on the topic of co-creating competitive advantage by the enterprise is under-researched. For this reason, the aim of the article is to identify the sources of competitive advantage for enterprises in the opinion of consumers.

2. Research methodology

During the time period June to August 2022, consumer surveys were carried out in Slovakia and Poland to assess the importance of sources of competitive advantage used by enterprises. The survey covered 472 people – 236 respondents from each country. The sampling was random.

The survey questionnaire was posted on the Google Forms platform, and a link was then sent to randomly selected large enterprises located in Slovakia and Poland. Employees of these enterprises were asked to complete the survey questionnaire. It consisted of two parts. The first consisted of metric questions relating to the formal characteristics of the respondents. The second substantive part included questions relating to the subjective assessment of the importance of competitive factors used by companies.

The respondents were asked to rank the importance of the various competitive instruments used by companies to gain competitive advantage on a Likert scale of 1 to 10, where 1 means low importance, while 10 means high importance.

Consumers were asked to attribute importance to the following competitive instruments: quality of product/service, quality of servicing, product brand, advertising, public relations, an image of the enterprise, highly qualified staff, product pricing, innovativeness of products, size of product range, matching of product structure to the structure of consumer demand, implementation of corporate social responsibility.

The characteristics of the test sample are shown in Fig. 1. Among the surveyed individuals, women formed the largest group (over 67% Slovakia, and 60% Poland),

while men constituted 32.2% and 39.8%, respectively. In terms of age, the most responses were obtained from people aged 21–25 (24.2% of respondents) in Slovakia and 31–40 (32% of the total) in Poland. The smallest group of respondents was over 60 years old in Poland and 18–20 years old in Slovakia. The largest group of respondents in both countries were 21–40 year-olds. In Poland, the age group was 61.4%, and in Slovakia 63.6%.

In Slovakia, on the other hand, people aged 21–40 dominated the survey: this group of respondents accounted for 63.6% of the total. In Slovakia, the largest group of respondents were people living in rural areas and towns, with up to 100,000 inhabitants (67.4% of respondents). In Poland, the largest group of respondents (47%) were residents of cities from 101,000–300,000.

Regarding education, almost 50% are holders of university degrees. In the case of Slovakia, people with higher and higher vocational education accounted for a total of 97.5%, while

in Poland, for 67%. Secondary education was indicated by 2.5% of the respondents in Slovakia and 33% of the respondents from Poland.

The article defines two research hypotheses to achieve the set goal:

H1: Quality is an important source of a company's competitive advantage.

H2: Country is a variable that differentiates the selection of sources of obtaining a competitive advantage of the enterprise.

In the article, descriptive statistics and exploratory factor analysis (EFA) are used to verify the hypothesis 1 (*H1*). The calculations use the appropriate procedures of the statistical software.

Descriptive statistics deals with the collection, compilation, and presentation of numerical data using statistical tools. In order to assess the distribution of studied variables, the central tendency measures: arithmetic mean and median, as well as a differentiation measure: standard deviation, are employed.

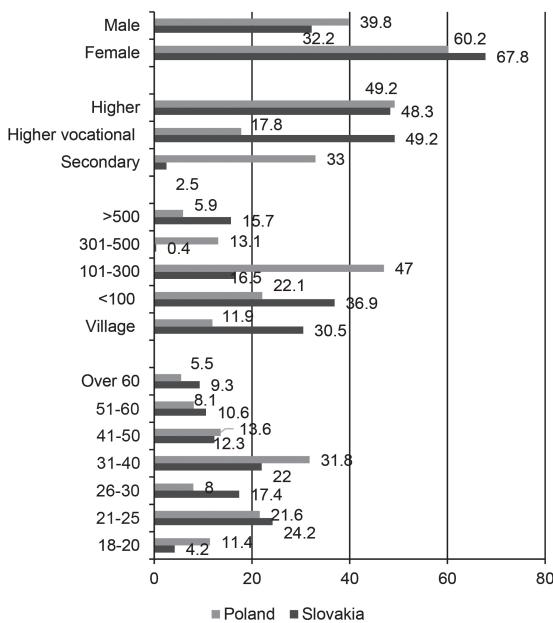


Fig. 1: Selected sample characteristics (%)

Source: own

The arithmetic mean is calculated as the total value of variables divided by the number of consumers surveyed. The median is the value of a variable dividing the results into two equal parts. W indicates that 50% of the units of a statistical community have a value less than or equal to the median, and the other half of the units have a value greater than or equal to the median.

