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The resilience of Romanian companies in the context of the COVID-19 pandemic: Relevant experiences and good practices

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ABSTRACT

The increasing number and diversity of crises in the world economy, both at the macroeconomic and the microeconomic level, justify the consistent theoretical and practical concerns regarding resilience. Our paper aims to evaluate Romanian companies' resilience by investigating the way they addressed the recent pandemic crisis. More concretely, our research is focused on identifying the most important crisis affecting each company and its industry. We analyze their impact on the firm's activity and performance, identify the perceived factors that could help the company to overcome the crisis, and investigate the efficiency of the measures implemented by the Romanian companies in order to overcome the most significant crises they faced. To achieve our research objectives, we conducted in-depth interviews on a sample of 63 respondents who are decision makers in their companies (entrepreneurs, managers, administrators, sales directors, and brand managers), and we used the interview guide as a research instrument for collecting the relevant qualitative data. The main results indicate that the most important crisis affecting these companies are related to issues in their specific field of activity (such as legal regulations, political factors), general country characteristics (socio-demographic or legislative factors) and global factors (such as a global economic crisis, the recent COVID-19 pandemic). These crises affected the firms on the financial, organizational, and marketing levels, but most of the analyzed companies found different ways to adjust and to overcome the crisis. The results are all the more important, as there is a lack of studies on how companies reacted to the recent pandemic in emerging economies, especially in Romania, in order to identify best practices and relevant experiences for potential future crises.

1. Introduction

In recent decades, the analysis of systems' dynamics has become an important research problem in not only biology, ecology, sociology, but also increasingly in social sciences and, especially in economics and business administration. The study of the complexity of socio-economic systems obviously involves the analysis of their ability to adapt or their flexibility to variations in the

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factors that influence them or the conditions that affect their performance. Due to growing and intense challenges, from humanitarian or security crises to political and financial crises, the analysis of the dynamics of economic systems, including in terms of risk management, resilience, and business continuity, has become a topic increasingly addressed in the literature [1,2].

The study of economic resilience is carried out in relation to a crisis, with its appearance having a significant negative impact on a company, on a sector of activity, on a region or on the entire national economy. Beyond their extremely diverse nature, possible crises with potential economic impacts can be grouped into five main categories: economic, environmental, geopolitical, societal, and technological [3]. More specifically, several criteria are proposed for assessing these crises, based on the effects they generate. These include: duration (*temporary* or *long-term* crises), symmetry (*symmetrical* crises, with similar impact; or *asymmetric* crises, with different impacts); spatiality (crises with *local*, *regional*, *national,* or *global* impact), etc.

To underline the magnitude of the complexity of the effects of the various crises, we can consider the situation at the beginning of 2022: the security, political and economic crisis generated by the Russian-Ukrainian conflict, which overlapped (in time and space) the effects of the crisis related to the COVID-19 pandemic, in the context of a general and global energy crisis, with a huge impact on economic growth and macroeconomic stability.

The aim of this paper is to investigate some relevant aspects related to the resilience of Romanian companies facing the recent COVID-19 pandemic. The research questions formulated subsequently in our research objective are.

Q1: Which are the most important crises affecting each company of our sample and its industry?
Q2: Which was the perceived impact of the previous crises on the analyzed companies?
Q3: Which are the perceived factors that could help a company overcome a crisis?
Q4: How efficient were the measures implemented by the Romanian companies of our sample in order to overcome the problems caused by the pandemic?

This research framework can be considered relevant in order to emphasize the specificity of the pandemic when referring to the previous major crises faced by the companies, in the context of an emerging post-transition economy, Romania, which is a relevant case study for this type of economy. We should not neglect the potential positive impact of this study in identifying and underlining good practices and relevant experiences for entrepreneurs and managers who would be interested to integrate resilience plans in their business strategies.

The article consists of the following sections: Literature Review, Research Methodology and Data, Research Results, Discussions, and Conclusions.

2. Literature review

2.1. Resilience - a conceptual approach

The most common definition of resilience refers to this concept as being the ability of any system to recover (reaching the pre-crisis level) from an external crisis or shock, or to have the capacity of absorbing a crisis or a shock in order to diminish the downturns that follow [4–7]. The concept of resilience of an entity, in general, is based on the assumption that evolution represents its transition from one state of stability or balance to another. Thus, starting from this hypothesis, at least two main approaches were highlighted. The first approach is a classic one, based on the meaning of the term "resilience" taken from the technical sciences, and is oriented on the property of the system to return to an equilibrium state with a certain speed [8]. Here, resilience is associated with a rapid recovery. The second approach, one oriented to the external stimulus [9], evaluates resilience of a system in terms of the magnitude of a crisis or shock that can be absorbed before it significantly changes. It can be observed that both variants have as common elements the existence of an initial state of balance or stability and the manifestation of an external stimulus or crisis.

