

DETERMINANTS OF THE CHOICE OF PETROL STATIONS BY MICRO AND SMALL ROAD TRANSPORT ENTERPRISES IN THE PODKARPACKIE VOIVODESHIP

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Purpose: The aim of the research will be indicate the main and secondary factors determining the choice of petrol stations by micro and small road transport enterprises, whose registered office is located in the Podkarpackie Voivodship. The essence of the research problem will boil down to answering questions about the main and secondary factors determining the choice of petrol stations by micro and small road transport enterprises in the Podkarpackie Voivodship. Detailed questions will concern the indication of differences when choosing a supplier, taking the criterion of the size of enterprises, owned fleet of vehicles or geographical scope of operations. Therefore, the subject of the study is the retail market of transport fuels, and the subject of the research are micro and small road transport enterprises located in the Podkarpackie Voivodship. The area of research is the determinants of the choice of petrol stations 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) determination and definition of evaluation criteria; 3) construction and development of the interview form; 4) selection of the database of road transport enterprises; 5) selection of the test sample; 6) measurement; 7) interpretation of the obtained results; 8) final conclusions; 9) dissemination of research results.

The research method used is a direct interview. The measurement will be carried out on the basis of an interview form. For the purposes of the research, areas of assessment were indicated, i.e. the initial criterion, form of cooperation and selection determinants.

Findings: The implementation of the topic and purpose of the research allowed to indicate the determinants of the choice of petrol stations by micro and small road transport enterprises, whose headquarters are located in the Podkarpackie Voivodship. It should be emphasized that the presented research is the second stage of the research process, the main purpose of which is to indicate the scope and form of cooperation of a retail supplier of liquid fuels with a micro and small road transport company in the Podkarpackie Voivodship. The stages of its implementation include: determining the attributes of the commercial offer of the petrol station network in the analyzed region; an indication of the determinants of the choice of a supplier of liquid fuels by the surveyed enterprises; determination of the extent to which 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.

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

Keywords: customer, liquid fuels, transport.

Category of the paper: Research paper.

1. Introduction

In the past, road transport constituted a significant part of the Polish transport system and was one of the largest sectors of the Polish economy. In the Podkarpackie Voivodship, the share of road transport in the structure of goods and passenger transport remained at a high level. A large group of road transport enterprises had their seat in the voivodship. Their structure is largely composed of micro and small entities. These were usually business units with a limited number of vehicles at their disposal. Due to the subject/subject of transport and the available transport technology, the scope of transport services provided by them was varied. Sometimes they also offered other services not related to transport. A significant part of these entities carried out mainly local or regional transport. In the structure of the rolling stock owned by enterprises, the vast majority were vehicles powered by petroleum fuels.

In the past period, the retail market of transport fuels in the Podkarpackie Voivodeship is characterized by high flexibility. Strong competition from domestic and foreign entities translated into the price offer and non-price conditions. The basic attributes of the petrol station's commercial offer addressed to micro and small enterprises include: personalization of the offer, limited access to the terms of cooperation, wide range of services provided, time availability of services, integration of the transport process, personalization of tasks, speed of establishing cooperation, dispersion of points, supra-regional importance offers (Jedynek, 2023).

In Poland fuel prices were not regulated by the President of the Energy Regulatory Office. They were determined on market terms. The structure contained fixed elements, i.e. excise tax, fuel surcharge and emission fee, as well as variable elements, i.e. VAT, margin and net price (Frączek, Kaliski, Siemek, 2013). In addition, their final level is influenced by the size of local needs and the scale of competition between suppliers. In the past period, due to the high level of transport fuel prices on the market, a significant share of their purchase costs in the cost structure of road transport enterprises was recorded in the country (Annual, 2023).

In response to the above issues, it was assumed that the purpose of the research would be to identify the determinants of the choice of petrol stations 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) measurement; 4) presentation of final conclusions. The research method used is a critical review of the literature on the subject and a direct interview.

It should be emphasized that the presented research is the second stage of the research process, the main purpose of which is to indicate the scope and form of cooperation of a retail supplier of liquid fuels with a micro and small road transport company in the Podkarpackie Voivodship. The stages of its implementation include: determining the attributes of the commercial offer of the petrol station network in the analyzed region; an indication of the determinants of the choice of a supplier of liquid fuels by the surveyed enterprises; determination of the extent to which 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

The word transport enterprise can be considered from the point of view of representatives of various scientific disciplines (Kozłak, 2018; Wall, 2002). In subjective terms, it is an organizational unit consisting of a network of related and cooperating functional and task departments as well as human work. In material terms, an enterprise is defined on the basis of the means of production at its disposal (i.e. buildings and structures, means of transport, other technical devices and materials used in their operation, including fuels and energy). However, in the functional approach, transport enterprises are understood as a set of tasks related to the preparation, implementation and settlement of the transport process (Mendyk, 2009; Kozłak, 2008; Grzywacz et al., 1989; Tarski 1974).

