

THE COMMERCIAL OFFER OF A PETROL STATION NETWORK AND THE NEEDS OF MICRO AND SMALL ROAD TRANSPORT ENTERPRISES IN THE PODKARPACKIE VOIVODSHIP

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Purpose: The aim of the research will be to indicate the gap in the cooperation between the offer of the petrol station network and the needs reported by micro and small road transport enterprises, whose headquarters are located in the Podkarpackie Voivodeship. The essence of the research problem will boil down to answering the question: To what extent the commercial offer of the petrol station network addressed to micro and small road transport enterprises in the Podkarpackie Voivodeship reflects the real needs of the market? Therefore, the subject of the study is the retail market of transport fuels, and the subject of the research are the network of petrol stations as well as micro and small road transport enterprises located in the Podkarpackie Voivodeship. The area of research are the gaps between the attributes of the commercial offer of the petrol station network and the determinants of its choice by the surveyed enterprises.

Design/methodology/approach: The research procedure will run through the following stages: 1) indicating the topic, purpose and scope of the research; 2) indication of the evaluation criterion; 3) measuring the attributes of the commercial offer; 4) measuring the supplier selection determinants; 5) characteristics of the entities participating in the research and the forms of their cooperation; 6) expert assessment of measurement results in the area of attributes of the commercial offer; 7) expert assessment of measurement results in the area of supplier selection determinants; 8) analysis and interpretation of the obtained results; 9) final conclusions; 10) dissemination of research results. The research method used is the expert method. For the purposes of the topic and purpose of the research, the following criteria were selected for evaluation, i.e. 1) the importance of the price; 2) importance of non-price factors; 3) transaction financial services; 4) e-book and mobile application; 5) services at petrol stations; 6) geographical scope of the commercial offer; 7) number of petrol stations and their location; 8) the position and importance of the operator. The above criteria will be subject to a three-stage evaluation by an expert, i.e. 1) essential (basic) factor; 2) secondary factor; 3) a factor of limited importance.

Findings: The implementation of the topic and purpose of the research allowed gap between the attributes of the commercial offer of the petrol station network and the determinants of its selection by micro and small road transport enterprises located in the Podkarpackie Voivodeship. It should be emphasized that the presented research is the third (last) stage of the research process, the main purpose of which was to indicate the scope and form of cooperation between a retail supplier of liquid fuels and a micro and small enterprise of road transport in the Podkarpackie Voivodeship. The stages of its implementation include: 1) defining the attributes

of the commercial offer of the petrol station network in the analyzed region; 2) indication of the determinants of the choice of liquid fuel supplier by the surveyed enterprises; 3) determining to what extent the commercial offer of the petrol station network addressed to micro and small road transport enterprises in the Podkarpackie Voivodship reflects the real needs of the market. In the final part of the article, the final conclusions from the entire research process and the encountered limitations and weaknesses will be presented.

Originality/value: In this article, the actions taken led to the expansion of scientific knowledge in the discipline of management and quality science in the field of commercial systems, their organization and management. The research focused on areas that have and will have an impact on improving the competitive position of a road transport enterprise.

Keywords: supplier, customer, liquid fuels, transport.

Category of the paper: Research paper.

1. Introduction

Road transport plays a very important role in human activity. Its proper functioning affects the efficiency and effectiveness of all sectors of the economy, the quality and lifestyle of the population, the condition of the natural environment and creates conditions for sustainable development. In Poland, since the beginning of the transformation period, the share of road transport in the transport of goods and passengers has remained at a high level. Currently, road transport is one of the most important sectors of the national economy. In the European Union (EU), Poland ranks first in terms of the volume of goods transported by road. On the other hand, in the structure of passenger transport by bus, it ranks fourth. In the past period, an increase in the number of cars was recorded in Poland. In their structure, the vast majority were vehicles powered by petroleum fuels. In 2021, for trucks, the share of motor gasoline (PB) in the structure of fuel consumption was 18.4%, and diesel oil (ON) 76.3%. In the case of car tractors, diesel fuel accounted for 98.1%, for buses diesel fuel 93.7% (Dymitrowicz-Życka, 2022).