As part of data analysis, exploratory factor analysis (EFA) based on the principal component analysis (PCA) is used, which allows for isolating the main components, i.e., new uncorrelated factors preserving a maximum of the original variance of the data.

The aim of factor analysis is to replace the studied variables with a smaller number of variables, factors on which the studied variables are linearly dependent and which best explain the relationships that occur between them (Kowalska-Musial & Ziolkowska, 2013). In addition, the so-called osmypsique test, the method proposed by Cattell (1966) and the Kaiser criterion (Kaiser, 1960), are utilised.

The values of factor loads are determined, which express the degree of saturation of the primary variable with a given factor (the main component) and constitute correlation coefficients between the primary variable and individual factors. The higher the factor load, the more relevant this variable is for a given main component. It is assumed that values of ≥ 0.7 indicate a significant relationship between the primary variables and the main component. Factor loads are calculated after varimax normalised rotation.

In the case of variables measured on an ordinal scale, non-parametric methods are applicable, so the Mann-Whitney U test was used to verify hypothesis 2 (H_2), with the aim of determining whether a given variable (country) differentiates the selection of sources of competitive advantage of enterprises.

The Mann-Whitney U test is used to verify hypotheses about the insignificance of differences between the medians of the variable under study in two populations (with the distributions of the variable being close to each other) (Mann & Whitney, 1947).

The basic conditions for using this test are:

- Measurement on an ordinal (interval) scale;
- Independent model;
- Normal distribution.

The conditions are met, therefore:

$$H_0: \theta_1 = \theta_2$$

$$H_1: \theta_1 \neq \theta_2$$

where: θ_1, θ_2 – the median of the variable under study in the first and second populations.

The null hypothesis (H_0) assumes that the mean ranks for the two groups are equal, while the alternative hypothesis assumes that the means differ. The p -value determined from the test statistic is compared with the significance level α :

$\text{if } p \leq \alpha \Rightarrow \text{we reject } H_0 \text{ by adopting } H_1;$

$\text{if } p > \alpha \Rightarrow \text{there are no grounds to reject } H_0.$

The consequence of accepting the H_0 hypothesis is to conclude that the levels of the factor under investigation do not have a significant effect on the observed results. The consequence of rejecting the H_0 hypothesis is that the levels of the factor under study have a significant effect on the observed results. A significance level of $\alpha = 0.05$ was assumed. Using the results of the analysis developed using Statistica 13.3 software, the observed significance level p was analysed. The p -value should be greater than the specified significance level α .

3. Research results

Analysing the results using descriptive statistics, it can be seen that the highest value of the arithmetic mean was determined for the variable V1. Quality of product/service (8.81 – Slovakia) and V2. Quality of servicing (8.41 – Poland). The lowest arithmetic mean was calculated for the variables V10. Size of product range (7.28 – Slovakia) and V12. Implementation of corporate (7.33 – Poland).

For individual variables, the median level was calculated. The highest median value of 10 was recorded for V1. Quality of product/service (Slovakia). In addition, consumers from Slovakia at least once gave the lowest value (1) to the following variables: V4. Advertising, V5. Public relations, V10. Size of product range, V12. Implementation of corporate, whereas the consumers from Poland at least once gave the value 1 to the variables: V3. Product brand, and V12. Implementation of corporate.

All the variables studied in both countries reached a maximum value of 10 at least once. The situation is presented in Tab. 2.

An analysis of one of the variability measures, standard deviation, implies that the values given to individual variables by consumers from Slovakia were characterised by a significant dispersion compared to the arithmetic

mean. The value of this indicator for all variables was in the range of $<1.61; 2.09>$. The results obtained from Poland display a smaller dispersion compared to the arithmetic mean. The standard deviation was in the range $<1.03; 1.57>$.

The analysis shows that Polish consumers gave more similar values to individual variables compared to Slovak consumers. The situation is illustrated in Fig. 2.