Assuming the criterion of employment and annual revenues, a transport enterprise can be divided into four groups, i.e. micro, small, medium and large. A micro-enterprise is an economic entity employing fewer than 10 employees, a small enterprise employing fewer than 50 employees (Dz.U. z 2004, nr 173, poz. 1807). In the literature on the subject, a further division of transport enterprises includes, among others: phases of the flow of material goods, degree of specialization, geographical scope of activity, capital structure, ownership sector, type of ownership, forms of ownership, legal forms or degree of resources involved (Jedynak, 2022; Budzyński, 2013; Krawczyk, 2011; Dz.U. z 2007, nr 251, poz. 1885).

Within the organization of a transport enterprise, the basic and auxiliary subsystems are commonly indicated. One of the areas of support for transport processes is the fuel and energy subsystem. It covers both the supply and consumption spheres. The entity structure of the

supply subsystem consists of the department and positions responsible for the purchase and supply of individual energy carriers and their suppliers (Jedynek, 2022).

In the literature on the subject, the word supplier can be considered in various cross-sections. In practical terms, a supplier is an organizational unit that offers and delivers to recipients, independently or by ordering an external entity, appropriate tangible goods and services being the subject of their manufacturing or commercial activity, in accordance with previously agreed purchase conditions (commercial offer) (Ahlqvist, 2020; Gelderman, 2020; Jedynek, 2022; Dubisz, 2003). In the literature on the subject, two groups of methods are indicated for evaluating and selecting a supplier. The first method is carried out using a survey, the so-called audit. The second are Taxonomic Methods, which include the Point Method, the Point-Graphic Method, the Graphic Method, the Indicator Method or the AHP Method (Brzeziński, 2006).

The implementation of the supplier evaluation and selection process includes both the preparation phase and the implementation phase. The literature on the subject indicates criteria for evaluating suppliers, i.e. delivery time, supplier reliability, its readiness and flexibility, and delivery efficiency. In addition, the offered price and product quality are taken into account. Due to their importance, they are commonly divided into primary and secondary criteria. Assuming the nature of the supplier assessment, quantitative and qualitative criteria are indicated. The adopted criterion, regardless of its type, requires a detailed definition. Indicators and meters are commonly used for this. The impact of individual criteria on the purchase decision varies. Therefore, it is important to determine their importance by adopting an appropriate weighting (Jedynek, 2022; Budzyński, 2016; Krawczyk, 2011; Bendkowski et al., 2011; Dworecki et al., 2005; Górski, 2004).

3. Methodology

Subject of research: Determinants of the choice of petrol stations by micro and small road transport enterprises in the Podkarpackie Voivodship.

Its main objective will be to indicate the main and secondary factors determining the choice of petrol stations by micro and small road transport enterprises, whose registered office is located in the Podkarpackie Voivodship.

The essence of the research problem will boil down to answering questions about the main and secondary factors determining the choice of petrol stations by micro and small road transport enterprises in the Podkarpackie Voivodeship. Detailed questions will concern the indication of differences when choosing a supplier, taking the criterion of the size of enterprises, owned fleet of vehicles or geographical scope of operations.

Therefore, the subject of the study is the retail market of transport fuels, and the subject of the research are micro and small road transport enterprises located in the Podkarpackie Voivodship. The area of research is the determinants of the choice of petrol stations by the surveyed enterprises.

In terms of the state of knowledge, taking into account the achievements and experience of the researcher, the following research hypothesis was formulated, i.e. the fuel price is the main factor in the choice of filling stations by micro and small enterprises. The importance of non-price factors varies with the geographic scope of the business and the size of the fleet of vehicles at disposal.

The stages of the research procedure include: 1) indicating the topic, purpose and scope of the research; 2) determination and definition of evaluation criteria; 3) construction and development of the interview form; 4) selection of the database of road transport enterprises; 5) selection of the test sample; 6) measurement; 7) interpretation of the obtained results; 8) final conclusions; 9) dissemination of research results.

The research method used is a direct interview. The measurement will be carried out on the basis of an interview form. For the purposes of the research, areas of assessment were indicated, i.e. the initial criterion, form of cooperation and selection determinants. The adopted areas were defined by means of measures. The interview form is included in Table 1.

Table 1.

