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BUSINESS COMPANIES' FINANCING PECULIARITIES IN CONDITIONS OF SLOVAKIA*

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Abstract. Growth becomes one of the factors influencing a business's ability to obtain financial sources. Anyway, many SMEs still need help finding out finances for their business. The contribution deals with business financing in Slovakia, intending to find out what financing possibilities are not used and to offer a solution for the problematic financing. The paper aims to answer three research questions in business financing from the view of classical and modern financing, from the perspective of territorial structure and from the standpoint of the business's legal form. To find out the actual situation in business financing in Slovakia (selected as a representative of one of V4 countries having similar development), we used questionnaire research from talking companies from different sectors and legal forms of business. Consequent data was obtained from the official database of financial reports in Slovakia. The questionnaire results are used for cluster analysis with the Ward method. The research, orientated to financial source use, proved that internal sources present the most significant rate of business activities financing. The results suggested how to increase the effectiveness of business financing by considering modern financing forms.

Keywords: business financing; credit; leasing; risk capital; Slovakia

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JEL Classifications: D25, G32, L26

1. Introduction

Any company, either at the beginning of the business or during expansion, needs financial means for its activity. However, only some companies have sufficient finances to meet the needs of their activity; therefore, organisations seek funding sources. The prevailing part of the organisations is using a "traditional" external form

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of financing without regarding other, more convenient sources (St-Pierrrer et al., 2018). The main reason is primarily the conservativeness of the business and the need for more information about available opportunities.

According to van der Schans (2015), businesses' access to external finance can affect economic growth by facilitating increased business investment and productivity. Nguyen (2022) examined the relationship between financing strategies and firm investments. He showed that there was a relationship between informal financing and investments. In business practice, financing is related to various risks (Li, 2017). It is also necessary to manage potential financial risks to avoid bankruptcy rather than improve business financing possibilities (Li et al., 2018). Nguyen B. and Nguyen C. (2021) proposed that entrepreneurs should consider individual, organisational and institutional factors when selecting financial sources. As for the institutional factors, Herianingrum et al. (2019) found a long-term relationship between bank and business financing, which means that economic and business indexes affect each other in the long term. This shows a company that runs well will also contribute to the development of banking performance.

Presently organisations play a crucial role in the market. SMEs are an essential economic factor contributing to the Slovakian economy's considerable growth. Establishing the company and its development demands vast capital and, therefore, finding finances for its activities from different sources. The organisations use external funding sources besides internal ones, which must be available. Organisations need help finding funding during their growth, despite commercial banks' growing offers. Many organisations prefer credit and leasing, while financial sources can be obtained through various "modern" forms of special financing, providing numerous advantages compared with conventional credit and leasing.

The literature analyses the financing of the business from different points of view. Wu et al. (2008) studied the funding of small to medium-sized enterprises developing their business. The scientists suggested possible strategies and policies support SME financing. Cowling et al. (2012) searched how difficult it is to obtain financial sources during the recession of the economy, finding larger firms in England are more easily getting financial sources. Abor and Biekpe (2006) found a similar situation in Ghanaian SMEs sector conditions. They believed that support policies and other financing initiatives would help SMEs. According to Morozko et al. (2018) and Ding et al. (2017), challenges were associated with a small number of own funds and the difficulty of raising borrowed funds. Wille et al. (2017) found the financial crisis brought a need to increase owner equity as a primary source of small-business financing.

Due to SMEs' lack of financial sources, Lambert et al. (2018) suggested using crowdfunding and crowd-investing to shape business success. St-Pierre et al. (2018) found that the domestic collaborations of small and medium-sized enterprises (SMEs) enhance these firms' access to external financing. Schwienbacher (2014) spoke about difficulties in obtaining financial sources as a factor affecting the period of the business life cycle since a business with innovative ideas and high growth potential needs a higher volume of financial resources. Hyz (2011) searched for reasons restricting access to bank services to find future opportunities and threats for SME financing, which would ultimately affect the development of the economy. Lindstrand and Lindstrand (2010) found banks are the least-used source for SME business, mainly at the international level. Local banks are partners for SMEs doing domestic business. The other factor studied in business financing is making business in the city by minority communities. Bates and Robb (2016) found minority business enterprises (MBE) encountered difficulties with accessing finances due to the firm location and minority ownership, considered as risk factors. This causes discrimination by banks, limiting credit to MBEs. A capital-constrained producer should have a proper financing strategy to achieve better performance and alleviate financial difficulties (Li, 2017; Gao and Fang, 2022).

Su and Yuan (2013) focused on finding a solution to small businesses' financing dilemma and providing recommendations to improve the e-finance market. Nguyen (2019) investigated the importance of external

financing to small firms' reinvestments and found micro-enterprises and small firms value local governance arrangements and funding. Nguyen et al. (2018) found that SMEs responded differently to the incentives provided by local governance, and only higher-quality local administration positively influenced SMEs' performance.

SMEs have a strong information asymmetry, which exposes them to the risk of rationing, and cause turning to internal financing (as in the Pecking Order Theory). The literature does not sufficiently cover the relationship between financing decisions and business performance as regards business financing (Klieštík et al., 2020; Zhao et al., 2020, Musa et al., 2021).

The available research studies focus more on investigating individual factors in individual categories than on investigating their mutual relationships and their effects on elementary decision-making processes. Published research studies focus primarily on the influence of various factors on the overall success of business financing and not on the decision-making process itself. In addition, there needs to be more examination of differences in factors in research studies, as well as an examination of their influence and dependence. The data/data database quality is also a significant problem in decision-making processes. Other experimental methods, including observation of decision-making processes in a monitored environment, in-depth interviews, and exploration of group goals, can effectively eliminate limitations related to the use of secondary data. We want to take further research into this issue in this direction. A correct understanding of the results of decision-making processes requires examining not only individual factors and the overall success of business financing but also the entire decision-making process in its phases and examination of the influence of individual stages and the factors included in them. These consistent facts represent a significant research gap in SMEs, which have the greatest problems financing their business activity and were, therefore, the motivation for our research.