A widely accepted view [10–12] is that resilience can take three distinct forms, depending on its predominant characteristics. Thus, the reaction of a system to a crisis can be characterized by: resistance, recovery, and creativity (transformation). *Resistance* refers to the magnitude of the negative effects of a crisis experienced by a system that continues to function and keeps the same structure. In this context, it is important to define the results or performance indicators that should be used to evaluate the impact of a crisis, in terms of relevance to system functionality and sensitivity to the analyzed shock. *Recovery* is related to the capacity of the system to reach the pre-crisis levels of the relevant indicators characterizing its state (functionality, performance etc.) after a certain time [10,11]. *Creativity* (in the *transformation phase*) refers to the ability of a system to incorporate the experience of a previous crisis in its strategy or operating principles in order to adapt to the new situation and to increase its resilience capacity in the perspective of potential future shocks; in this case, the resilient system not only returns to the initial parameters, but registers also higher values for the relevant indicators [10,11].

Some authors are of the opinion that we cannot speak, for now, about a generally accepted definition of resilience [13] because of the multidimensional nature of the concept, but also due to the insufficient development of practical measurement tools. However, given the experiences related to global economic and financial crises, the COVID-19 pandemic, the energy crisis, the war in Ukraine, and various terrorist attacks, as well as recent shocks, significant progress has been made in recent years in terms of delineating the concept in different domains, developing the theoretical framework for resilience analysis, and conducting relevant empirical studies.

The multidisciplinary character of the concept is demonstrated by various studies, the reference being the work carried out by Ref. [14], who demonstrate that resilience is both a boundary and a bridging concept. The fact that resilience can be considered to be a boundary concept is based on the existence within each domain of definitions for this concept, as well as conceptual and theoretical

framework for its analysis. These usually refer to fundamental studies from other disciplines to create the necessary premises for the new theoretical approach. At the same time, resilience is a bridging concept offering the possibility for researchers and practitioners to identify behavioral patterns for systems or different entities focusing on certain characteristics considered relevant for resilience in diverse disciplines.

In economic sciences, the use of the concept of resilience is not limited to the macroeconomic level; numerous studies assess how companies behave when faced with shocks or crises. By gaining information about resilience, companies can make informed decisions and take proactive steps to improve their overall performance and long-term success. A relevant approach is the one developing the concept of *dynamic capabilities,* which extend the content of the third stage of resilience analysis to how a company integrates different characteristics, builds new competencies and abilities and reconfigures its strategy to address better the sudden modifications of the business environment. This capability is a relevant factor for obtaining and maintaining sustainable competitive advantages [15–17].

Our study is configured on a conceptual framework integrating all these theoretical approaches. Thus, resilience is assessed in the context of shocks and crises influencing companies' performance, referring to all the three stages studied in the literature: resistance, recovery, and transformation. Special attention is given to the way the companies have tried to overcome the problems generated by the crises, which is relevant for the adaptability component from the recovery phase, but also to those measures that continued to be applied after the recovery phase. These serve as evidence for the learning dimension of the resilience, with the resilience capacity of the companies being strengthened by the experience of the previous crises.

2.2. Empirical studies investigating companies' resilience

2.2.1. The economic impact of the pre-pandemic crises

The relevant literature generally includes numerous studies that analyze the economic impact of various crises, at the macroeconomic level, or only at a lower one, such as an industry or a company. The most addressed crises in the recent literature are the economic and financial crises (mainly referring to the global economic and financial crisis in 2008–2009), pandemics (especially the one generated by COVID-19), and more recently, political and security crises (such as the conflict between the Russian Federation and Ukraine). All these crises have a global impact, differing mainly in the effects' propagation mechanisms and the areas initially affected, and often overlapping (both in duration and in the areas affected).

Thus, there can be considered relevant in this field those papers that analyze the implications of economic crises on the real economy and the medium-term impact on the financial sector [18–20] or those dealing with the general impact of financial crises over a single dimension, such as the evolution of GDP and its components [21].

Other authors have addressed specific issues, such as the effects of specific crises on certain domains of activity: the effects of crises generated by certain monetary policies on income inequality [22], the impact of the financial crisis on the Romanian financial system [23], the association between crises and low medium-term economic growth [24], the impact of crises on the Istanbul Stock Exchange (ISE) for a decade [25], or the impact of crises on the tourism industry in Turkey [26]. Moreover, some authors have addressed the complex issue of studying the combined effects of the 2008–2009 financial crisis and the COVID-19 pandemic [27,28].