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

GROUP	TESTED PARAMETER		DESCRIPTION			
			A	B	C	D
Entry Criterion	I.1	Does the enterprise use the services of petrol stations?	A	<input type="checkbox"/> Yes		
			B	<input type="checkbox"/> no (please do not complete the rest of the questionnaire)		
	I.2	Enterprise type:	A	<input type="checkbox"/> micro (less than 10 people)		
			B	<input type="checkbox"/> small (from 10 to 49)		
			C	<input type="checkbox"/> other (please do not complete the rest of the questionnaire)		
	I.3	Type of business activity:	A	<input type="checkbox"/> road transport		
			B	<input type="checkbox"/> freight forwarding		
			C	<input type="checkbox"/> other		
	I.4	Object of transport and/or handling:	A	<input type="checkbox"/> transportation of passengers		
			B	<input type="checkbox"/> transportation of goods		
	I.5	Number of vehicles available:	–	<input type="checkbox"/>		pcs.
	I.6	Type of vehicles available:	A	<input type="checkbox"/> bus (up to 24 seats),		pcs.
			B	<input type="checkbox"/> coach (over 24 seats)		pcs.
			C	<input type="checkbox"/> van up to 3.5 t (GVW)		pcs.
			D	<input type="checkbox"/> truck up to 12 t (GVW)		pcs.
			E	<input type="checkbox"/> truck over 12 t (GVW)		pcs.
			F	<input type="checkbox"/> truck tractor/or specialist truck		pcs.
			G	<input type="checkbox"/> car		pcs.
H	<input type="checkbox"/> other vehicles		–			

Cont. table 1.

	I.7	Geographic scope of activity:	A	<input type="checkbox"/> local (district, commune)
			B	<input type="checkbox"/> regional (Subcarpathian Voivodeship)
			C	<input type="checkbox"/> interregional (the area of the Podkarpackie Voivodeship and neighbouring provinces)
			D	<input type="checkbox"/> national
			E	<input type="checkbox"/> continental (Europe)
			F	<input type="checkbox"/> global
	I.8	Type of fuel used:	A	<input type="checkbox"/> diesel
			B	<input type="checkbox"/> motor gasoline
			C	<input type="checkbox"/> LPG
			D	<input type="checkbox"/> CNG
			E	<input type="checkbox"/> Electricity
			F	<input type="checkbox"/> Other
Form of Cooperation	II.1	Do you use the services of only one petrol station?	A	<input type="checkbox"/> Yes
			B	<input type="checkbox"/> No
	II.2	What type of petrol stations does the enterprise use?	A	<input type="checkbox"/> station networks (e.g. Orlen, Moya, BP, Shell, etc.)
			B	<input type="checkbox"/> 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	<input type="checkbox"/> yes
			B	<input type="checkbox"/> no
	II.4	Does the enterprise use a fuel card system (e.g. UTA, DKV, Eurowag, E100, etc.)?	A	<input type="checkbox"/> yes
			B	<input type="checkbox"/> no
Determinants	III.1	The importance of price when choosing a petrol station:	A	<input type="checkbox"/> is of primary importance (most important)
			B	<input type="checkbox"/> on par with non-price conditions
			C	<input type="checkbox"/> of secondary importance, below non-price conditions
	III.2	Basic non-price factors when choosing a petrol station: <i>* indicate max 3</i>	A	<input type="checkbox"/> transaction conditions (e.g. collective invoice, deferred payment date, etc.)
			B	<input type="checkbox"/> an electronic internet platform (e-bok) and a mobile application
			C	<input type="checkbox"/> petrol station services (e.g. truck parking, car wash, repairs, gastronomy, etc.)
			D	<input type="checkbox"/> geographical scope of the commercial offer
			E	<input type="checkbox"/> number of petrol stations and their location
			F	<input type="checkbox"/> position and importance of the operator on the market
			G	<input type="checkbox"/> 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	<input type="checkbox"/> payment method (non-cash/cash)
			B	<input type="checkbox"/> form of payment security (deposit, promissory note, etc.)
			C	<input type="checkbox"/> electronic invoices
			D	<input type="checkbox"/> 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	<input type="checkbox"/> access to transaction history
			B	<input type="checkbox"/> access to e-invoice
C			<input type="checkbox"/> the ability to personalize the card and purchase limits	
D			<input type="checkbox"/> quick payment	
E			<input type="checkbox"/> the possibility of paying road and parking fees	
F			<input type="checkbox"/> access to navigation and maps	

Cont. table 1.

III.5	As part of the services provided at stations , the following factors are of primary importance when choosing a supplier: * indicate max 2	A	<input type="checkbox"/> store
		B	<input type="checkbox"/> car park/car park of truck
		C	<input type="checkbox"/> catering services
		D	<input type="checkbox"/> hotel services
		E	<input type="checkbox"/> car repair
		F	<input type="checkbox"/> car was
		G	<input type="checkbox"/> other

Source: own study.