Following mentioned, the study of the financing patterns of Slovakian companies still needs to be studied. Therefore, the study's goal is to examine the funding of the Slovakian business using cluster analysis, which would allow us to find out what financing possibilities are not used and the solution to the problematic financing.

The paper aims to answer the three research questions of how business organisations in Slovakia use financial sources. Primary data is obtained from respondents via questionnaire; the second part of the research presents the determination and verification of the hypotheses, with consequent cluster analysis a) from the view of the territorial structure, b) from the view of the classical and modern form of financing and c) legal form of the business and resulting recommendations for financing improvement in SMEs.

2. Materials and Methods

The goal of the contribution is to classify sources of financing in Slovakia through cluster analysis, according to which we can find out why organisations are not using various financing possibilities. The necessary data are from official databases of financial reports in Slovakia. We used questionnaire research to find out the actual situation in business financing in Slovakia (Stankovičová and Vojtková, 2007).

The object of the search is SME organisations in all Slovakian regions. Slovakia was chosen to be one of the V4 regions, where we did a lot of research. We dealt only with SMEs since, in Slovakia, SMEs present 95% of the business. The long-term studies in this area are shown in previous publications (Gonos et al., 2018; Janošková et al., 2018).

The results are compared with those of other V4 countries – Czech Republic, Hungary and Poland. Such a comparison can contribute to the improvement of business development in V4.

According to the questionnaire, 89 organisations in the research realised their activity in Slovakia. The criterion for SME selection resulted from EU classification for SMEs, including all requirements, mainly the number of

employees and annual turnover. The survey period was October 2020-March 2021 when the respondents were requested personally and via Google Forms, according to the university's cooperation with companies from the business sphere. The Covid-19 situation worsened communication since many respondents worked via the home office.

The most prominent rate in the research belongs to SMEs. On the other hand, the study includes only a few big organisations and traders. From the view of legal form, the most significant rate belongs to limited organisations (78%) and traders (13%). Most organisations are from region Zilina 16.8% and Nitra 15.7%. The minority of the organisations participated in the research from region Trenčín 10.1% and Banská Bystrica 9%. The most considerable number of organisations according to the sector belongs to the industry area with 29.2%, and the rate of organisations orientated to construction presents 22.5%. On the other hand, organisations orientated to catering and accommodation or transport, information and communication delivered only 5%.

According to the research, we performed the determination of the hypothesis in the study:

- 1) More than 50% of small organisations did not use any modern form for their activity financing through external sources.
- 2) More than 60% of organisations use exclusively internal sources.
- 3) More than 10% of the organisations (orientated to the services) used one of the particular institutions through advisory or financial support.
- 4) More than 50% of SMEs consider corruption the biggest obstacle to their financial development.
- 5) More than 40% of Ltd. from the Bratislava region used credit as the external form of financing.
- 6) More than 15% of organisations doing business in construction used at least one source from a particular/modern form of financing as an external source.
- 7) More than 50% of micro and small businesses used leasing.
- 8) 10% of medium and big organisations used support from the EU through funds.
- 9) More than 50% of small organisations did not use support from the state through donations.
- 10) In the future, there will be interest in using external sources to finance the activity in less than 10% of organisations.
- 11) Organisations in various regions use different rates of their own and external source of financing.

The questionnaire was distributed online by placing it on the server www.google.sk, requesting respondents with 25 questions orientated to the characteristics of the business and its financing, as well as the plans for the future. Eighty-nine respondents participated in the research (from 860 respondents), representing a 10.34% return.

The respondents orientated to the business characteristics provided the following information. 63 % presented organisations doing business in the market for more than ten years, which means they have a stable market position; 25 organisations acted in the market yet 5-10 years – 28% and eight organisations realised their activity for five years – 9%. Due to the global economic crisis, legislation and other factors considerably influencing business activity, most organisations mentioned their situation is worsening – 52 organisations and 37 organisations said their condition was improving. Except for the local market, several organisations are also orientated to foreign trade – 47%, and only 53% act in Slovakia.

3. Results

The research, orientated to the internal sources of financing, proved that internal sources present the most significant rate of business activities financing.

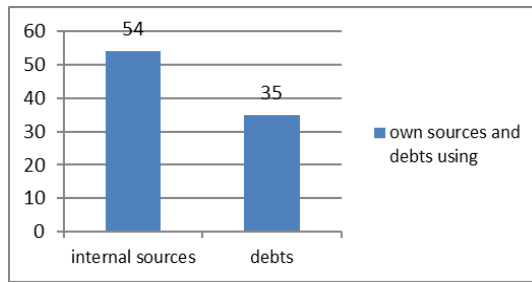


Fig. 1. Structure of the internal sources and debts in the company

According to Figure 1, 54% mentioned they realise their activity exclusively from internal sources and do not need to use debts; 39% use their internal activity resources and obligations. In the frame of internal sources, organisations use various possibilities. The highest rate belongs to self-financing from profit.

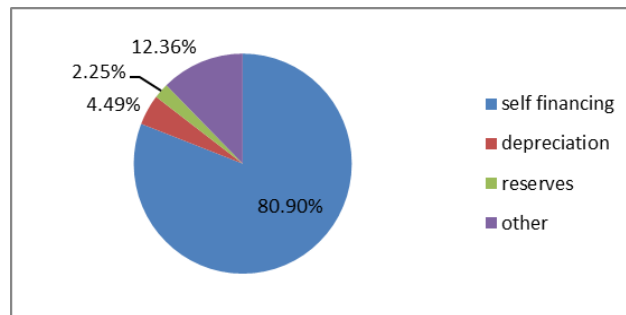


Fig. 2. Internal sources used in the company.

The responses show 81% use it as the most used form of internal financing self-financing, around 12% cover their needs from money release, around 5% of organisations covers their needs from depreciation and around 2% from reserves (see Figure 2).