The effects of crises on economic entities are among the most varied and diverse. The duration of these crises, which is an important factor for the intensity of the short, medium, and long-term effects, is always difficult to identify and even more difficult to predict. Moreover, at the level of small and medium-sized entities, the effects are much stronger [29].

When analyzing the evolution of economic entities in crisis situations, we must take into consideration the main structural changes that companies have undergone in recent decades. These include the interdependence between them, due to specialization and ultra-specialization acquired, new values generated by technical developments, or the specialization of human resources that has reached higher and higher levels [30].

The literature offers a wide range of studies on the impact of crises on companies, mentioning those that examine indicators of financial performance based on financial reports [21,31].

Another category of previous research findings refers to the impact of crises on firms in general or on small- and medium-sized enterprises. In this context, regarding the financial crisis of 2008–2009, the main effects identified in the literature at the level of companies refer to: the impact on human resources (employment/unemployment, poverty, migrant workers, child labor) [32–34], and the financial difficulties generated, such as depreciation [35–37].

2.2.2. Companies' behavior in the context of the COVID-19 pandemic

Regarding the impact of the crisis generated by the COVID-19 pandemic on companies, the literature presents a wide and varied range of studies. Some of them study specific issues in a specific geographical area, such as India [38] or Peru [39]. As for the main effects of the pandemic crisis on companies, they relate especially to the effects on human resources (unemployment, declining wages, re-professionalization, etc.) [40,41], the severe decrease in companies' revenues [42,43] and the effects of market changes (supply-demand imbalances, supply problems, etc.).

A generally accepted conclusion is that each crisis involves different answers. There is no single solution or set of measures that is effective for any type of crisis. Thus, regarding the study of the resilience of companies in the crisis generated by COVID-19, the study of May and Marcela (2020) can be considered relevant. It identifies six categories of determinants of resilience: the attitude towards the crisis, the characteristics of the type of activity, entrepreneurial qualities, relations with other institutions, social and human capital and strategic management [44]. Also, when it comes to resilience-building strategies, five resilience-building strategies are identified: market orientation, supply chain optimization, strategic corporate reorganization, innovation, and business model transformation [45].

Previous analyses also include an assessment of the factors that helped companies to overcome the crises they faced. Thus, regarding the economic crisis of 2008–2009, the following factors have helped companies to be more resilient: the innovation and the entrepreneurial spirit of the managers as main characteristics of the management [46–48]; the ability to diversify and expand into new areas of business in order to compensate for low demand [49] or issues related to manufacturing capacity ("manufacturing-marketing alignment", "manufacturing capabilities") [50].

The most relevant assessments regarding the factors that helped the companies to more easily overcome the pandemic refer to: deeper digital capability [51], the flexibility of the program - working from home and balancing remote and real life [52,53], skills transitions and recruiting [54], or agility and innovation [55].

Our research is in line with previous studies, integrating both perspectives on firms' behavior in relation to a specific crisis, and the dynamic dimension of how the experience of a previous crisis influences firms' resilience and prepares them for a potential new crisis. Beyond all this, the contributions are also related to the particularities of firms in Romania – an emerging economy recently coming out from a complex transition process to a market economy, but also to the specific context of the economic interdependencies at the level of the European single market. This market has specific opportunities but also vulnerabilities, the research aims to highlight how the pandemic experience has shaped firms' post-pandemic behavior, influencing their business strategies and improving their resilience. Last but not least, the study deepens the analysis by creating clusters of firms and identifying behavioral profiles, which gives an objective character to the results related to firms' experiences and best practices demonstrated during the pandemic.

2.3. In-depth interview - a method used for investigating the companies' resilience

The methods used to study similar topics varied from a structured questionnaire [43], a systematic literature review [56], or interviews with micro-entrepreneurs [42,57], to multiple case studies [49]. In order to investigate different topics related to resilience, applying a systematic literature review research method [56,58,59]. or in-depth interviews [57,60–62]. are generally used.

The in-depth interview is a qualitative method that explores peoples' thoughts, motivations, behavior, gaining insights into aspects difficult to reveal by quantitative methods, and obtaining rich and detailed data about participants' experiences [63]. Chen and Cheng (2020) explored people's knowledge about resilience, using in-depth interviews on a sample of 20 people [60]. Also, the perception of small business managers about resilience and their contribution and engagement with community resilience was investigated [64].

Ngoc Su et al. (2021) investigated organizational resilience in tourism in the context of the COVID pandemic and the results of the interviews of 20 managers revealed management strategies used by the companies to handle the crisis [61]. The implemented measures included: health and safety measure, cooperation, cutting costs, reducing the number of employees, or implementing supportive training programmes, and the factors influencing resilience using human resources practices included financial constraints, organizational culture, leadership and the business vision and mission [61]. In-depth interviews were also used in the study of Schwaiger et al. (2022) to identify the personal, regional, and governmental factors that support hospitality family business owners to overcome the pandemic crisis [62].