4. Empirical Results and Discussion

For the purposes of the research process, the electronic database Panorama Firms (<https://panoramafirm.pl>) was selected. It was used to select enterprise for research and establish contact details. Micro and small road transport enterprises located throughout the Podkarpackie Voivodeship were indicated (in total, they covered 21 out of 25 poviats). The location structure of the surveyed enterprises is shown in Figure 1.

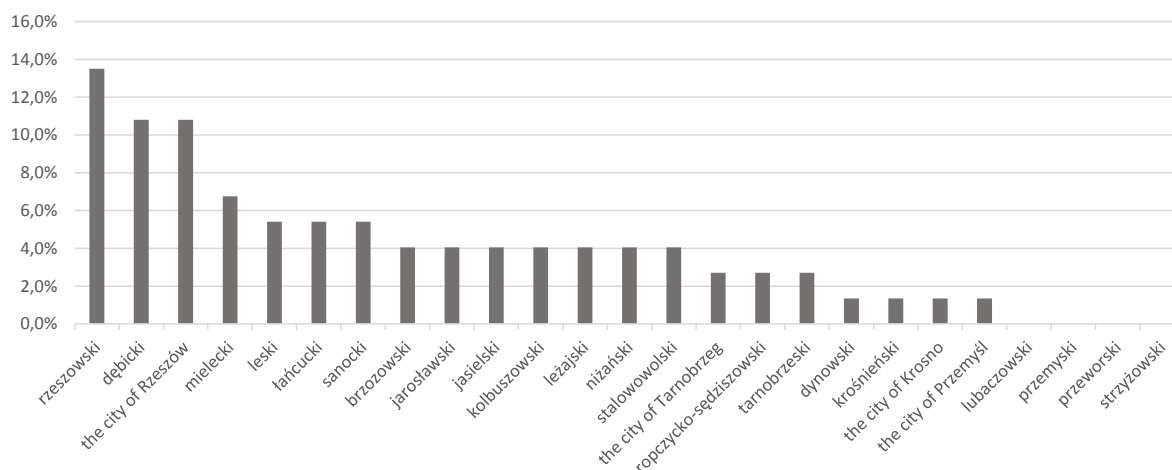


Figure 1. Geographical structure of the surveyed enterprises (by poviats).

Source: own study.

The interview was conducted mainly by telephone (87% of the surveyed respondents). The remaining part of the measurement was carried out by using the Interview Form posted and made available to enterprises on the Google.pl website (<http://www.google.pl>) in the Forms tab. The research was conducted in March 2023. More than 35% of the respondents who were contacted offered a response. In total, data was obtained from 84 enterprises that met the established criteria.

The measurement results in the area of *Initial Criterion* are presented in Table 2.

Table 2.
Measurement results in the area of Initial Criterion

TESTED PARAMETER		MEASUREMENT										
		Total answer		I.2		I.5 (number of vehicles			I.6			
		pcs.	%	A	B	1	2-5	<5	A-B	C	D	E-F
I.1	A	79	94,0	49	27	19	21	38	20	7	18	40
	B	5	6,0	1	1	0	0	2	1	0	1	1
I.2	A	55	67,1	54	0	18	22	14	18	4	15	21
	B	27	32,9	0	27	0	1	25	5	2	4	20
	C	0	0,0	0	0	0	0	1	0	0	0	0
I.3	A	75	75,8	49	24	18	19	36	18	7	18	39
	B	14	14,1	6	8	1	2	12	3	0	2	11
	C	10	10,1	9	1	4	4	2	5	0	2	3
I.4	A	16	19,8	12	4	7	3	6	8	0	5	4
	B	65	80,2	39	24	11	18	35	15	7	13	36
I.5	–	882	100,0	338	543	19	82	787	288	54	126	509
I.6	A	88	10,0	38	50	1	4	83	62	0	19	19
	B	109	12,4	60	49	0	5	104	80	0	4	25
	C	96	10,9	41	55	2	20	79	37	12	18	55
	D	60	6,8	23	37	0	4	57	14	12	19	33
	E	199	22,6	54	145	4	17	178	51	3	32	134
	F	252	28,6	82	167	4	20	228	16	14	24	215
	G	70	7,9	32	38	8	11	51	25	11	8	26
	H	10	1,1	8	2	0	3	7	3	2	4	2
I.7	A	12	13,3	11	1	7	3	2	12	0	0	0
	B	11	12,2	7	4	1	4	6	11	0	0	2
	C	7	7,8	4	2	2	1	3	0	7	1	0
	D	19	21,1	14	3	4	4	11	0	0	19	4
	E	40	44,4	21	19	5	11	23	2	0	4	40
	F	1	1,1	0	1	0	0	1	0	0	0	1
I.8	A	74	77,1	46	26	14	20	39	17	7	16	41
	B	14	14,6	12	2	6	4	4	7	2	4	2
	C	7	7,3	6	1	4	2	2	4	1	2	0
	D	1	1,0	0	1	0	0	1	1	0	0	0
	E	0	0,0	0	0	0	0	0	0	0	0	0
	F	0	0,0	0	0	0	0	0	0	0	0	0

Source: own study.