The decision to select an optimal number of factors (factor loads) was based on the Kaiser

Tab. 2: The measures of descriptive statistics

Variable	Arithmetic mean		Median		Minimum		Maximum	
	Slovakia	Poland	Slovakia	Poland	Slovakia	Poland	Slovakia	Poland
V1. Quality of product/service	8.81	8.28	10	8	2	6	10	10
V2. Quality of servicing	8.65	8.41	9	8	3	6	10	10
V3. Product brand	7.77	7.39	8	7	3	1	10	10
V4. Advertising	7.66	8.03	8	8	1	5	10	10
V5. Public relations	8.08	7.38	8	7	1	3	10	10
V6. Image of enterprise	8.19	7.58	8	8	2	3	10	10
V7. Highly qualified staff	8.25	7.56	8	8	3	2	10	10
V8. Product pricing	8.04	8.3	8	8	3	6	10	10
V9. Innovativeness of products	7.66	8.01	8	8	2	6	10	10
V10. Size of the product range	7.28	7.62	8	8	1	3	10	10
V11. Matching of product structure to the structure of consumer demand	8.04	7.49	8	7	2	2	10	10
V12. Implementation of corporate social responsibility	7.57	7.33	8	7	1	1	10	10

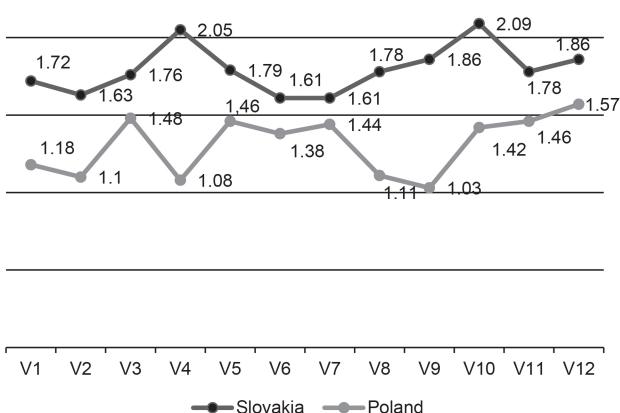
Source: own

criterion and the Cattel scree chart. The Kaiser criterion (eigenvalue) indicates that for further analysis (both for Slovakia and Poland), the first two factors with eigenvalues above 1 should be used. The importance of the remaining factors is low because the corresponding eigenvalues are much below unity. The Cattel Thrush Criterion also serves to determine the number of factors. The scree on the graph (for the data obtained from the Slovakian and Polish respondents) starts with the eigenvalue of the third factor, which suggests taking two factors for the purposes of further analysis.

The calculations show that the eigenvalues for responses given by consumers in Slovakia

are in the range of $<1.2; 5.4>$, and for Polish consumers, in the range of $<1.81; 5.11>$. The F1 factor explains 44.83% of the total variance for the data from Slovakia and 42.61% of the total variance for the data obtained from Poland. The cumulative eigenvalue for the identified factors (Slovakia, Poland, respectively) is 6.58 and 6.92. This means that the system thus extracted explains 54.86% and 57.68% of the total variance, respectively.

The matrix of factorial loads has been subjected to Varimax rotation, which results in determining the minimum number of variables needed to explain a given factor. Tab. 3 presents a matrix of loads for factors describing the sources

**Fig. 2:** Standard deviation

Source: own

of competitive advantage, i.e., the correlation between observable variables and the introduced factors. It was assumed that the minimum value of the correlation qualifying it as significant is 0.7.

On the basis of the information in Tab. 4, it can be seen that the results of the survey of Slovak consumers made it possible to identify two factors loaded with observable variables. Factor 1 (F1) explains 44.83% of the total variance and is represented by three variables, i.e., V1. Quality of product/service, V2. Quality of servicing, V11. Matching of product structure to the structure of consumer demand. The second factor (F2) explains 10.03% of the total variance and is represented by two variables, i.e., V4. Advertising, and V5. Public relations.

As far as the results of the Polish research are concerned, two factors loaded with specific observable variables were also identified. Factor 1 (F1) explains 42.61% of the total variance and is represented by five variables, i.e.: V3. Product brand, V5. Public relations, V6. Image of enterprise, V11. Matching of product structure to the structure of consumer demand, V12. Implementation of corporate social responsibility. The second factor (F2) explains 15.07% of the total variance and is represented with three variables, i.e., V1. Quality of product/service, V2. Quality of servicing, V8. Product pricing.