Through the following questions, we determined if the organisations use bank credit as the primary external financing (Figure 3).

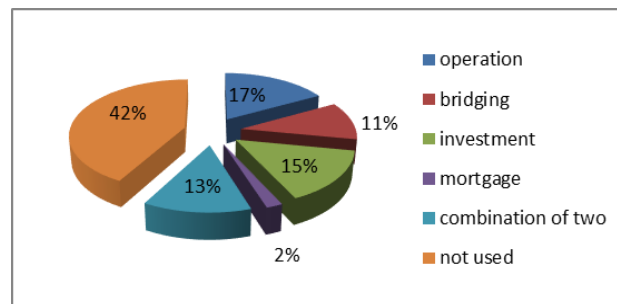


Fig. 3. Use of bank credit as an external form of business financing

Forty-two% responded to the question by the way they do not use bank credit, and 58% preferred this way of financing. This possibility uses 17% of respondents through operation credit, 15% use investment credit, 13% combination of two credits, 11% bridging credit and 2% through mortgage credit.

Figure 4 shows mostly – 56% of organisations use short-term sources, which means they do not need long-term liabilities. The following reason why organisations use short-term credits also presents a rapid lack of financial sources due to the unpredicted situation. They prefer short-term sources due to their higher availability compared to long-term sources. Fourteen % prefer long-term sources, and 30% use both forms.

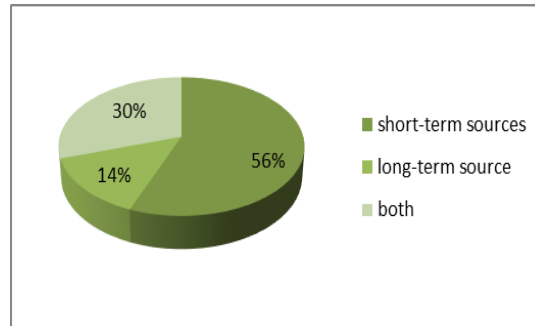


Fig. 4. Type of debts the company uses from the time view

Besides familiar external sources that the organisations can use, financing through leasing, factoring, franchising, and forfeiting is also available. Credit presents one of the most used ways of funding business activity from external sources; however, mainly respondents used leasing in the high measure since this source of funding has several advantages. 63% of respondents responded to the question regarding leasing using, 8.9% use operative leasing and 54% use financial leasing. The remaining 37.1% mentioned they do not use leasing (see Table 1).

Table 1. Leasing use in the company

Type of leasing	Number of respondents	% rate
Financial leasing	48	54
Operative leasing	8	8,9
Not used	33	37.1

Due to the fact these forms of external financing presently do not expand, 74% mentioned any of these forms use, 11% have skills with business credit, and 9% with suppliers credit. 1% of organisations used franchising and forfeiting, and factoring in 4%.

As for the external sources, we found out if the organisations also use modern forms of financing, such as tolling, mezzanine capital, private equity, etc. (Wu et al., 2007). Not many organisations know such forms of funding; most organisations have yet to hear about them.

There are several forms of innovative financing of small and medium-sized enterprises (SMEs) through venture capital, where the business angels belong (Majtan and Sinsky, 2014), playing an important role, especially in financing startups (Harel et al., 2022) (Table 2).

Table 2. The modern form of financing in chosen organisations

Form of financing	Number of respondents	% rate
Tolling	0	0
Mezzanine capital	0	0
Private equity	3	3.4
Risk capital	7	7.7
Project financing	24	27
Business angels	2	2.25
No, not heard	53	59.5

Of the chosen organisations yet 59.5% still needed to hear about modern forms of financing, 27% heard about project financing, 7.7% registered information about risk capital, 3.4% about private equity, and 2.25% about business angels (Figure 5). Has any of the companies heard yet about tolling or mezzanine capital? Organisations that heard about the possibility of finding out finances through modern financing did not decide to use this way – yet 22.2%, 19.4% used project financing and 2.8% used business angels.

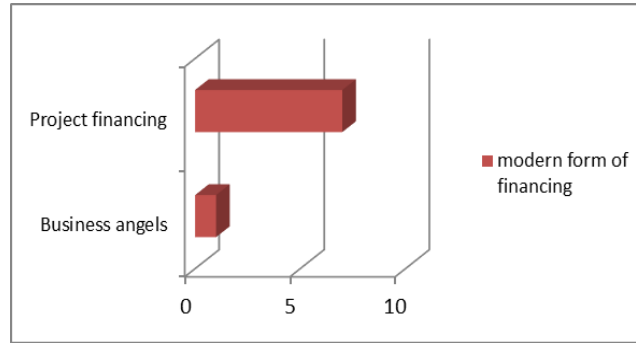


Fig. 5. Using modern forms of financing in the company

Any company needed to support its business by tolling, mezzanine financing, private equity, risk capital or another form of modern funding. The most common reason they had no interest in using current financing is not a necessity; 5.6% did not need this way due to good sources, and the other 5.6% required to learn this way of funding. The following reason why the organisations did not use this financing method is the owners' conservatism. On the other hand, the organisations that used this financing method decided to use this form due to the convenient conditions and the necessity to improve the business situation. A review of the reasons is included in Table 3.

Table 3. Reasons for using / not using the modern form of business financing

Reasons for not using	Number of respondents	% rate
Not necessary	21	23.6
Internal decrees do not allow it	1	1.1
Great risk	1	1.1
Problems with financing through banks	2	2.25
Less information	4	4.5
Big investment in new projects	3	3.4
Modern forms present a burden	1	1.1
Do not know the methods	5	5.6
Credit burden	1	1.1
Sufficient own sources	5	5.6
We are part of the concern, providing the financing	1	1.1
Not interesting	4	4.5
The owners are conservative	2	2.25
The credit is sufficient	2	2.25
They are not a common form of financing	5	5.6
We invest only after profit earning	2	2.25
Not mentioned	25	28.1
Reasons for using	Number of respondents	% rate
Convenient conditions	3	3.4
To improve the business situation	1	1.1

Except for particular and modern financing methods, state support is also possible. Presently 83% did not need and had no interest in using state support. 15% had an interest in state support through a donation, 1% had an interest in using free economic advisory, and 1% used interest-free credit or credit with decreased interest rate.