In the analyzed period (2022-2023), a significant group of enterprises providing services in the field of road transport of goods and passengers was located in the Podkarpackie Voivodeship. A high share in their structure was occupied by micro and small enterprises. These were usually economic units with a limited number of vehicles. Due to the subject/entity of the transport and the available transport technology, the scope of transport services provided by them was very diverse. Sometimes they additionally provided other services in their offer – not related to transport. In the structure of the rolling stock owned by enterprises, the vast majority were vehicles powered by petroleum fuels

In recent years, Poland has seen an increase in the share of transport fuel costs in the global cost structure of enterprises. This was related to the persistently high level of transport fuel prices. It is worth recalling that fuel prices were not subject to regulation. They were determined on market terms. The structure contained elements such as excise duty, fuel surcharge, emission fee, VAT, margin and net price (Frączek et al., 2013). In addition, their final level in a given area was affected by the size of local needs and the scale of competition between suppliers. It should be emphasized that the domestic market of liquid fuels was strongly determined by the events recorded in the world. In addition, the EU climate and energy policy had a significant impact. In the analyzed period, crude oil resources and supply in Poland were significantly limited compared to the reported needs. The consumption coverage ratio with documented balance sheet inventories amounted to 0.9 years. On the other hand, the resource vitality index, which takes into account the volume of demand and supply, was 25.4 years (Gospodarka..., 2022; Surowce..., 2023). The logistics infrastructure was located in Poland, which allowed for the transport of fuels from various directions. As of February 1, 2023, over 90% of the raw material processed by the Orlen SA Group refinery comes from countries other than Russia (Orlen SA, 2023). In Poland, there were limitations in the supply of selected petroleum products, i.e. diesel oil and liquefied gas (LNG). On the other hand, the retail fuel market was characterized by high flexibility. Strong competition from the entities translated into the commercial offer.

In response to the above issues, it was assumed that the purpose of the research would be to identify the gap in cooperation between the offer of the petrol station network and the needs reported by micro and small road transport enterprises, whose headquarters are located in the Podkarpackie Voivodship. Its implementation will take place through: 1) establishing the current state of knowledge in the scope of the discussed issues; 2) description of the test method; 3) carrying out the measurement; 4) presentation of the results and final conclusions. The research method used is a critical review of the literature on the subject and an expert method.

It should be emphasized that the presented research is the third (last) stage of the research process, the main purpose of which was to indicate the scope and form of cooperation between a retail supplier of liquid fuels and a micro and small enterprise of road transport in the Podkarpackie Voivodship. The stages of its implementation include: 1) defining the attributes of the commercial offer of the petrol station network in the analyzed region; 2) indication of the determinants of the choice of liquid fuel supplier by the surveyed enterprises; 3) determining to what extent the commercial offer of the petrol station network addressed to micro and small road transport enterprises in the Podkarpackie Voivodship reflects the real needs of the market.

2. Theoretical basis

In the subjective approach, a transport enterprise is an organizational unit consisting of functional or task departments and human work. In material terms, an enterprise is defined on the basis of means of production (i.e. buildings and structures, means of transport, other technical equipment and materials used in their operation, including fuels and energy). In functional terms, it is a set of tasks related to the handling and implementation of the transport process (Mendyk, 2009; Koźlak, 2008; Grzywacz et al., 1989; Tarski, 1974). Taking into account the criterion of employment and annual revenues, the enterprise can be divided into micro, small, medium and large. A micro enterprise employs fewer than 10 employees, a small enterprise employs fewer than 50 employees (Journal of Laws of 2004, No. 173, item 1807). Their further division contained in the literature includes e.g. phases of flow of goods and services, specializations, scope of activity, capital structure, ownership sector, legal form or degree of resource involvement (Jedynek, 2022; Budzyński, 2013; Krawczyk, 2011; Journal of Laws of 2007, No. 251, item 1885).

In the literature on the subject, the basic and auxiliary subsystems are indicated as part of the organization of a transport company. One of the auxiliary subsystems is the fuel and energy subsystem. It covers the sphere of supply and consumption. The structure of the supply subsystem is formed by the department or positions responsible for the purchase and supply of energy carriers and their suppliers (Jedynek, 2022). In practical terms, a supplier is an enterprise that offers and delivers to recipients, on its own or by commissioning an external entity, appropriate goods and services being the subject of their manufacturing or commercial activity, in accordance with previously agreed purchase conditions (i.e. a commercial offer) (Jedynek, 2022; Dubisz, 2003). A commercial offer means a proposal from the supplier to sell products or provide services aimed at concluding a contract. The content contains the terms and methods of commercial transaction accepted by the supplier. The offer may be presented in various forms and scope. It can be submitted orally or in writing (paper or electronic). It can be directed at a single person or a larger group. It can be generally available or with limited access (Jedynek, 2023a).