On the basis of the collected results, it was established that 94.0% of the surveyed respondents used the services of petrol stations. The remaining part has its own distributors, and thus was interested only in wholesale purchase of liquid fuels.

Among the surveyed entities, 67.1% were micro enterprises, and 32.9% macro enterprises. The main type of their activity was road transport (a total of 75.8% of the surveyed respondents) in the field of freight transport (80.2%). In addition, these enterprise also provided other services, sometimes not related to logistics. Taking into account the geographical scope of the conducted activity, the largest group among the surveyed respondents were continental enterprises - 44.4% and domestic enterprises - 21.1%. The share of enterprises operating only in the Podkarpackie Voivodeship amounted to 25.5%.

In the structure of the rolling stock owned by the surveyed enterprises, the share of vehicles for cargo transport was 68.8%, and passengers 30.3%. The largest group consisted of trucks over 12 t and road tractors and/or specialized tractors (51.1% in total). However, assuming the

criterion of their size, 23.7% of the surveyed respondents had 1 vehicle, 26.2% had 2 to 5 vehicles, and 50.0% had more than 5 vehicles. The main type of fuel used in enterprises was diesel oil (77.1% of the surveyed respondents). In addition, because of the passenger cars owned, petrol and LPG (21.9% in total).

The measurement results in the area of *Form of Cooperation* are presented in Table 3.

Table 3.

Measurement results in the area of Form of Cooperation

TESTED PARAMETER R		MEASUREMENT										
		Total answer		I.2		I.5 (number of vehicles			I.6			
		pcs.	%	A	B	1	2-5	<5	A-B	C	D	E-F
II.1	A	16	19,3	12	4	5	6	6	8	1	5	3
	B	67	80,7	42	23	14	17	34	15	6	14	38
II.2	A	54	62,8	34	19	8	15	31	11	7	10	32
	B	32	37,2	23	8	6	11	15	12	1	7	14
II.3	A	48	59,3	26	21	9	14	24	7	5	10	29
	B	33	40,7	27	5	10	8	15	14	2	9	11
II.4	A	34	43,0	17	17	3	8	23	3	2	4	27
	B	45	57,0	34	9	15	13	16	17	5	15	12

Source: own study.

Based on the collected data, it was established that the majority of respondents (80.7%) use the services of many suppliers of transport fuels. 62.8% refuel vehicles at fuel stations included in the network. The increase in the importance of independent operators was noted in the case of the number of owned vehicles up to 5 or the range of operations conducted only in the Podkarpackie Voivodeship.

Among the surveyed enterprises, 59.3% cooperate with petrol stations on the basis of permanent contracts. In the case of micro-enterprises, this indicator amounted to 49.1%, and to small enterprises - 80.8%. Its size was also influenced by the number of vehicles available to enterprises. In the case of having 1 vehicle, 47.4% of respondents cooperate on the basis of permanent contracts, 63.6% in the range of 2-5 vehicles, 61.5% over 5 vehicles. However, taking into account the geographical range of transport services provided in the group of local and regional enterprises, this indicator remained at a low level and amounted to 33.3%. Its highest value was recorded for continental and global enterprises, 72.5% in total.

To the question addressed to the respondents *Do I use the fuel card system covering various fuel stations in cooperation*, 43.0% gave an affirmative answer. Small enterprises (65.4% of the surveyed respondents) and continental and global enterprises (69.2% in total) were mainly interested in this form of cooperation.

The measurement results in the area of *Determinants* are presented in Table 4.