Except for state support, specialised institutions provide financial support through advisory, information services or finances.

Eighty-eight % responded that they did not use cooperation with particular institutions, and 12% preferred this way of financing. Instead, a small number of organisations – 8% had an interest in using services from SZRB bank, 2% from Agency NARMSP and 2% from Exim bank. Despite European Union providing irreversible funds, which could cover yet 90% of the business project, 89% of the organisations did not use this way (Figure 6). The remaining 11% were interested in EU support, while all 11% had a claim of structural funds and any company using aid from the cohesive fund.

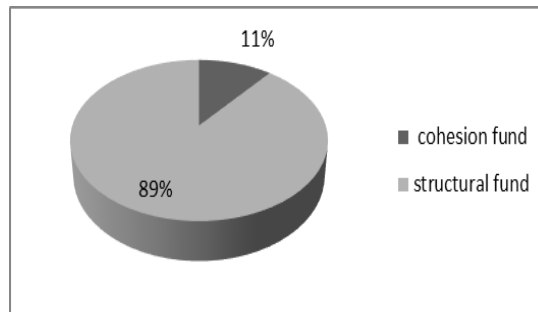


Fig. 6. Use of EU support

Statistical verification of the hypotheses helped to verify them through two chosen tests – a single selection test of the rate conformity and Fisher exact test. During the verification by single selection test, we came to the following conclusions: the level of importance is determined as: $\alpha = 0.05$, Zero hypothesis $H_0: p=p_0$, Alternative hypothesis $H_A: H_{A1}: p \neq p_0; H_{A2}: p > p_0; H_{A3}: p < p_0$

I. Hypothesis

Statement: More than 50% of SMEs still need to start using the modern way of financing. Verification: SMEs rate that use the current form of funding. According to $H_0: p=0.5, (H_{A1}: p > 0.5)$ H_0 is rejected on behalf H_{A2} . After verification by a single selection test, more than 50% of SMEs were not interested in using any modern financing method.

p0	TK	Kh	Conclusion
0.5	5.6	1.96	H_0 rejected on behalf H_{A2}

The table concludes that $TK > Kh; p > p_0$, which means the statement about SMEs using modern financing is true. The research hypothesis is confirmed.

II. Hypothesis

Statement: More than 60% of organisations use internal sources to finance their activity. Verification: Rate of the organisations using internal sources. Due to the $H_0: p=0.6, (H_{A1}: p \neq 0.6)$ H_0 is not rejected. According to the verification, it is impossible to state solidly that most organisations use their internal sources of financing exclusively.

p0	TK	Kh	Conclusion
0.6	0.1	1.96	H_0 is not rejected

A statement that over 60% of organisations use their internal sources is untrue since $TK < Kh$ and $p_0 > p$. The research hypothesis is not confirmed. The estimated rate of the organisations presenting the given statement is $<47; 74>$ %.

III. Hypothesis

Statement: more than 10% of organisations use special institutions' support through advisory or financial aid. Verification: the rate of the organisations using services of the particular institutions. According to $H_0: p=0.1$, ($H_{A1}: p > 0.1$) H_0 is not rejected. After verification, there is possible to state that more than 10% use support from particular institutions presently.

p0	TK	Kh	Conclusion
0.1	2.2	1.96	H_0 is rejected on behalf H_{A2}

The table concludes that $TK > Kh$ and $p > p_0$, which means the confirmation that more than 10% use support from the particular institution is true. The research hypothesis is confirmed.

IV. Hypothesis

Statement: more than 50% of SMEs consider corruption the biggest obstacle to business development from the view of financial availability. Verification: SMEs rate considering corruption as the biggest obstacle to business development. H_0 is not rejected according to $H_0: p=0.5$, ($H_{A1}: p \neq 0.5$). After verification, there is not possible to state that more than 50% of SMEs consider corruption the biggest obstacle to business development.

p0	TK	Kh	Conclusion
0.5	-2.9	1.96	H_0 is not rejected

The results of the table illustrate that $TK < 0$ and $p_0 > p$, which means the statement that more than 50% of SMEs consider corruption the obstacle cannot be regarded as accurate. The research hypothesis is not confirmed. The rate of the organisations that, according to the estimation, present this statement is $<18; 44>$ %.

V. hypothesis

Statement: more than 40% ltd. in region Bratislava used in past time credit. Verification: the rate of ltd. in area Bratislava that used yet the credit. Due to the $H_0: p=0.4$, ($H_{A1}: p \neq 0.4$) H_0 is not rejected. After verification, there is not possible to state that most Ltd. in the Bratislava region did use credit as the external source of financing.

p0	TK	Kh	Conclusion
0.4	0.6	1.96	H_0 is not rejected

According to the results of the table, it is evident that $TK < Kh$ and $p_0 > p$, which means the statement that more than 40% ltd. In the region, Bratislava did use credit is not true. The research hypothesis is not confirmed. The estimated rate of the organisations that belong to the given statement is $<30; 57>$ %.

VI. Hypothesis

Statement: more than 15% of organisations doing business in construction did use a special form of financing. Verification of the rate of construction organisations that used a particular financing form. According to $H_0: p=0.15$, ($H_{A1}: p \neq 0.15$) H_0 is not rejected. After verification, there is not possible to state that more than 15% of construction organisations use a special form of financing. The hypothesis is not rejected.

p0	TK	Kh	Conclusion
0.2	1.9	1.96	H0 is not rejected

It is evident from the table that $TK < Kh$ and $p0 < p$, which means the statement cannot be considered true. The research hypothesis is not confirmed. The estimation of the organisations' rate, belonging to the given statement, is $<17; 43>$ %.