The literature on the subject indicates various forms and principles of cooperation with the supplier. Their division generally takes into account the degree of concentration of supply services, supply rules, the number of regular suppliers or relationships that exist between a commercial entity and a supplier. In addition, the impact on the financial result of the enterprise in relation to supply risk is taken into account (Jedynek, 2022; Krawczyk, 2001; Bendkowski et al., 2011; Górski, 2000). On the other hand, two groups of methods are commonly indicated for the assessment and selection of the supplier by the recipient, i.e. audit and taxonomic methods (including the point method, point-graphic method, graphic method, indicator method or AHP) (Brzeziński, 2006). When choosing a supplier, the following criteria

are taken into account, i.e. delivery time, supplier reliability, its readiness and flexibility, and delivery efficiency. Additionally, the offered price or quality of products and services. Due to the different importance of the criteria, they are divided into primary and secondary criteria (Jedynak, 2022; Budzyński, 2016; Krawczyk, 2011; Bendkowski et al., 2011; Dworecki et al., 2005; Górski, 2000).

There are discrepancies (i.e. a gap) between the commercial offer of the supplier and the needs reported by the recipients. In the literature on the subject, distribution gaps are commonly distinguished (Christopher, 1996): time gap, space gap, quantitative gap, assortment gap and information gap. The time gap results from the fact that consumers make purchases at different intervals, while the enterprise, for economic or organizational reasons, tries to maintain continuous production. The space gap means that consumers are geographically dispersed in the market, while production is located in one place. The quantitative gap is the result of the fact that, on the one hand, the enterprise produces and supplies significant amounts of products or services, on the other hand, consumers report limited needs in the same period. The assortment gap results from the fact that the range of products manufactured by the enterprise is limited. On the other hand, consumers report diverse needs, which require a wide and deep assortment to be satisfied. The information gap results from the fact that consumers do not always have knowledge about the place or time of availability of the products they need. Producers, on the other hand, may not know where they are and who the potential buyers of their products are (Christopher, 1996; Jedynak, 2022).

3. Methodology

Subject of research: *The Commercial Offer of a Petrol Station Network and the Needs of Micro and Small Road Transport Enterprises in the Podkarpackie Voivodship*. Its main goal is to identify the gap in cooperation between the offer of the petrol station network and the needs reported by micro and small road transport enterprises, whose headquarters are located in the Podkarpackie Voivodship. The essence of the research problem will boil down to answering the question: To what extent the commercial offer of the petrol station network addressed to micro and small road transport enterprises in the Podkarpackie Voivodship reflects the real needs of the market? Therefore, the subject of the study is the retail market of transport fuels, and the subject of the research are the network of petrol stations as well as micro and small road transport enterprises located in the Podkarpackie Voivodship. The area of research are the gaps between the attributes of the commercial offer of the petrol station network and the determinants of its choice by the surveyed enterprises.

In terms of the state of knowledge, taking into account the researcher's scientific achievements and experience, the following research hypothesis was formulated, i.e. regardless of the size of the company, the number of fleets or geographical coverage, the gap between the commercial offer of the petrol station network and the needs reported by micro and small enterprises of road transport located in the Podkarpackie Voivodship, it will concern the importance of the price and the scope of interest in access to e-bok and mobile applications.

The stages of the research procedure include: 1) indicating the topic, purpose and scope of the research; 2) indication of the evaluation criterion; 3) measuring the attributes of the commercial offer; 4) measuring the supplier selection determinants; 5) characteristics of the entities participating in the research and the forms of their cooperation; 6) expert assessment of measurement results in the area of attributes of the commercial offer; 7) expert assessment of measurement results in the area of supplier selection determinants; 8) analysis and interpretation of the obtained results; 9) final conclusions; 10) dissemination of research results. The research method used is the expert method.

For the purposes of the topic and purpose of the research, the following criteria were selected for evaluation, i.e. 1) the importance of the price; 2) importance of non-price factors; 3) transaction financial services; 4) e-book and mobile application; 5) services at petrol stations; 6) geographical scope of the commercial offer; 7) number of petrol stations and their location; 8) the position and importance of the operator. The above criteria will be subject to a three-stage evaluation by an expert, i.e. 1) essential (basic) factor; 2) secondary factor; 3) a factor of limited importance.

The measurement in the area of commercial offer attributes was carried out on the basis of a review of available databases (electronic databases and cooperation regulations) and a direct interview conducted with a representative of a given petrol station chain. For the purposes of these studies, three areas to be assessed were identified, i.e. 1) economic and financial; 2) organizational and technical; 3) security. The adopted areas were defined by means of measures. The test form is presented in Table 1. The obtained measurement results, their analysis and final conclusions are presented in detail in the article: (Jedynak, 2023a, pp. 163-178).

Table 1.