Table 4.
Measurement results in the area of Determinants

TESTED PARAMETER		MEASUREMENT										
		Total answer		I.2		I.5 (number of vehicles			I.6			
		pcs.	%	A	B	1	2-5	<5	A-B	C	D	E-F
III.1	A	53	67,1	35	16	11	16	26	15	3	14	25
	B	23	29,1	16	7	7	7	9	6	3	2	14
	C	3	3,8	2	1	1	0	1	1	0	1	1
III.2	A	46	26,9	29	16	8	16	22	10	5	11	26
	B	11	6,4	10	1	3	3	5	2	1	3	5
	C	39	22,8	29	9	12	10	16	11	3	10	20
	D	17	9,9	10	7	2	4	11	3	0	4	13
	E	37	21,6	22	14	9	12	17	10	3	5	20
	F	12	7,0	7	5	3	2	6	4	1	3	5
	G	8	4,7	4	4	0	3	5	0	0	2	6
III.3	A	50	46,3	36	14	12	16	22	12	3	11	28
	B	7	6,5	6	1	3	2	2	2	1	0	5
	C	20	18,5	14	6	4	6	10	8	2	5	10
	D	31	28,7	17	14	5	10	16	5	3	7	18
III.4	A	28	30,4	15	13	7	4	17	8	1	4	17
	B	20	21,7	13	7	5	6	9	4	2	5	11
	C	8	8,7	4	4	1	3	4	2	0	0	6
	D	15	16,3	12	3	6	3	6	6	1	4	6
	E	17	18,5	13	4	2	8	7	3	0	4	13
	F	4	4,3	3	1	0	2	2	2	1	0	2
III.5	A	18	14,6	11	7	5	3	10	10	1	3	6
	B	42	34,1	28	12	10	11	21	6	3	11	28
	C	16	13,0	11	5	4	4	8	6	0	3	8
	D	0	0,0	0	0	0	0	0	0	0	0	0
	E	5	4,1	5	0	3	1	1	1	0	2	3
	F	29	23,6	22	7	7	8	13	8	3	8	12
	G	13	10,6	8	5	4	5	4	4	1	0	8

Source: own study.

On the basis of the collected data, it was established that regardless of the size of the enterprise's fleet of vehicles or the geographical range of the services provided, the price is of fundamental importance in the selection of a supplier of transport fuels (67.1% of the surveyed respondents). Also, a significant number of enterprises assessed the importance of the price on an equal footing with other terms of the transaction (29.1%). The importance of price when choosing a supplier is shown in Figure 2.

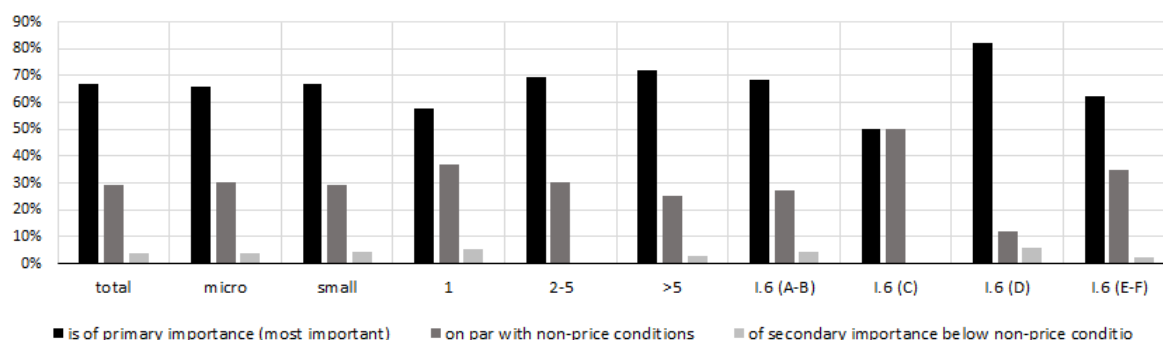


Figure 2. Measurement results: Importance of price when choosing a fuel supplier.

Source: own study.

As far as non-price factors are concerned, the most important among the surveyed enterprises were transaction conditions (indicated by 26.9% of the surveyed respondents), petrol station services (22.8%) and the number of petrol stations and their location (21.6%). In the case of small enterprises with more than 5 vehicles and operating outside the Podkarpackie Voivodeship, the importance of the factor of the geographical scope of the commercial offer was increasing. On the other hand, the secondary non-price factors include, above all: access to e-bok and the mobile application or the position and importance of the operator on the market. The importance of non-price factors when choosing a supplier is shown in Figure 3.

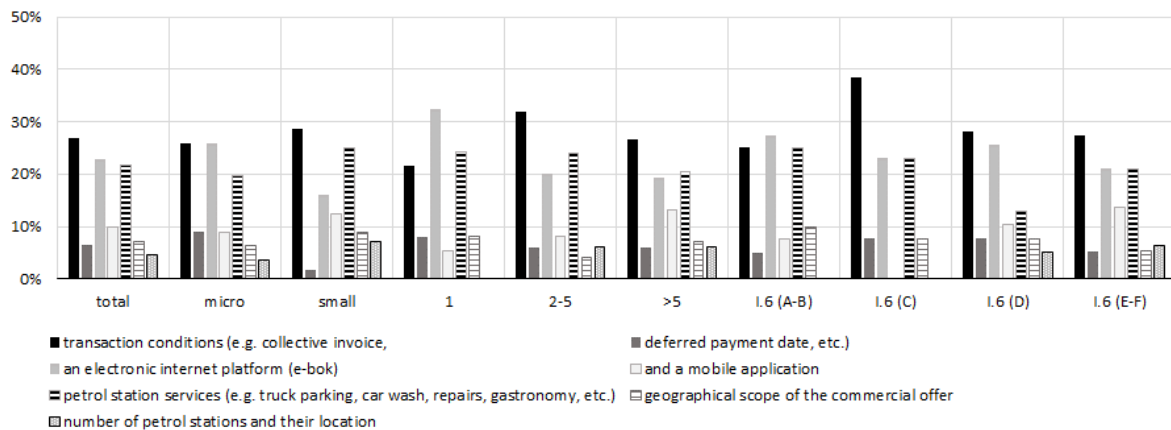


Figure 3. Measurement results: *Basic non-price factors when choosing a petrol station.*

Source: own study.