Most of the studies using in-depth interviews as a research method process the collected data through content analysis. Content analysis is a process of data reduction for quantifying qualitative data [65]. This technique can be used both for qualitative or quantitative data [66,67]. One of the core stages of content analysis is developing categories [68], meaning creating groups of content that share a commonality [69].

3. Research Methodology and Data

The aim of this paper is to investigate the resilience of Romanian companies during the recent pandemic crisis. It focuses on identifying the most important crisis affecting each company and its industry, analyzing the impact of the crisis on each company, and identifying the perceived factors that could help the company to overcome the crisis. It also investigates the efficiency of the measures implemented by Romanian companies in order to solve the problems generated by the most significant crises.

In order to explore and discover managers' opinions regarding the effects of the most significant crisis on their companies and the strategies they implemented in order to solve the problems generated by this context, we used in-depth interviews as a qualitative research method. We used this approach based on previous studies' methodology [57,60–62,64,70] and the advantages of in-depth interviews. The direct interaction between the interviewer and the participants, based on open questions, explored the managers' opinions, thoughts, and feelings about the resilience challenges and solutions. Also, the one-to-one discussion allows the interviewer to approach more subjects related to the main topic, as the interview guide was structured to follow all the stages of resilience: resistance, recovery and transformation. In-depth interviews deliver detailed and rich data, which are very useful to understand the research problem.

The interviews were conducted between June and September 2021, using online platforms. Conducting the interview in the online environment is a proper solution for providing secure conditions for the participants in a pandemic context. Also, previous studies highlight the benefits of online in-depth interviews, such as the ease of discussing with participants working or living at great distances and the comfort the participants experience during the interview [71]. Each interview lasted about 50 min, and the managers had the opportunity to discuss their experiences, to offer details or to give examples based on the explored themes, according to their available time and interest.

The interviews were conducted in compliance with legislation in the field and the specific regulations regarding ethics in the scientific research. The information collected during each interview refers strictly to the activity of the company represented by the participant in the interview; no personal data (name, gender, age, etc.) was requested. As independent legal entities, the companies

that agreed to support this activity nominated, based on their own internal procedures, a representative who answered the questions contained in the interview guide (without providing information that could make it possible to identify the company (name, address, VAT number, etc.). The only questions referring to the respondents were those related to their job or position in the management of the company and to their professional background (on that position or the general experience in the company), in order to be able to evaluate the degree of reliability of the answers.

The interview guide is structured in four sections, with open-ended questions, following the research objectives: (a) the most significant crises that had already affected the industry and particularly, the company and the future potential ones ("In your opinion, what were the most important crises that affected your company's field of activity?", "What are the most significant risks/crises that may adversely affect your business in the future?"); (b) the impact of the crises, including the COVID pandemic, on the company ("How were the mentioned crises reflected on your company?", "How is your business affected by the current pandemic?", "As a result of the crises that your company has faced so far, what has changed in terms of management activity?"); (c) the perceived factors helping the company to overcome the crisis ("Please tell us about the strategies or plans in the region/regions in which your company operates, to anticipate possible risks and vulnerabilities (economic, social, political, environmental, etc.)", "Do you consider that you have received support from local/regional/national public authorities in order to overcome the difficult situation?", "Can you make some recommendations on how public institutions could be more involved in crisis situations?", "Referring to the current pandemic crisis, what are the main factors that have helped your company cope with this unprecedented situation?"); (d) the solutions the companies implemented to solve the effects of the crisis ("What measures do you recommend for better management of future crises that your company may face?", "Which of the new measures, taken as a result of the pandemic, will continue to be implemented in the activity of the company you represent and after this health crisis will end?").

The interviews were transcribed, and the data were processed using content analysis. The first step was to read the answers of the participants for each question several times, to become familiar with the information. For some themes from the transcript, where the discovered information was more in-depth and more detailed, categories and subcategories were identified (themes such as: important crisis affecting the companies, potential significant crisis affecting the companies, the negative impact of the crisis on the companies). For other themes (management changes as a result of the crises, the perceived factors supporting the company to overcome the crisis, the time needed to manage the major crisis), we coded only the categories and gave examples of relevant quotes from the participants. For each theme presented in the tables, we counted the frequency of the answers. Analyzing the data, we gave names (codes, labels) to parts of the text, arranging data by category and classifying the answers. The categories and subcategories were identified using the factors from the literature review and taking into account the meaning of the data from the interviews, also considering the specificity of the pandemic and its consequences.