Interview form: Attributes of the commercial offer of a network of petrol stations addressed to micro and small road transport enterprises in the Podkarpackie Voivodeship

| Group name | Symbol | Tested parameter | | Unit of measure |
|------------------------|------------------------------------|--------------------------------------------------------|------------------|-----------------|
| Economic and financial | A.1.1 | Average unit price at selected petrol stations | - Motor gasoline | PLN/liter |
| | A.1.2 | | - Diesel | PLN/liter |
| | A.1.3 | | - LPG | PLN/liter |
| | A.2 | Value/quantity discounts (fuel offer) | | – |
| | A.3 | Value/quantity discounts (non-fuel offer) | | – |
| | A.4 | Form of payment as part of the established cooperation | | – |
| | A.5 | Form of payment security | | – |
| | A.6 | Electronic invoices | | – |
| A.7 | Summary invoice for a given period | | – | |

Cont. table 1.

| | | | | |
|------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---|
| Organizational and technical | B.1 | Remote form of concluding a cooperation agreement | | – |
| | B.2 | Duration of the agreement | | – |
| | B.3 | Availability of a fuel card in the offer (including the form of payment) | | – |
| | B.4.1 | Fuel card access | - Assigning the card to the vehicle | – |
| | B.4.2 | | - Assigning the card to the driver | – |
| | B.4.3 | | - Assigning cards to the company | – |
| | B.4.4 | | - Bearer card | – |
| | B.5 | Other supported fleet cards | | – |
| | B.6.1 | Electronic platform and its functionality | - Access to fuel transactions and beyond fuel | – |
| | B.6.2 | | - Access to e-invoice | – |
| | B.6.3 | | - Possibility to personalize the card and purchase limits | – |
| | B.6.4 | | - Fast payment | – |
| | B.6.5 | | - Road and parking fees | – |
| | B.6.6 | | - Access to navigation and maps | – |
| | B.7 | Mobile application | | – |
| | B.8 | Loyalty program | | – |
| | B.9.1 | Additional services | - Shop | – |
| | B.9.2 | | - Parking | – |
| | B.9.3 | | - Catering services | – |
| | B.9.4 | | - Hotel services | – |
| B.9.5 | - Car repair | | – | |
| B.9.6 | - Car wash | | – | |
| B.9.7 | - Postal services | | – | |
| B.9.8 | - Infrastructure for servicing trucks and buses | | – | |
| B.9.9 | - Others | | – | |
| B.10 | Number of petrol stations located in the serviced area | | pcs | |
| B.11 | Geographic/demographic indicator | | pcs/km ² pcs100 thou. people | |
| B.12 | Access to infrastructure | | h/day | |
| B.13.1 | Main location | - City | – | |
| B.13.2 | | - Highway and expressway | – | |
| B.13.3 | | - National roads | – | |
| B.13.4 | | - Other road categories | – | |
| B.14 | Geographical scope of the commercial offer | | – | |
| Security | C.1.1 | Type of fuel | - Motor gasoline | – |
| | C.1.2 | | - Motor gasoline (Premium) | – |
| | C.1.3 | | - Diesel | – |
| | C.1.4 | | - Diesel (pPremium) | – |
| | C.1.5 | | - Diesel TIR | – |
| | C.1.6 | | - LPG | – |
| | C.1.7 | | - Electricity | – |
| | C.2 | Fuel quality assessment (according to the President of the Office of Competition and Consumer Protection) | | – |
| | C.3 | Length of the supplier's existence on the market | | – |
| | C.4 | Enterprise size | | – |
| C.5 | Specialization in the service provided | | – | |
| C.6 | Supplier's position in the market | | – | |
| C.7 | Opinion about the supplier from buyers (concerns the Rzeszow poviat and the city of Rzeszow) | | – | |

Source: Jedynak, 2023a.

The measurement in the area of supplier selection determinants was carried out on the basis of a direct interview. For the purposes of the research, three areas to be assessed were identified, i.e. 1) the initial criterion; 2) form of cooperation; 3) determinants of choice. The adopted areas were defined by means of measures. The test form is presented in Table 2. The obtained measurement results, their analysis and final conclusions are presented in detail in the article: (Jedynak, 2023b, pp. 153-167).

Table 2.