As part of the financial service of the transaction, the form of payment was of primary importance (indicated by 46.3% of the surveyed respondents), a collective invoice for a given period (28.7%) and an electronic invoice (18.5%). A secondary factor was the form of payment security. The importance of financial transaction support when selecting a supplier is shown in Figure 4.

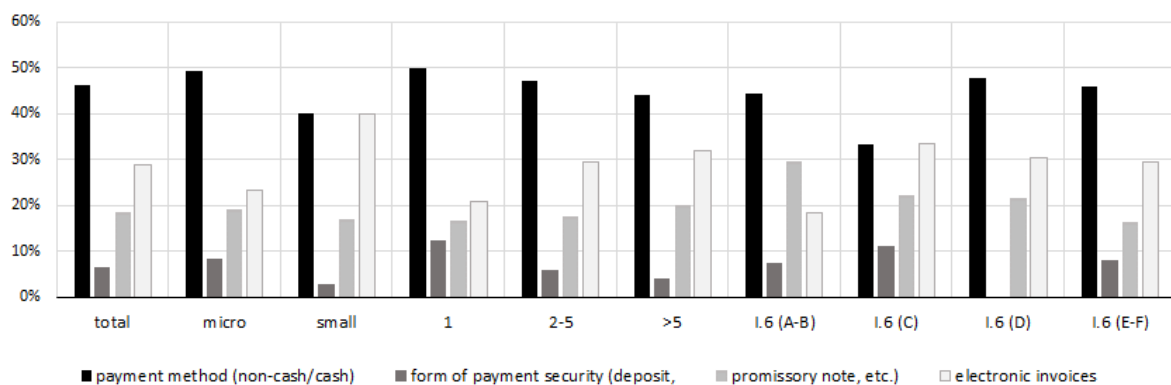


Figure 4. Measurement results: *As part of the financial service of transactions, the following are of primary importance when choosing a supplier.*

Source: own study.

Among the important factors related to the access and functionality of the e-book and the mobile application, the following were indicated: access to the history of sales transactions (indicated by 30.4% of the surveyed respondents) and access to e-invoices (21.7%). Additionally, the ability to pay road and parking fees (18.5%) and fast payment (16.3%) were also important. The importance of individual factors changed depending on the size of the enterprise, the fleet of vehicles owned or the geographical scope of the business. The importance of access to e-bok and the mobile application when choosing a supplier is shown in Figure 5.

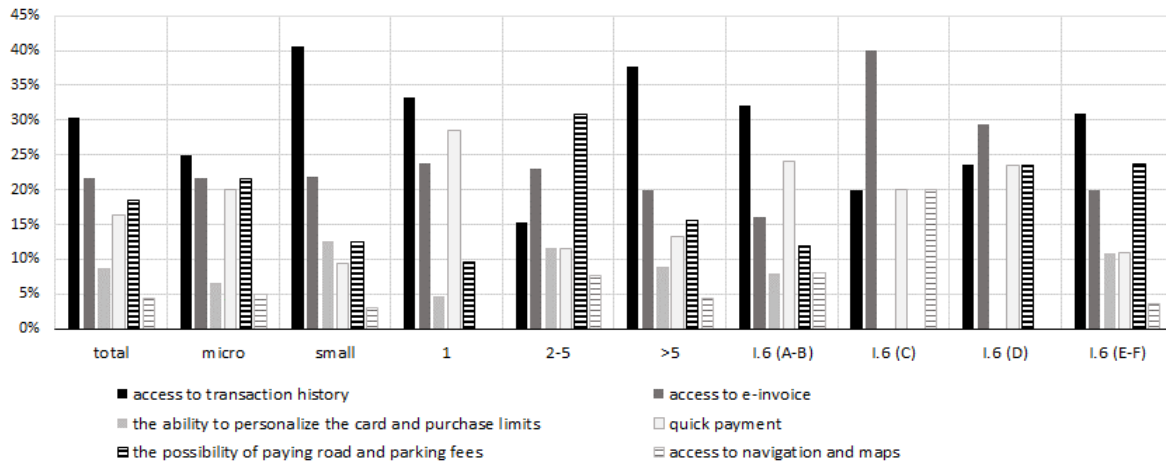


Figure 5. Measurement results: As part of access to e-bok and the mobile application, it is of fundamental importance when choosing a supplier.