In order to examine the variation of observable variables indicated by the two groups

Tab. 3: The matrix of eigenvalues for factors determining the sources of enterprise competitive advantage

Factor	Characteristic value		Percentage of general variance (%)		Accumulated characteristic value		Accumulated percentage (%)	
	Slovakia	Poland	Slovakia	Poland	Slovakia	Poland	Slovakia	Poland
F1	5.40	5.11	44.83	42.61	5.38	5.40	44.83	42.61
F2	1.20	1.81	10.03	15.07	6.58	6.92	54.86	57.68

Source: own

Tab. 4:

The matrix of factor loading for factors describing the sources of enterprise competitiveness

Variable	F1		F2	
	Slovakia	Poland	Slovakia	Poland
V1	0.82	0.08	0.08	0.83
V2	0.81	0.07	0.09	0.80
V3	0.20	0.72	0.66	0.26
V4	0.05	0.47	0.77	0.41
V5	0.30	0.83	0.72	0.07
V6	0.47	0.74	0.61	0.31
V7	0.63	0.66	0.33	0.25
V8	0.57	0.10	0.27	0.71
V9	0.61	0.44	0.42	0.58
V10	0.58	0.64	0.35	0.34
V11	0.76	0.81	0.18	0.07
V12	0.60	0.72	0.32	-0.12

Note: Factor loads (normalised Varimax); principal components (the loadings are greater than 0.7); values above 0.7 are shown in bold.

Source: own

of respondents, the obtained factors were decomposed and presented in the form of a matrix (Tab. 5). Based on the analysis of the data, it appears that: (i) the respondents from Slovakia indicate 5 observable variables that are the sources of competitive advantage; (ii) the respondents from Poland indicate 8 observable variables that are the sources of competitive advantage; (iii) four variables are common to both groups of respondents, i.e., V1. Quality of product/service, V2. Quality of servicing, V5. Public relations, V11. Matching of product structure to the structure of consumer demand.

The obtained results confirm hypothesis 1 (*H1*): quality is an important source of competitive advantage of a company. Both the survey results received from Slovakian and Polish respondents indicate that the variables: V1. Quality of product/service, V2. Quality of servicing are statistically significant.

An exploratory factor analysis (EFA) shows that Slovak consumers additionally identified variables: V4. Advertising, V5. Public relations, V11. Matching of product structure to the structure of consumer demand, while the consumers from Poland specified the following variables: V3. Product brand, V5. Public

relations, V6. Image of enterprise, V8. Product pricing, V11. Matching of product structure to the structure of consumer demand, V12. Implementation of corporate Social Responsibility as the statistically significant source of competitive advantage.

In order to verify hypothesis 2 (*H2*): the country is a variable that differentiates the selection of sources of obtaining a competitive advantage of the enterprise, the Mann-Whitney U test was also used.

The following hypotheses were formulated:

H0: The average level of sources of competitive advantage (for individual variables) is the same for the country variable category.

H1: The average level of sources of competitive advantage (for individual variables) is not the same for the country variable category.

For p -value $\leq \alpha$, hypothesis *H0* should be rejected, and the alternative hypothesis *H1* should be accepted, while when p -value $> \alpha$, there is no basis for rejecting *H0*.

Based on the analysis of the probabilities obtained for the individual cut-off values presented in Tab. 6, it follows that the null hypothesis (*H0*) should be rejected for the following

Tab. 5: The matrix of statistically significant variables describing the sources of enterprise competitiveness

Variable		Slovakia				
		V1	V2	V4	V5	V11
Poland	V1	X				
	V2		X			
	V3					
	V5				X	
	V6					
	V8					
	V11					X
	V12					