Interview form: Determinants of the choice of petrol stations by micro and small road transport enterprises in the Podkarpackie Voivodeship

| Group | Tested parameter | | Description | | | | |
|-----------------|--------------------|----------------------------------------------------------|------------------|---------------------------------------------------------------------------------------|--|--|------|
| Entry Criterion | I.1 | Does the enterprise use the services of petrol stations? | A | - yes | | | |
| | | | B | - no (please do not complete the rest of the questionnaire) | | | |
| | I.2 | Enterprise type: | A | - micro (less than 10 people) | | | |
| | | | B | - small (from 10 to 49) | | | |
| | | | C | - other (please do not complete the rest of the questionnaire) | | | |
| | I.3 | Type of business activity: | A | - road transport | | | |
| | | | B | - freight forwarding | | | |
| | | | C | - other | | | |
| | I.4 | Object of transport and/or handling: | A | - transportation of passengers | | | |
| | | | B | - transportation of goods | | | |
| | I.5 | Number of vehicles available: | - | - | | | pcs. |
| | I.6 | Type of vehicles available: | A | - bus (up to 24 seats), | | | pcs. |
| | | | B | - coach (over 24 seats) | | | pcs. |
| | | | C | - van up to 3.5 t (GVW) | | | pcs. |
| | | | D | - truck up to 12 t (GVW) | | | pcs. |
| | | | E | - truck over 12 t (GVW) | | | pcs. |
| | | | F | - truck tractor/or specialist truck | | | pcs. |
| | | | G | - car | | | pcs. |
| | | | H | - other vehicles | | | - |
| | I.7 | Geographic scope of activity: | A | - local (district, commune) | | | |
| | | | B | - regional (Subcarpathian Voivodeship) | | | |
| | | | C | - interregional (the area of the Podkarpackie Voivodeship and neighbouring provinces) | | | |
| | | | D | - national | | | |
| | | | E | - continental (Europe) | | | |
| F | | | - global | | | | |
| I.8 | Type of fuel used: | A | - diesel | | | | |
| | | B | - motor gasoline | | | | |
| | | C | - LPG | | | | |
| | | D | - CNG | | | | |
| | | E | - Electricity | | | | |
| | | F | - Other | | | | |

Cont. table 2.

| | | | | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|
| Form of Cooperation | II.1 | Do you use the services of only one petrol station? | A | - yes |
| | | | B | - no |
| | II.2 | What type of petrol stations does the enterprise use? | A | - station networks (e.g. Orlen, Moya, BP, Shell, etc.) |
| | | | B | - independent stations (private owner) |
| II.3 | Is there permanent cooperation with the station/stations (e.g. on the basis of a fuel card, individual contracts, etc.)? | A | - yes | |
| | | B | - no | |
| II.4 | Does the enterprise use a fuel card system (e.g. UTA, DKV, Eurowag, E100, etc.)? | A | - yes | |
| | | B | - no | |
| Determinants | III.1 | The importance of price when choosing a petrol station: | A | - is of primary importance (most important) |
| | | | B | - on par with non-price conditions |
| | | | C | - of secondary importance, below non-price conditions |
| | III.2 | Basic non-price factors when choosing a petrol station: <i>* indicate max 3</i> | A | - transaction conditions (e.g. collective invoice, deferred payment date, etc.) |
| | | | B | - an electronic internet platform (e-bok) and a mobile application |
| | | | C | - petrol station services (e.g. truck parking, car wash, repairs, gastronomy, etc.) |
| | | | D | - geographical scope of the commercial offer |
| | | | E | - number of petrol stations and their location |
| | | | F | - position and importance of the operator on the market |
| | | | G | - other |
| | III.3 | As part of the financial service of the transaction , the following are of fundamental importance when choosing a supplier: <i>* indicate max 2</i> | A | - payment method (non-cash/cash) |
| | | | B | - form of payment security (deposit, promissory note, etc.) |
| | | | C | - electronic invoices |
| | | | D | - summary invoice for a given period |
| | III.4 | As part of access to e-bok and the mobile application , the following are of primary importance when choosing a supplier: <i>* indicate max 2</i> | A | - access to transaction history |
| | | | B | - access to e-invoice |
| | | | C | - the ability to personalize the card and purchase limits |
| | | | D | - quick payment |
| | | | E | - the possibility of paying road and parking fees |
| | | | F | - access to navigation and maps |
| III.5 | As part of the services provided at stations , the following factors are of primary importance when choosing a supplier: <i>* indicate max 2</i> | A | - store | |
| | | B | - car park/car park of truck | |
| | | C | - catering services | |
| | | D | - hotel services | |
| | | E | - car repair | |
| | | F | - car was | |
| | | G | - other | |

Source: Jedynak, 2023b.