Source: own study.

In the structure of services provided at petrol stations, the following were important: car park/TIR car park (indicated by 34.1% of the surveyed respondents) and car wash (23.6%). Other factors were secondary. The exceptions were enterprises providing their services only in the Podkarpackie Voivodeship, where the shop (28.6%) and the car wash (22.9%) were of primary importance. The importance of services provided at petrol stations when choosing a supplier is shown in Figure 6.

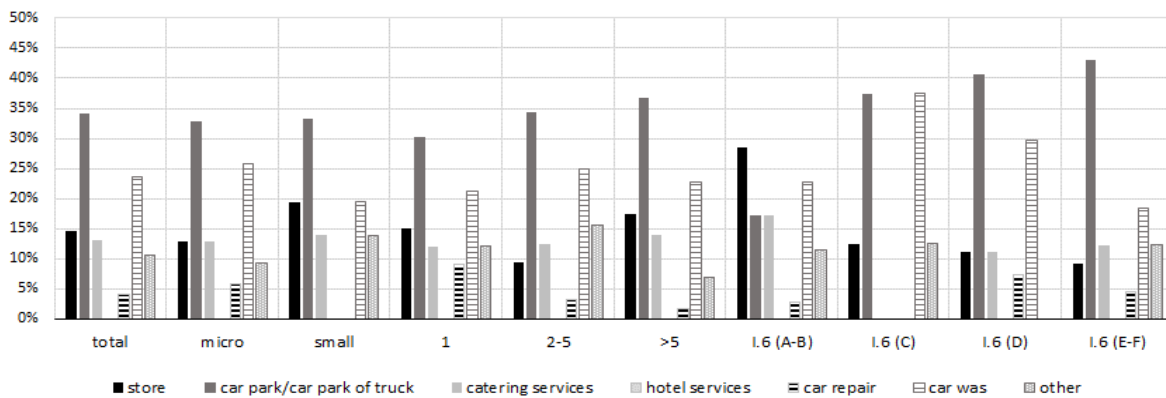


Figure 6. Measurement results: As part of the services provided at stations, the following are of primary importance when choosing a supplier.

Source: own study.

5. Conclusions

On the basis of the collected data and their analysis, the following factors determining the choice of petrol stations by micro and small road transport enterprises with their registered office in the Podkarpackie Voivodship should be indicated:

- dispersed purchase, the majority of surveyed enterprises (i.e. 80.7% of respondents) use the services of various petrol stations,
- linking the purchase, a significant part of recipients (i.e., 62.8% of the surveyed respondents) fill up their vehicles at petrol stations included in the commercial network,
- permanent form of cooperation, enterprises prefer cooperation with petrol stations based on permanent contracts (i.e. 59.3% of the surveyed respondents), the importance of a permanent form of cooperation changes depending on the size of the enterprise, the number of vehicles owned or the geographical scope of the activity,
- the main factor in the choice of petrol stations by the surveyed enterprises is the price (67.1% of the surveyed respondents),
- non-price conditions were a secondary factor in the choice of filling stations by the surveyed enterprises, in their structure the most important factors were: transaction conditions (including the form of cash and non-cash payment and a collective invoice for a given period), service stations (including car park/car park truck and car wash) and the number of petrol stations and their location,
- traditional form of cooperation, the surveyed enterprises did not show much interest in the possibility of using e-bok and access to the mobile application,
- In the case of the primary and secondary factors for the selection of service stations by the surveyed enterprises, the criterion of the size of the enterprise, the fleet of vehicles owned or the geographical range of the services provided does not indicate significant differences.

To sum up, the implementation of the topic and purpose of the research allowed to indicate the determinants of the choice of petrol stations by micro and small road transport enterprises, whose headquarters are located in the Podkarpackie Voivodship. The adopted research hypothesis was confirmed. In the article, the actions taken to achieve the progress of scientific knowledge 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 company. It should be emphasized that the presented research is the second stage of the research process, the main purpose of which is to indicate the scope and form of cooperation of a retail supplier of liquid fuels with a micro and small road transport company in the Podkarpackie Voivodship.

The main limitations and weaknesses in the implementation of the topic and purpose of the research include obtaining data from the surveyed enterprises. It should be recalled that only over 35% of the respondents who were contacted offered a response. And the measurement concerned enterprises located in 21 poviats from 25 Podkarpackie Voivodships. The main reason for the respondents' refusal to participate in the research was their time constraints. This has rarely been the reluctance of companies to share data. In addition, a major limitation in contact with the enterprise was the outdated contact details contained in the electronic database. However, what significantly enriched the research process was direct contact with the respondent. This gave the opportunity to obtain not only answers to the formulated questions, but also their justification.

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