Source: own

variables: quality of product/service, quality of servicing, product brand, public relations, the image of the enterprise, highly qualified staff, matching of product structure to the structure of consumer demand because the cut-off probability values are below the adopted significance level ($\alpha = 0.05$). This means accepting the alternative hypothesis. As a result, it can be concluded that, for the variables listed, the country is the variable that differentiates

the importance of the individual variables. For the other variables, it is: advertising, product pricing innovativeness of products, size of product range, implementation of corporate social responsibility, country is not a variable that differentiates the importance of the indicated sources of competitive advantage. The results of the study using exploratory factor analysis and the Mann-Whitney U test do not unequivocally support the formulated

Tab. 6: Test results for the value of individual sources of competitive advantage by country – Part 1

No.	Null hypothesis	Test	Significance	Decision
1	The average level of the source of competitive advantage for companies – V1; quality of product/service is the same for the category variable country	Mann-Whitney U test	0.000	Reject the null hypothesis
2	The average level of the source of competitive advantage for companies – V2; quality of servicing is the same for the category variable country		0.000	Reject the null hypothesis
3	The average level of the source of competitive advantage for companies – V3; the product brand is the same for the category variable country		0.004	Reject the null hypothesis
4	The average level of the source of competitive advantage for companies – V4; advertising is the same for the category variable country		0.378	Accept the null hypothesis
5	The average level of the source of competitive advantage for companies – V5; public relations is the same for the category variable country		0.000	Reject the null hypothesis
6	The average level of the source of competitive advantage for companies – V6; image of enterprise is the same for the category variable country		0.000	Reject the null hypothesis

Tab. 6: Test results for the value of individual sources of competitive advantage by country – Part 2

No.	Null hypothesis	Test	Significance	Decision
7	The average level of the source of competitive advantage for companies – V7; highly qualified staff is the same for the category variable country	Mann-Whitney U test	0.000	Reject the null hypothesis
8	The average level of the source of competitive advantage for companies – V8; product pricing is the same for the category variable country		0.741	Accept the null hypothesis
9	The average level of the source of competitive advantage for companies – V9; innovativeness of products is the same for the category variable country		0.311	Accept the null hypothesis
10	The average level of the source of competitive advantage for companies – V10; size of the product range is the same for the category variable country		0.263	Accept the null hypothesis
11	The average level of the source of competitive advantage for companies – V11; matching of product structure to the structure of consumer demand is the same for the category variable country		0.000	Reject the null hypothesis
12	The average level of the source of competitive advantage for companies – V12; implementation of corporate social responsibility is the same for the category variable country		0.062	Accept the null hypothesis

Source: own

hypothesis 2 (*H2*): country is a variable that differentiates the selection of sources of obtaining a competitive advantage of the enterprise.

4. Discussion

The literature review has shown that most authors focus on examining competitive advantage from the point of view of the company (Cao et al., 2022; Mohamed & Noorliza, 2021; Xueling et al., 2020), with only a few studies focusing on customers' perceptions of competitive advantage (including Handi et al., 2018; Mende et al., 2015; Pinto et al., 2022). Companies strive to achieve a competitive advantage perceived by customers, which is expected to lead to increased revenues and profits. This is confirmed by research of Mende et al. (2015), Pereira et al. (2020) and Pinto et al. (2022).

It is very important to choose competitiveness factors that would allow a company to gain a competitive advantage. Therefore, factors that are difficult to copy by competitors and adapted to the opinions and needs of consumers are more desirable. It is, therefore, important to know the opinions and needs of consumers in order to be able to remain competitive.

Our research on a group of respondents from Slovakia and Poland indicates four

competitiveness factors common to both groups. These are:

- Quality of product/service;
- Quality of servicing;
- Public relations;
- Matching of product structure to the structure of consumer demand.

Our results are consistent with previous studies by other authors. The quality of a product or service and its perception by consumers is a very complex concept. It should be associated with both the innovative and investment activities of a company, especially in modern technologies and ecology. Modern technologies include computer-aided process planning (Monkova et al., 2017), enterprise resource planning software (Mohamed & Noorliza, 2021), and artificial intelligence (Chen & Xing, 2022). Research by Klemke-Pitek and Majchrzak (2022) helps to identify the following pro-ecological activities that lead to a competitive advantage: the use of renewable energy sources, improvement of energy efficiency of buildings, replacement of windows and doors, energy-efficient machinery, and vehicles with an electric or hybrid motor. González-Rodríguez and Díaz-Fernández (2020) have also shown that customers'

perception of a company's green activities becomes a decisive factor in achieving sustainable competitive advantage. In general, investment in R&D and innovative products that contribute to the perception of their quality contributes to enterprise growth and translates into competitive advantages (Karna et al., 2022).