We used both *a-priori coding* - building the codes ahead of time based on the literature review and the interview guide, and *emergent coding* - developing the codes as we analyzed the text. At the same time, we used *hierarchical coding*, organizing the codes according to their relationship with one another.

Then, the qualitative data were transformed into quantitative data. These were coded with 0-No and 1-Yes for each answer for each participant, depending on the classification of the answer given by the manager in the respective category. Statistical analysis was performed, due to the large sample size (for qualitative research based on in-depth interview) that allowed this type of analysis. To explore the associations between relevant categories and important characteristics of the companies – the size of the company, the manager's experience in the current position, the involvement of the managers in the ownership of the company shareholders, and the existence of strategies to anticipate possible risks and of specialized staff to handle unforeseen crises – a Chi-square test was performed.

Our research was conducted on a sample of 63 managers of companies active in Romania, in different fields of activity: retail (18 companies), the construction sector (6); hospitality (5); human resources, pharmaceutical, and business consulting (3 for each category); accounting; transport services; the events sector (2) or educational services; and agriculture (1). When we built the sample, we took into account the inclusion of representatives of companies from various fields of activity, from the North-East region of the country. Using the snowball technique, we selected 100 companies to participate in our study; only 63 of them accepted our request and nominated a manager to participate in the interview. As selection variables for the sample, we included: the field of activity, company size (number of employees), and the position of the participants in the company (managers with at least 1 year of experience in that company). The sample structure is presented in Table 1 and Table 2.

Our research contributes to the literature by exploring a broader perspective on resilience, approaching the impact of different crises (global, national, regional), including the COVID pandemic. Also, the sample includes companies with different fields of activity, allowing a deeper understanding on the impact of the crisis, the solutions companies found and possible future measures.

Table 1
Sample structure - number of employees.

Number of employees		Values	%
	less than 10	35	55.56
	between 10 and 50	12	19.05
	between 51 and 250	9	14.29
	more than 250	7	11.11

Table 2
Sample structure - manager's experience.

		Values	%
Experience in the current position (Number of years)	less than 5 years	22	34.92
	between 5 and 10	22	34.92
	between 11 and 15	10	15.87
	more than 15	9	14.29
Experience in the company (Number of years)	less than 5 years	23	36.51
	between 5 and 10	24	38.10
	between 11 and 15	7	11.11
	more than 15	9	14.29
Manager as shareholder	yes	35	55.56
	no	28	44.44

4. Research Results

4.1. Typology of crises and their general impact

In order to identify the most important crises affecting the company and the field of activity of the company, we grouped the most important crises that affected the business environment in the region/regions in which the company operates and, narrowing the area of analysis, the company's field of activity in three categories, using thematic coding. The categories were identified according to the dimension of the impact of the crisis.

In order to create the categories, we considered the literature review and the overall spirit of the data. Reading the managers' answers, we could observe that they were referring to different types of crisis sources. We grouped them in three categories, labeled in a relevant manner. Managers referred to those crises that are specific to their company's activity field (construction, transportation, pharma, retail), crises that affected all the country (generated by macro-environmental factors: socio-demographic, legal, technical or political) and to crises with a global impact (such as the COVID pandemic).

For each category, we grouped the factors explaining the source of the crisis into sub-categories.

Regarding field-related crisis, 11.11 % of the managers described legal regulation factors ("regulation of drug prices", "blocking payments from the state for more than 3 months, to construction companies that have contracts with the state", "the complex legal framework on wood"), while 6.35 % also identified economic changes ("the increase in the price of raw materials"), affecting the business environment in the region/regions in which the company operates. The legislative ("grants not awarded on time", "failure to provide support for natural disasters") and economic factors (the semiconductor crisis, the crisis of the qualified labor force) were also brought into discussion when the managers described the crises affecting the company's activity field, but also supplementary factors were identified: natural ("drought") and political factors ("transport crisis").

As for the crisis manifested at the national level, affecting the business environment, four types of factors were mentioned: socio-demographic factors ("population decline through the migration of active people to Western Europe"), technological factors ("lack of infrastructure"), political factors ("political change", "political instability"), and legislative factors ("legislative inconsistency in the business environment"). Three of these factors were also mentioned when the participants discussed about the company's field of activity: legislative ("significant changes in the legal framework", "fluctuation of European funds", "failure to comply with the timetable for appeals launched by the Romanian Government"), political ("political instability") and socio-demographic ("population decline through economic or natural migration, cumulated with the reduction of active people in the area due to the bankruptcy of some operators in the industry-bakery, textile").