VII. Hypothesis

Statement: more than 50% of SMEs did use leasing. Verification: the SMEs rate, which used leasing. Due to the $H0: p=0.5$, ($H_{A1}: p \neq 0.5$) $H0$ is not rejected. According to the verification, there is not possible to confirm that more than 50% of SMEs use leasing as the external form of business financing.

p0	TK	Kh	Conclusion
0.5	1.9	1.96	H0 is not rejected

It is evident from the table that $TK < Kh$ and $p0 > p$, which means the statement is not valid. The research hypothesis is not confirmed. The organisations' rate in this estimation is $<48; 75>$ %.

VIII. Hypothesis

Statement: more than 10% of SMEs did use support from the EU. Verification: the rate of organisations using EU support. According to $H0: p=0.1$, ($H_{A1}: p \neq 0.1$) $H0$ is not rejected. After verification, there is not possible to state that more than 10% of SMEs used EU funds.

p0	TK	Kh	Conclusion
0.1	0.7	1.96	H0 is not rejected

The table results that $TK < Kh$ and $p0 > p$, which means that the statement that most SMEs used EU support is invalid. The research hypothesis is not confirmed. According to the estimation, the organisations' rate of having the statement is $<5; 25>$ %.

IX. Hypothesis

Statement: More than 50% of small organisations did not use the donation as an irreversible form of state support. Verification: the rate of the organisations that used donation as irreversible state support. According to $H0: p=0.5$, ($H_{A1}: p > 0.5$) $H0$ is rejected in favour H_{A2} . After hypothesis verification, it is possible to state that more than 50% of small organisations did use state support.

p0	TK	Kh	Conclusion
0,5	4,1	1,96	H0 rejected on behalf HA2

It is obvious $TK > Kh$ and $p0 < p$, which means the statement 50% of small organisations did not use state donation is true. The research hypothesis is confirmed.

X. Hypothesis

Statement: less than 10% of organisations will have an interest in the future and claim to use some external sources for financing their activities. Verification: the rate of the organisations that plan to use some external forms of financing in the future. According to $H_0: p=0.1$, ($H_{A1}: p>0.1$) H_0 is rejected in favour H_{A2} . After hypothesis verification, it is possible to state that less than 10% of the organisations plan for future external financing use.

p0	TK	Kh	Conclusion
0.1	2.2	1.96	H_0 rejected on behalf H_{A2}

It is obvious $TK>Kh$ and $p_0<p$, which means the statement that less than 10% of the organisations will have an interest in the future in using any external form of financing is true. The research hypothesis is confirmed.

During the hypothesis verification by Fisher's exact test, we made the following conclusions:

The level of importance is $\alpha = 0, 05$. Zero hypothesis: $H_0: p_1=p_2$ – both groups have the same opinions. Alternative hypothesis $p_1 \neq p_2$: $H_1: p_1>p_2$; $H_2: p_1<p_2$. According to Fisher's exact test, the results of the two questions are answered from the view of two groups.

XI. Hypothesis

Statement: organisations use internal and external sources of financing in different measures.

1st group presents SMEs from the Zilina region

2nd group presents SMEs from the Trnava region

Table 4 illustrates the results of respondents' responses about internal financing.

Table 4. Groups of SMEs according to internal financing

Does the company use exclusively internal financing for its activity?	yes	others
1st Group	5	5
2nd Group	2	6

hypothesis	p-value
$H_1: p_1>p_2$	0.9434
$H_2: p_1<p_2$	0.2782
$H_3: p_1=p_2$	0.3665

According to the statistical verification of the hypothesis, H_0 is rejected. The hypothesis holds that the first and second groups have the same answers against the alternative hypothesis ($H_1: p_1 > p_2$). The first group, presented by SMEs in the Kosice region, has more respondents, answering the question positively compared with the second group, presented by SMEs in the Bratislava region.

1st group – SMEs in the Zilina region

2nd group – SMEs in the Trnava region

Table 5 illustrates the results of respondents' responses about credit use.

Table 5. Group of SMEs according to credit use

Did the company use the possibility to obtain credit in the past time?	yes	others
1st Group	7	3
2nd Group	4	4

hypothesis	p-value
H1: $p_1 > p_2$	0.9118
H2: $p_1 < p_2$	0.3522
H3: $p_1 = p_2$	0.6305

After hypothesis verification results H_0 is rejected. The hypothesis holds the statement first, and a second group of organisations have the same answers against the alternative hypothesis ($H_1: p_1 > p_2$). According to the mentioned, the first group, presented by service organisations, answered more organisations to the question positively than the second group, offered by production organisations. After previous calculation and analysis, we can state that in the frame of previous queries, the hypothesis had been confirmed – mainly H_1 ($H_1: p_1 > p_2$), which means that the statement that organisations in different regions use different financing for their activities can be considered as a true. The research hypothesis is confirmed.

Data analysis is applied to the hierarchic cluster analysis. The advantage of such research is that we can know ahead of the resulting number of clusters. According to the individual objects gradually clustering, the number of clusters will decrease after all groups are connected to the single unit.

Table 6. Review of hypothesis and their verification

No	Hypothesis	Verification
I.	More than 50% of SMEs used a different way of financing.	confirmed
II.	More than 60% of organisations use internal sources to finance their activity.	rejected
III.	More than 10% of organisations that use special institutions support by way of advisory or financial support providing	confirmed
IV.	More than 50% of SMEs consider corruption the biggest obstacle to business development from the view of financial availability.	rejected
V.	More than 40% ltd. in region Bratislava used in past time credit.	rejected
VI.	More than 150 organisations doing business in construction did use a special form of financing.	rejected
VII.	More than 50% of SMEs did use leasing.	rejected
VIII.	More than 10% of SMEs did use support from the EU.	rejected
IX.	More than 50% of small organisations should have used donation as an irreversible form of state support.	confirmed
X.	Less than 10% of organisations will be interested in using some external sources to finance their activities.	confirmed
XI.	Organisations use internal and external sources of financing in different measures.	rejected

The goal of the cluster analysis had been to find business financing in SMEs according to the respective financial sources, as well as according to the geographical point of view and from the legal form of business.