Marketing tools, including public relations, can be used not only to research markets and organise marketing activities for goods and services but also to increase the competitive advantage of enterprises (Petrů, 2020). Nurlatifah et al. (2021) argue that marketing capability is an intrinsic strength of an organisation that has a high value in terms of scarcity, non-imitability, and irreplaceability. In general, maintaining proper public relations manifested *inter alia* in building relations between a business entity and its environment, is perceived as a factor of competitive advantage (Myšková & Kuběnka, 2019). The results by Rafi-Ul-Shan et al. (2022), who studied the fashion industry, show that capacity sharing, communication and information sharing, and relationship building/partnership emerge as motives for cooperation between competing companies and contribute to achieving competitive advantage.

To be competitive, it is necessary to respond to the needs of consumers. Research by Pinto et al. (2022) has shown that customer satisfaction and attitudes toward a brand are relatively beneficial due to the existence of high brand loyalty, which creates a competitive advantage for a company in the area of marketing. According to Pereira et al. (2020), adopting a value-based pricing strategy is extremely important because, for the products and services defined in this strategy, the value perceived by customers becomes a competitive advantage.

The analysis of our own results in the context of research carried out so far in this field shows that the factors of enterprise competitiveness are diverse. It is also important to adapt them to the requirements of consumers, hence the need to study their opinions and preferences. Our research indicates it is important for consumers to offer products or services of appropriate quality, maintain appropriate public relations and respond to customer needs, manifested in the changing demand for products or services.

It is worth noting that the respondents from Slovakia have also indicated advertising as an important factor of competitive advantage, while

the respondents from Poland have selected: product brand, the image of the enterprise, product pricing, and implementation of corporate social responsibility.

To sum up, having a competitive advantage is a very complex issue influenced by a number of factors. To a large extent, they are related to the capacity for innovation, to the resources possessed, including human capital, and to the ability to respond to market needs and the use of marketing tools. This is confirmed by both our study and the analysis of similar research results by other authors.

Conclusions

The ability to achieve and maintain competitive advantage in the long term is one of the most valuable abilities of a company in the modern economy, while the selection of factors to achieve it is crucial. For this reason, our research was carried out on a group of consumers from Slovakia and Poland to identify the most important factors enabling companies to gain a competitive advantage.

Based on our results, it can be seen that the highest value of the arithmetic mean is attributed to the variable V1. Quality of product/service (8.81 – Slovakia) and V2. Quality of servicing (8.41 – Poland). In addition, the results of exploratory factor analysis show that the variables V1. Quality of product/service and V2. Quality of servicing are statistically significant. The results confirm hypothesis 1 (H_1): quality is an important source of competitive advantage of a company.

The results of exploratory factor analysis prove that two factors (main components) can be determined for both Slovak and Polish respondents, loaded by observable variables. For Slovakia, 5 observable variables have been determined statistically, i.e., V1. Quality of product/service, V2. Quality of servicing, V4. Advertising, V5. Public relations, V11. Matching of product structure to structure of consumer demand. In Poland, 8 observable variables are determined as statistically significant: V1. Quality of product/service, V2. Quality of servicing, V3. Product brand, V5. Public relations, V6. Image of enterprise, V8. Product pricing, V11. Matching of product structure to the structure of consumer demand, V12. Implementation of corporate social responsibility. It follows that four variables are common to the results obtained in both countries. Both

the different number of statistically significant variables in both countries (Poland – 8, Slovakia – 5) and their differentiation confirm hypothesis 2 (H_2): country is a variable that differentiates the selection of sources of obtaining a competitive advantage of the enterprise.

The research results may serve as recommendations for enterprise managers because consumer opinion on the importance of individual factors of enterprise competitiveness can be used to identify the key factor to gain a competitive advantage.

Further research may concern the identification and sources of competitive advantage perceived by a different group of respondents. Such a group can be diversified both in terms of geography, the selection of other countries, and of consumer preferences, resulting for instance from age. This will be the subject of further research by the authors.

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