As for the global crisis, according to the results presented in Table 3, *most of the managers (74.6 %) highlight the COVID pandemic as the most significant crisis affecting the business environment* in the region in which their companies operate. The managers described the consequences of COVID pandemic crisis ("the measures to restrict the movement of persons", "social restrictions", "the "chaos"

Table 3
Important crises affecting the companies.

Important crisis dimensions	The source of the crisis	Affecting the business environment		Affecting the company's field of activity	
		No.	%	No.	%
Field-specific crisis	legal regulations	7	11.11	9	14.29
	economical changes	4	6.35	4	6.35
	natural factors	0	0	2	3.17
	political factors	0	0	2	3.17
General country crisis	technological factors	3	4.76	0	0
	political factors	3	4.76	6	9.52
	legislative factors	2	3.17	16	25.40
	socio-demographic factors	2	3.17	4	6.35
Global crisis	COVID 19 pandemic	47	74.60	48	76.19
	2009 financial crisis	16	25.40	10	15.87

manifested by the authorities on all levels in managing the problems generated by the pandemic", "customers' fear of visiting convenience stores at the beginning of the pandemic") and its effects on their business ("a massive drop in customer turnover", "sending employees into technical unemployment", "suspending activity", "decreasing sales". At the same time, 76.19 % of the managers consider that the COVID pandemic is the major crisis affecting their company's activity field ("closing/restricting the activity of existing or potential clients", "decrease in the number of customers", "transfer of equipment for work from home", "price increases, reduced purchasing power", "drastic declines in sales of unpackaged pastries and bakery products") while 15.87 % of them also brought into discussion the financial crisis between 2008 and 2009. The differences between the important crises affecting the business environment and the companies' fields of activity are highlighted in Fig. 1.

We explored the managers' perception on the most significant risks/crises that may adversely affect their company in the future.

As Table 4 indicates, the managers seem to be concerned mostly about the economic environment, when discussing possible crises to be manifested in a specific field of activity −19.05 % ("reduced number of customers - we have no one to sell products to", weak domestic demand", "delay in payments from the state for the contracted works", "reducing the number of external partners due to bankruptcy, staff crisis", "online competition and direct competition with national operators as a result of the expansion of the distribution network") or on a national level: 39.68 % ("decreased public and private investment", "market blockages", "decrease in customer purchasing power", "depreciation of the national currency", "lack of labor force", "rising prices and the supply costs"). Potential legislative changes were also mentioned, both for specific activity sectors ("decreasing European or national funds for small and medium companies", "increasingly stringent conditions for the transport and distribution of wood") and at the national level ("extremely changing fiscal policy", "lack of predictability of the legislative changes", "authorities' decision to limit the access of clients for a long period of time to certain events"). Other identified triggers that might generate a future crisis are related to socio-demographic ("the lack of face-to-face interaction"), political ("the lack of a short-, medium- and long-term national strategy regarding the future of Romanian agriculture", "political instability", "a political/diplomatic crisis in the Romanian-US relationship"), or natural factors ("the climate change"). Analyzing the results about future possible global crises, it can be noticed that *the COVID pandemic, with new restrictions, remain a threat for 47.62 % of the managers participating in the in-depth interviews, while 7.94 % of them also mentioned the economic changes ("a new economic or financial crisis")*.

4.2. The impact of the crises on the analyzed companies

The present study investigates, for the first time in Romania, a major topic regarding the impact of the crises on the companies, including the effects of the COVID pandemic. From the total sample of 63 participants, only one discussed a positive impact of the previously mentioned crisis on his company activity ("sales for distributors with physical stores decreased but the sales in online stores have increased in the context of the pandemic crisis"), while one single manager did not consider any impact. The rest of the 61 managers (96.82 %) focused only on the negative effects. But when they specifically talked about the COVID-19 pandemic context, only 48 participants (76.19 %) described the negative impact of this crisis on their business. While 13 managers representing companies in the fields of accounting, engineering, and technical consultancy services or distribution of household appliances (20.63 %) did not mention any specific effect of the COVID pandemic ("in no way to limit its activity", "slightly affected"), two of them (from the wooden toys and sales sector) described some positive influence ("we have focused our resources on the online environment, we are in