4. Empirical Results and Discussion

Taking into account the number and structure of petrol stations located in the Podkarpackie Voivodship, the following were selected for the study: PKN Orlen SA (Orlen), BP Europa SE Spółka europejska Branch in Poland (BP), Shell Polska Sp. z o.o. (Shell), Circle K Polska Sp. z o.o. (Circle K), Anwim SA (Moya station network), Slovnaft Polska SA (Slovnaft Partner), Watek Sp. z o. o. (Thread). Petrol stations belonging to Grupa Lotos SA were not taken into account in the research. On August 1, 2022, this concern became part of PKN Orlen SA and the MOL Group. It should be noted that the analysis of the structure of petrol stations was carried out in the city of Rzeszów and the Rzeszów powiat (Jedynak, 2023a).

Based on the measurement, it was found that the share of Orlen petrol stations in Rzeszów in the total number of stations was 16.2%, in the Rzeszów powiat it was 16.1%. For BP, the share was 5.4% and 3.6%, Shell 10.8% and 1.8%, Circle K 5.4% and 1.8%, Moya 5.4% and 5.3%, Slovnaft 0.0% and 7.1% or Watek 13.5% and 3.6%. In the Podkarpackie Voivodship, in the case of dependent networks, access to the infrastructure was 24/7. For other operators, the availability resulted from the location of the petrol station and its purpose. The commercial offer of the subsidiaries included standard and premium fuels as well as TIR diesel oil. However, in the case of independent operators, the situation was different. In the analyzed period, according to the information of the President of the Office of Competition and Consumer Protection, no deviations from the applicable fuel quality standards were found at the examined petrol stations (Jedynak, 2023a).

On the other hand, the surveyed enterprises included entities located throughout the voivodeship. Assuming the employment size criterion, these were micro and small enterprises. Their main activity was road transport, mainly in the field of goods transport. In addition, these enterprises also provided other services. Taking into account the geographical scope of the conducted activity, the largest group among the surveyed enterprises were continental and domestic enterprises. In the structure of the fleet owned by the surveyed enterprises, vehicles for transporting goods prevailed. The largest group consisted of trucks over 12 t and car tractors. However, assuming the criterion of their size, more than 5 vehicles were owned by more than half of the surveyed enterprises. The main type of fuel used in enterprises was diesel oil (Jedynak, 2023b).

The commercial offer of the petrol station chain addressed to micro and small enterprises was based on constant cooperation. The remote form of concluding the contract was one of the accepted options. The contracts were offered mainly for an indefinite period. The offer included various variants of fuel cards, including those addressed to micro and small enterprises. Access to the fuel card was based on different variants. It was commonly issued to a vehicle, person or company. Fleet card systems, i.e. UTA, DKV, E100, etc., were accepted at petrol stations. Most suppliers offered a loyalty program (Jedynak, 2023a).

The vast majority of the surveyed enterprises used the services of many suppliers of transport fuels. More than half of the enterprises refueled their vehicles at petrol stations included in the network. An increase in the importance of independent petrol stations was noted in the case of enterprises with a limited number of owned vehicles or the range of operations conducted only in the Podkarpackie Voivodeship. More than half of the respondents cooperated with petrol stations on the basis of permanent contracts. Significant differences in this area occurred in the case of micro and small enterprises. In addition, its size was influenced by the number of vehicles at the enterprise's disposal and the geographic scope of the transport services provided. On the other hand, a limited group of enterprises used the fuel card system. This form of cooperation was mainly interested in small enterprises as well as continental and global companies (Jedynak, 2023b).

Expert evaluations of the measurement results in the area of commercial offer attributes are presented in Table 3.

Table 3.
Attributes of the commercial offer - expert assessment

| Criterion | Attributes | Expert assessment* |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| The importance of the price | Fuel prices at the surveyed stations remained at a similar level. During the research, no petrol station was identified where all fuel prices were below the competition. Discounts on fuel purchases and selected non-fuel products and services were granted at service stations. | ■ |
| The importance of non-price factors | Non-price factors played a fundamental role in the commercial offer. Access to the e-bok and mobile application, including the financial handling of transactions, was of great importance. In addition, the offer provided information on the services provided at petrol stations, their number and location, as well as the geographic scope of the offer. | ■ ■ ■ |
| Transaction financial services | For most operators, the permanent form of cooperation was based on a non-cash transaction through the use of a fuel card. Various forms of payment security were offered. Electronic and collective invoices were widely available in the offer. Different payment deadlines for the invoice have been noted at the operators. | ■ ■ ■ |
| E-book and mobile application | The electronic platform and mobile application was available in the commercial offer of most suppliers. Most often, their basic functionality meant reviewing transaction history, access to invoices, the ability to personalize cards and purchase limits, or road and parking fees. | ■ ■ ■ |
| Services at petrol stations | At petrol stations there was a shop, gastronomy, car wash and a public car park. Depending on the purpose of the station and its location, the stations were equipped with infrastructure for servicing trucks and buses. In addition, only selected domestic operators had postal services, a hotel, a car repair shop or a vehicle inspection station. | ■ ■ |
| Ggeographical scope of the commercial offer | The geographic scope of the retail offer of service stations varied from global, through continental and national, to regional. | ■ ■ ■ |
| Number of petrol stations and their location | The location of the stations of individual suppliers was most often dispersed throughout the Podkarpackie Voivodeship. Their location is mainly in the city. In the case of the network of stations belonging to concerns, additional distribution points were located on motorways, expressways and national roads. | ■ ■ |