During the analysis of the results from the questionnaire research, the Ward method is used to measure the similarity of the responses of the selected file with 89 respondents by Euclidean distance. After the creation of cluster analysis according to the general characteristics results, all companies are divided into the nine clusters that are the most similar inside and the least alike. Dendogram illustrates 89 companies, from which it is evident that at any level of the distance, there is a significant decrease, which means the similarity of the companies is not increasing significantly. The numbers in the clusters present the number of respondents.

The first cluster (red colour) presents limited companies active in foreign trade, and their situation is improving. They exclusively use their internal finances for the activities. Such companies did not use any external sources of financing.

The second cluster (green colour) presents medium-limited companies active in foreign trade. Their situation is presently improving. Any of them use external financing by bank credit or another external source.

The third cluster (blue colour) is created from SMEs – limited companies acting in the market for over five years. Any of the companies use external financing.

The fourth cluster (orange colour) includes micro and small companies – limited companies from the area of services, acting in the market for over five years, preferring short-term external sources by leasing.

The fifth cluster (mint colour) - is small traders and micro companies from the area of services with over five years of activities. According to the activity results, their situation worsens; the companies need to be more active in foreign trade and use their internal sources exclusively.

The sixth cluster presents SMEs (purple colour), joint stock companies, primarily production companies, acting for over ten years in the market. Their situation is worsening, and they use external sources by way of credit and leasing.

The seventh cluster (yellow colour) is created by small limited companies from the area of services, doing business for over five years that already used external financing through credit and leasing. Still, they are interested in using something other than modern or unique ways of financing.

The eighth cluster SMEs (turquoise colour) - are limited companies orientated to the business services and construction that have been at in over five years at the market. They use external sources – credit and leasing, but also one of the modern forms of financing. Their common sign is interest in using particular institutions for support of their business by way of advisory or financing providing.

The ninth cluster (pink colour) presents small production companies in the agricultural sector, forestry and fishery, acting over ten years at the market when using credit and leasing as external financing. The following common sign of these companies is that in the past, they used financial support from the state by way of donations.

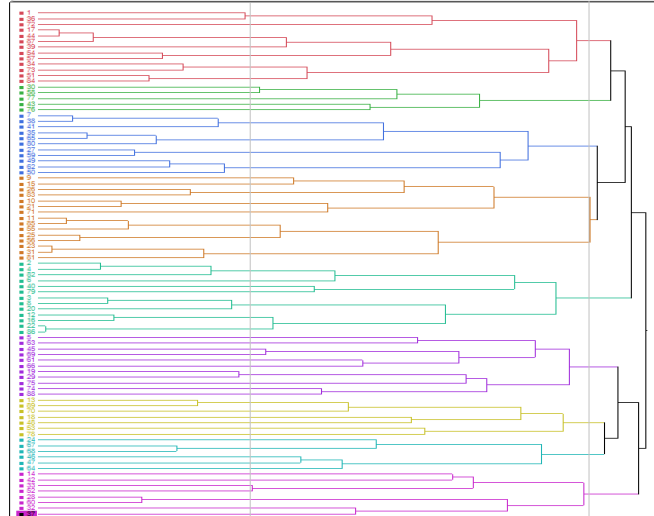


Fig. 7. Hierarchic cluster analysis of the companies in Slovakia after general characteristics

Source: own processing in JMP

Through the creation of cluster analysis according to the internal sources, using the study is in the following dendrogram. According to the results, there are 6 clusters. Every cluster includes companies, mutually similar and on the other hand, they are different from other clusters.

The first cluster (red) presents small companies whose situation is gradually improving. The companies are active in foreign trade.

The second cluster (green colour) presents small, limited companies planning to extend their activity by other branches.

The third cluster (blue colour) is presented by production SMEs, using mostly internal forms of financing.

Micro companies acting in Košický create the fourth cluster (orange colour). They use internal sources and are not interested in any external forms of financing in the future.

The fifth cluster (mint colour) presents small limited companies acting in services.

Micro companies - limited companies acting in the market over ten years - comprise the sixth cluster (purple colour). They have good internal sources for their activities and are not interested in using any external financing method.

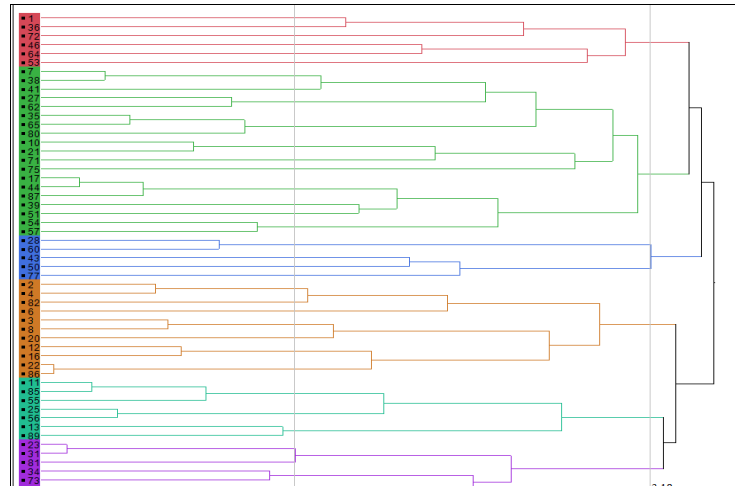


Fig. 8. Hierarchic cluster analysis of the companies, according to the internal sources using
Source: own processing in JMP

Four clusters are rising through clustering according to the criteria companies use for their activities and external ways of financing.

The first cluster (red colour) presents medium companies acting for over ten years in the market, using external financing sources by leasing. Still, they do not plan to use any other ways.

The second cluster (green colour) created by SMEs, acting over five years at the market, did use external financing through credit and leasing in the past, but any special form of external funding.