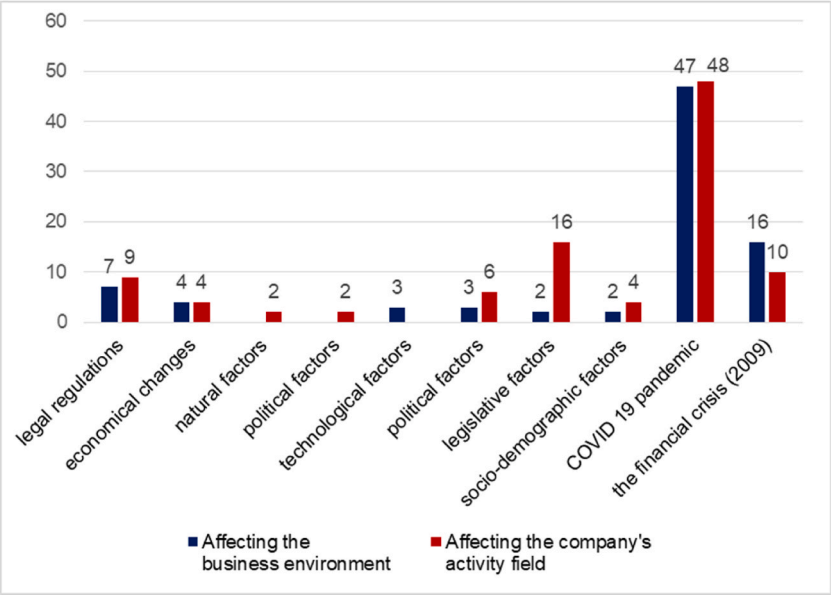

Fig. 1. Important crises affecting the companies - a comparative approach.

Table 4
Potential significant crises affecting the companies.

Important crisis dimensions	The source of the crisis	Number of answers	Share (%)
Field-specific crisis	economic changes	12	19.05
	legal regulations	6	9.52
	socio-demographical factors	4	6.35
	political factors	2	3.17
	natural factors	2	3.17
General country crisis	economic factors	25	39.68
	legislative factors	9	14.29
	political factors	6	9.52
Global crisis	COVID-19 pandemic	30	47.62
	economic factors	5	7.94

a good place”).

The negative impact of the crises on these companies are presented in a structured way, in Table 5, highlighting four main affected domains of the companies: the financial, organizational, market, and relational levels. Also, the results are presented in a comparative manner, in Fig. 2.

Related to the financial aspects, more managers recorded higher financial losses during the COVID-19 pandemic, compared to previous crisis, but the specific resources affected were the same: declining sales (“reducing the income of individuals, intended for the acquisition of consumer goods, both in the context of the financial crisis that began in 2008, and in the current pandemic context”, “the restrictions at national level, but also on quarantined areas, clearly led to lower sales, “decreasing sales with 50–75 %“), declining turnover (“decrease by up to 80 % in turnover”, “the insecurity generated by the pandemic has reduced the turnover to less than half in 2021”), financial delays (“delays in collecting money during the financial crisis, 2008–2009”, “receipts delays due to COVID pandemic restrictions”), budget reductions (“the financial crisis reduced our clients’ promotion budgets”, “budget cuts for various promotion projects of almost 80 %, since the beginning of the pandemic”), and additional costs (“decreased company revenue”, “increasing the share of expenditures on disinfectants and personal protective equipment”).

On organizational level, the companies were affected on four main ways: workplace (“moving to a smaller location”, “working from home”), equipment (“we were unable to replace newer equipment due to declining revenue”), the process of reducing/closing activity (“the activity has diminished and thus the incomes suffer as well”, “temporary closure of the restaurant for 8 months accumulated during a year”, “our activity was stopped for 14 months”), and employees. As Table 5 indicates, the issues related to the workplace (31.25 % compared to 13.11 % of the total answers) and the necessity to reduce or even cease the companies’ operations (31.25 % versus 3.28 % of the total answers) were considered to be more significant during the pandemic than the other crises the companies had to face. Regarding employees, 16.39 % of the managers described the effects of previous crises as negative: staff reductions (“because we ran out of 12 employees, during the financial crisis, we had to restrict our activity”), technical unemployment, the increase of work volume for each employee, and delays in paying salaries. Also, referring to the pandemic effects, 25 % of the participants highlighted the need to reduce the staff, discomfort (“team morale is most affected”, “given the fact that the company operates in the retail field, wearing protective equipment, like masks and gloves, has created a real discomfort among employees), the quarantine (“some employees were quarantined, unable to work”) and the lack of productivity (due to “the discomfort, the uncertainty, the fear”).

The negative effects of the crisis on the markets the companies were active in manifested in the clients and marketing strategies. The impact on the clients was more significant during the pandemic (41.67 % of the total answers) than during the previous crises (11.48 % of the total answers), when the companies had to face issues such as: the decrease in the number of clients (“the temporary cessation of existing contracts”, “the decreased frequency of visits”, “some clients closed their companies or were even affected by

Table 5
The negative impact of the crises on the companies.