Cont. table 3.

| | | |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| The position and importance of the operator | Petrol station chains belonged to large and experienced enterprises. These were enterprises associated with domestic and foreign capital. Their activities were specialized. The position on the market of petrol stations, due to the potential they had and the location of individual points, was of fundamental nature. | ■ |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|

* ■■■ - essential (basic) factor, ■■ - secondary factor, ■ - a factor of limited importance.

Source: own study based on Jedynak, 2023a.

The expert assessment of the measurement results in the area of supplier selection determinants is presented in Table 4.

Table 4.

Determinants of supplier selection - expert assessment

| Criterion | Attributes | Expert assessment* |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| The importance of the price | Regardless of the size of the enterprise, the fleet of vehicles owned or the geographical range of the services provided, the price was of primary importance in the selection of a supplier of transport fuels. | ■■■ |
| The importance of non-price factors | Non-price factors were of secondary importance (the most important factors for customers were the terms of the transaction, the service of petrol stations and the number of petrol stations and their location). | ■ |
| Transaction financial services | The form of payment, the summary invoice for a given period and the electronic invoice were of fundamental importance when choosing a supplier. A secondary factor was the form of payment security. | ■■■ |
| E-book and mobile application | Secondary non-price factor. Enterprises were primarily interested in access to the history of sales transactions and e-invoices. In addition, the possibility of paying road and parking fees and fast payment. The importance of the above factors varied depending on the size of the company, the fleet owned or the geographical scope of the business. | ■ |
| Services at petrol stations | In the structure of services provided at petrol stations, the following were important: car park/TIR car park and car wash. Other factors were secondary. The exception were enterprises providing their services only in the Podkarpackie Voivodship, where the shop and car wash were of primary importance. | ■■■ |
| Geographical scope of the commercial offer | The importance of the geographical range of the commercial offer varied depending on the geographical scope of the business. | ■■ |
| Number of petrol stations and their location | The non-price factor is essential, regardless of the size of the company, fleet of vehicles owned or geographical scope of the business. | ■■■ |
| The position and importance of the operator | The non-price factor is secondary, regardless of the size of the enterprise, the fleet of vehicles owned or the geographical scope of the business. | ■ |

* ■■■ - essential (basic) factor, ■■ - secondary factor, ■ - a factor of limited importance.

Source: own study based on Jedynak, 2023b.

The expert assessment of the measurement results in the area of supplier selection determinants, taking into account the criterion of enterprise size, number of vehicles or geographical scope of business, is presented in Table 5.

Table 5.

Determinants of supplier selection according to the size of enterprises, number of vehicles, geographical scope of activity - expert assessment

| Criterion | Expert assessment** | | | | | | | | |
|----------------------------------------------|---------------------|------|--------------------------|------|------|------|------|------|------|
| | I.2 | | I.5 (number of vehicles) | | | I.6 | | | |
| | A | B | 1 | 2-5 | <5 | A-B | C | D | E-F |
| The importance of the price | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■ | ■■■■ | ■■■■ |
| The importance of non-price factors | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Transaction financial services | ■■■■ | ■■■■ | ■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ |
| E-book and mobile application | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Services at petrol stations | ■■■■ | ■■ | ■■■■ | ■■ | ■■■■ | ■■■■ | ■■ | ■■■■ | ■■■■ |
| Ggeographical scope of the commercial offer | ■ | ■■ | ■ | ■ | ■■ | ■ | ■ | ■■ | ■■ |
| Number of petrol stations and their location | ■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■■■ | ■■ | ■■ | ■■■■ |
| The position and importance of the operator | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

* ■■■■ - essential (basic) factor, ■■■ - secondary factor, ■ - a factor of limited importance.

Source: own study based on Jedynak, 2023b.