The third cluster (blue colour) presents SMEs - limited companies. The companies used external financial sources through credit and leasing but had no interest in other external sources.

The fourth cluster (orange colour) presents small production companies acting for over ten years in the market. The primary external sources for the financing are state support by donations and EU funds.

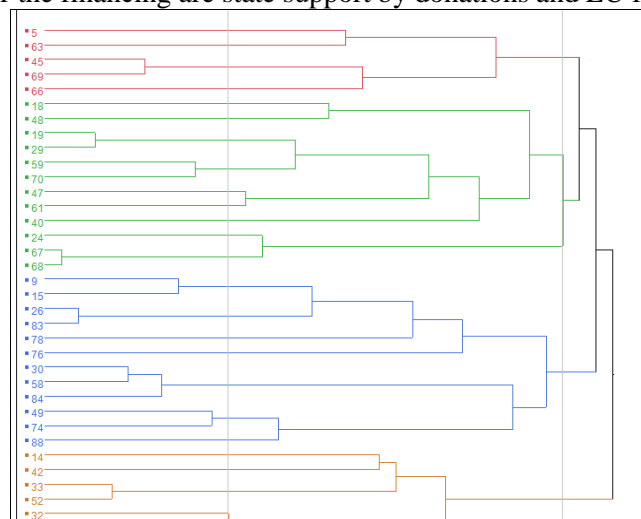


Fig. 9. Hierarchic cluster analysis of the companies, according to the external financing use
Source: own processing in JMP

Nine clusters appear through cluster analysis in the companies from the view of a special form used to finance business activities.

The first cluster (red colour) presents micro and small limited companies that act in the area of business. The companies were only interested in using any special form of external financing.

The second cluster (green colour) presents micro and medium limited companies from the construction sector in the region Nitrianský and Prešovský. The companies were not interested in the particular form of external financing.

The third cluster (blue colour) presents medium limited and joint stock companies from the construction sector. All companies used at least one of the special forms of external financing in the past.

The fourth cluster (orange colour) consists of SMEs from the region Bratislavský and Trnavský, doing business in the industry where any company is interested in special external financing.

The fifth cluster (mint colour) consisted of medium limited and joint stock companies from the industrial sector, when the majority used external financing through special financial sources.

The sixth cluster (purple colour) presents micro and small limited companies; when that was all interested in using special external financing.

The seventh cluster (yellow colour) presents micro companies and small traders. The companies do business in the region Košický; in the past, they were not interested in particular external financial sources.

The eighth cluster (turquoise colour) presents SMEs' limited companies when using external sources of special financing of the business in the past.

The ninth cluster (pink colour) presents small businesses with influence in Nitrianský. They are from the industrial sector when a most used unique form of external financing.

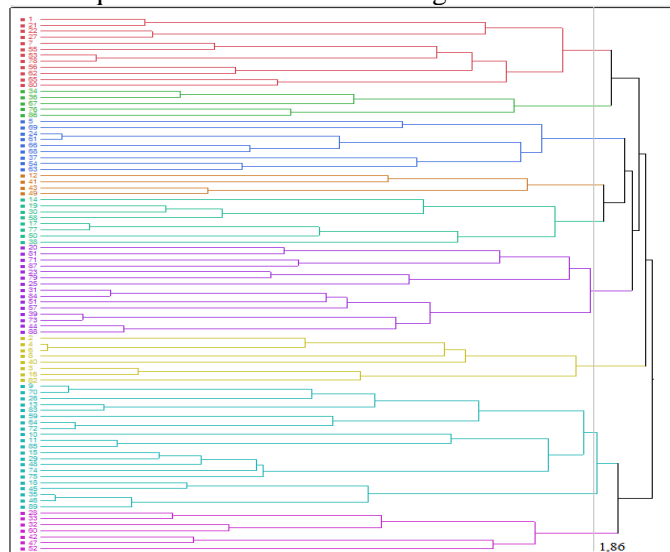


Fig. 10. Hierarchic cluster analysis of the business according to the special form of the financing
Source: own processing in JMP

From the view of modern financing use, nine clusters consist of the companies:

The first cluster (red colour) presents micro and small limited companies. Any company did use the modern form of external sources.

The second cluster (green colour) presents micro and small limited companies using in past time one of the modern forms of external financing.

The third cluster (blue colour) consists of micro and medium industrial companies doing business in the industry. Now they need an external form of financing using modern forms.

The fourth cluster (orange colour) consists of small limited companies doing business in the western part of Slovakia that were not interested in any modern form of external financing in the past.

Micro companies and small traders acting in the region Košický create the fifth cluster (mint colour). The companies did not use external financing by way of modern form.

The sixth cluster (purple colour) presents limited micro companies in services, using something other than modern external financing.

The seventh cluster (yellow colour) presents SMEs' limited companies from the area of construction, which did not have interest in external sources from modern forms of financing.

SME production companies in the Nitrianský region, which did not use modern external resources, created the eighth cluster (turquoise colour).

The ninth cluster (pink colour) consists of small companies (limited companies) and traders from the area of service. Only at present did they use any modern form of external financing.

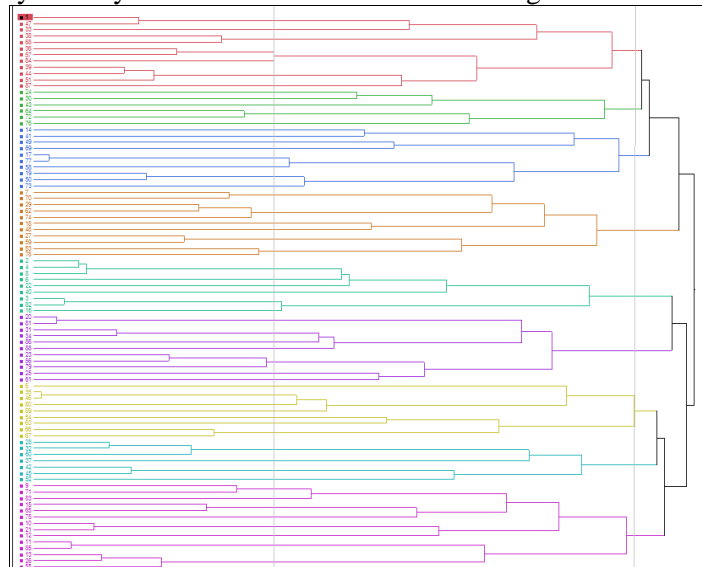


Fig. 11. Hierarchic cluster analysis of the companies, according to the modern external financing