5. Conclusions

On the basis of the collected data and their analysis, a gap was indicated between the attributes of the commercial offer of the petrol station chain and the determinants of its selection by micro and small road transport company in the Podkarpackie Voivodeship. The price gap and the gap in access to e-books and mobile applications were indicated. Therefore, the research hypothesis was confirmed.

It should be emphasized that regardless of the size of the enterprise, the fleet of vehicles owned or the geographical scope of the business, the price was the basic factor in the selection of transport fuel suppliers by the surveyed enterprises. Non-price factors were secondary. On the other hand, in the case of the commercial offer of the service station network, non-price factors were of a basic nature. They were primarily related to e-bok and the mobile application, financial handling of transactions, services at petrol stations, location and number of petrol stations or the geographical scope of the commercial offer. However, the prices of individual fuels at the surveyed suppliers remained at a similar level. There was no indication of a petrol station where all fuel prices were below the competition.

In the case of access to e-book and mobile applications, the surveyed enterprises showed very limited interest. Most often, these entities omitted this choice factor in their answers. The research did not determine what caused this. On the other hand, in the commercial offer of the petrol station chain posted on websites, the available tools were treated as the basic factor. Their functionality in terms of supporting the implementation of the transport process and financial handling of the transaction was strongly emphasized. The available internet application gave the possibility to manage the fleet and the driver's work. The services made available allow for their control and gave the opportunity to personalize access to purchases and services and to set their limits. In the researcher's opinion, the message sent by the supplier to the enterprise was accessible and legible. It should also be emphasized that a commercial offer addressed to micro and small enterprises was posted on the websites.

It should be noted that the presented research was the third stage of the research process, the main purpose of which was to indicate the scope and form of cooperation between a retail supplier of liquid fuels and a micro and small enterprise of road transport in the Podkarpackie Voivodeship. The stages of its implementation included: 1) defining the attributes of the commercial offer of the petrol station network in the analyzed region; 2) an indication of the determinants of the choice of the supplier of liquid fuels by the surveyed enterprises; 3) determination of the extent to which the commercial offer of the service station network addressed to micro and small road transport enterprises in the Podkarpackie Voivodeship reflects the real needs of the market.

The results of the first stage of research were published in the article: (Jedynek, 2023a, pp. 163-178).

The results of the second stage: (Jedynek, 2023b, pp. 153-167).

The implementation of the main topic and purpose of the research allowed to indicate the following final conclusions:

- the basic attributes of the commercial offer of the service station network in the Podkarpackie Voivodeship include: personalization of the offer, limited access to the terms of cooperation, wide range of the offer, availability of the offer, integration of the transport process, personalization of tasks, speed of establishing cooperation, dispersion of points of sale, non-regional importance.
- The basic determinants of the choice of fuel supplier by the surveyed enterprises include: dispersed purchase, linking purchase, preferred permanent form of cooperation, price as the main selection factor, non-price factors as a secondary selection factor, traditional form of cooperation.
- In the case of petrol station chains, a permanent form of cooperation was preferred. Cooperation agreements were mainly concluded for an indefinite period. The range of possible cooperation offered by the petrol station chains was wide. It should be emphasized that the commercial offer is a package consisting of available goods and services as well as terms and conditions for handling purchase and sale transactions.

- The vast majority of the surveyed enterprises used the services of many suppliers of transport fuels. More than half of the respondents cooperated with petrol stations on the basis of permanent contracts. However, the importance of a permanent form of cooperation varies depending on the size of the enterprise, the number of vehicles owned and geographical coverage. The scope of interest in the commercial offer was limited only to selected factors.
- Gaps in cooperation between the surveyed entities were noted in the case of the importance of price and in access to e-bok and mobile application.

The main limitations and weaknesses in the implementation of the research process include obtaining data from the surveyed entities. Most operators had limited access to data on terms of cooperation. The difficulty was the lack of regulations or contract forms published by the supplier. Sometimes data could only be made available after sending a request for cooperation to the provider. Also in the case of telephone or e-mail contact, not all the surveyed petrol station chains expressed their willingness to answer the questions contained in the survey form. In the case of the surveyed enterprises, more than 35% of respondents offered a response. The main reason for refusal was lack of time. In addition, a major limitation in contact with the company was the outdated contact details contained in *Panorama Firm* electronic database (Panorama ..., 2023). However, what significantly enriched the research process was direct contact with the respondent. Thus, it is possible to obtain not only answers to the formulated questions, but also their justification.

In conclusion, the activities undertaken in the article aimed at achieving the progress of scientific knowledge have led to the expansion of knowledge in the discipline of management and quality science in the field of commercial systems, their organization and management. The research focused on areas that have and will have an impact on improving the competitive position of a road transport enterprise.

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