Source: own processing in JMP

According to the previous analysis with the primary orientation to the financing of the Slovakian business, we can find answers to the questions regarding which financial sources are used or not, together with a determination of the reasons for not using some financial sources. The exciting finding is that despite the broad possibilities, companies vastly prefer in the present time mostly the same financial sources. Most companies use internal sources – 61%, which is positive. Companies with a shortage of internal sources are trying to find external sources. Through questionnaire research, we found out the companies prefer mostly bank credit. Yet 58% of the companies did use bank credit. The main reason is that bank credit is the most available external source. The main advantage of bank credit is that companies with negative economic results could also obtain the credit. Leasing seems to be also a significant external source of business financing. Still, more and more companies – 63% did use already leasing. The reason could be leasing supports cash flow, not demanding working capital. At the same time, leasing could save money for the owner. The other special sources and modern forms of external financing are preferred only by the low rate of the companies. The companies mentioned that the primary reason was the shortage of information.

4. Discussion

The key result of the paper is a comprehensive approach to the practical use of creating clusters and, based on them, deciding on the evaluation and selection of an effective form of financing. The other results show low use of a modern form of financing, such as factoring and forfeiting, which still need to be used in Slovakia; Organisations in Slovakia use minimally modern forms for funding, and despite their advantages, they are present only on a theoretical level. The reason is, the organisations mentioned have the conservative behaviour of the owners, as well as insufficient information on these forms of financing. Some organisations consider this a primary source for not using these forms in timely and administrative demand, as well as corruption. Yet also, successful organisations must face various appeals while entering the local and national capital market. The key is a balance between credit financing and other external sources used. The research showed that SMEs acting in the market over five years use mostly external sources, credit, and leasing. Medium-limited organisations working in the area of construction use mostly particular forms of financing. Modern forms are preferred only in micro and small limited organisations, which use one of the available instruments.

Many other authors are presently solving the task of business financing since the issue is topical due to the demand for financial resources. Organisations have to use external sources since internal ones are limited. According to Titman and Wessels (1988), Drobetz and Fix (2005), preference for external sources is related to the scale of the business. The bigger the company, the higher the rate of external sources is needed; while searching for external sources, the companies encounter information asymmetry.

Harris and Raviv (1988) claim that business volume and assets structure matter. The more tangible assets the company have, the higher indebtedness.

If organisations want to be competitive, they must permanently develop and innovate, increasing invested financial sources (Doroshenko et al., 2016).

According to Farinós et al. (2022), the position of the managers' tasks in the company and their opinions on business financing is also important to study. Moreover, cash management can help improve the business's financing (Latorre and Ángel, 2022).

During the pandemic, To et al. (2022) studied the influence of COVID-19 on the financial markets and found different impacts and possibilities to find finance in the financial markets (see Baker et al., 2020; Mura and Buleca, 2012).

Compared with the literature, the paper's novelty is that Slovakia, as part of V4, presenting post-communist countries, has slow onset on the modern form of financing compared with well-established EU countries, showing the necessity to speed up this transformation. Since the research is orientated toward SMEs, which typically lack financial management specialists, the results provide valuable information needed for the SMEs' management quality enhancement.

5. Conclusions

Business financing will be a permanently up-to-date and essential theme since an effective economy with capital and obtaining financial sources are vital for the business. Organisations should decide which source is the proper, contributing to the expected goal and benefit. Organisations can be very successful if they manage rational treatment with financial resources. Presently, most startups and organisations that have been acting in the market for a long time need help to finance their future growth. Membership of Slovakia in the EU brought several advantages and higher measures of competitiveness.

In the frame of the contribution, we found out the organisations finance their activities primarily from internal sources, which can present a significant advantage on the one hand against the organisations that use mostly external sources. Small organisations generally have a lower rate of external sources. The bigger the company, the higher rate of external sources for financing used due to better debt diversification. The bank institutions consider such organisations less risky, and therefore, credit resources are more available. Despite the significant number of financing possibilities, most organisations prefer "old" known financing methods through banks. Presently bank financing is the most important source for obtaining financial means. Organisations, which also use external financing, vastly prefer credit. Due to the liability for a more extended period, they prefer mostly short-term sources, which are more available for the business. Presently, financing through leasing is increasingly attractive when the main advantage is cash-flow support. A majority of organisations prefer financial leasing. Due to the fact the analysed organisations produce a sufficient measure of profit, their creditability is higher, and they are less risky for the bank institutions. Even though many authors have an idea that organisations prefer external sources following their volume, it is necessary to mention that more than the company's size, it is a decisive factor in using external sources; hence, a proper financial strategy is crucial. Qualitative elaboration of the company's financial strategy presents a significant indicator influencing the company's financial result. Improper planning could lead the business to bankruptcy.

The results of the study will be a valuable platform not only for all interested actors of traditional approaches but also for creators of financial policies and business policies, as well as creators of national and regional development strategies to support the development of the business environment and thereby increase national and international competitiveness. The study's results will also support the building of a platform for the future implementation of other comparative analyses on this issue.

Since the present research is limited to any representative of the analysed companies, not orientated to the respondent position in the company, the task of the future possible analysis is to differentiate the results according to respondents' assignments. It means studying the different opinions of the shareholders, managers, employees, etc., as well as considering the gender of the respondents. Moreover, the presented research was during the pandemic; therefore, future research can be orientated to the business-financing situation after the pandemic with a consequent comparison of the results and the situation in other countries or regions.

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