Company level	Affected resources	Impact of other crises		Impact of the COVID pandemic	
		No.	%	No.	%
Financial level	declining sales	15	24.59	20	41.67
	declining turnover	13	21.31	13	27.08
	financial delays	3	4.92	5	10.42
	budget reductions	2	3.28	2	4.17
	additional costs	1	1.64	3	6.25
Organizational level	employees	10	16.39	12	25.00
	workplace	8	13.11	15	31.25
	equipment	5	8.20	2	4.17
	reducing/closing activity	2	3.28	15	31.25
Market level	clients	7	11.48	20	41.67
	strategies	2	3.28	12	25.00
Relational level	suppliers	5	8.20	1	2.08
	partners	5	8.20	4	8.33

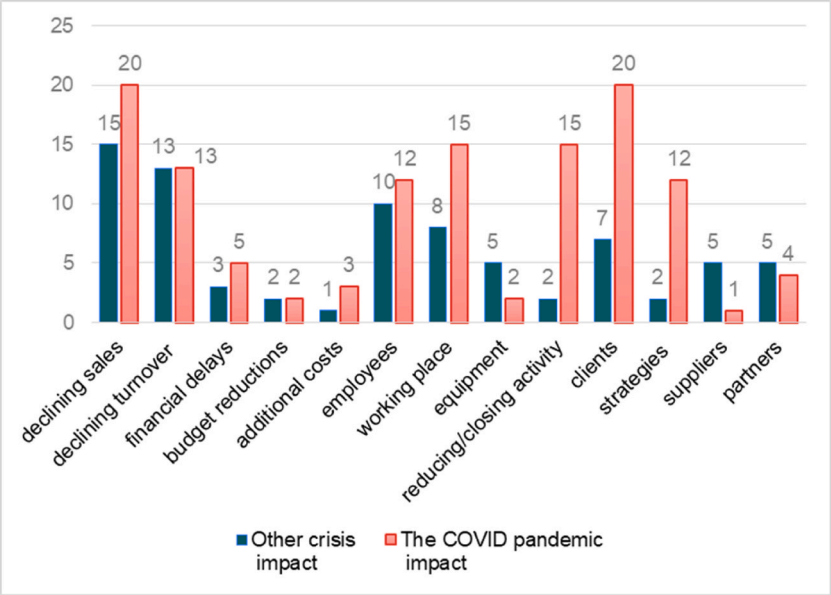

Fig. 2. The negative impact of the crises on companies - a comparative approach.

COVID19 and died"), changes in interaction with clients ("communication has moved exclusively online, the feeling of belonging to the group is lost"), the discomfort ("wearing protective equipment-masks, gloves-created a real discomfort among customers") and changing trends in behavior ("customers are more reluctant to try new products", "greater caution on the part of the end customer in making certain investments"). Also, most of the companies had to change their strategies during the pandemic (25 % versus 3.28 % of total answers), moving their activities, including sales, to the online environment ("moving the activity exclusively in the online environment", "fiercer online competition").

On the relational level, the negative effects on the collaboration with suppliers were more significant during previous crises (8.2 % versus 2.08 % of the total answers), generated by legal regulations and economic changes: delays in paying invoices ("extending the terms of payment of invoices to suppliers beyond their deadlines") and supply-chain problems ("imbalances in the acquisition", "blockages in terms of supply chain").

To explore the associations between the level where the negative impact of the previous crises or the COVID crisis has manifested in the company, and important characteristics of the companies – i.e. the size of the company, the manager's experience in the current position and his status as shareholder, the existence of strategies to anticipate possible risks and of specialized staff to handle unforeseen crises – a Chi-square test is performed. No tests were performed between variables with group sizes fewer than five companies. The results are presented in Table 6.

At the financial level, the impact of other crises is associated with the size of the company, the manager's experience and the existence of a specialized staff - the financial negative impact is being perceived mainly by small companies, by managers with more than 10 years of experience, and by companies with no staff who are specialized in dealing with crises, while the impact of the pandemic is only associated with the size of the company, specifically very small or vary large companies. At an organizational level, in the case of previous crises, associations are made with the manager being part of the company's shareholders and with the company having a specialized staff for dealing with crises. For the pandemic, the manager's experience and being a company shareholder are associated with the impact manifested at organizational level. At market level, in the case of previous crises, the impact is only

Table 6
Associations between the level of the negative impact of crises and the companies' characteristics.

Source of negative impact	Companies' Characteristics	Financial level	Organizational level	Market level	Relational level
Other crises	Size	7.207*	5.372	–	–
	Experience	10.691***	2.024	–	–
	Shareholders	2.505	4.062**	0.525	4.062**
	Strategies	1.272	0.156	3.066*	0.127
	Staff	4.866*	4.821*	1.908	16.748***
COVID pandemic	Size	8.383**	2.816	4.232	–
	Experience	2.222	6.572*	1.343	–
	Shareholders	0.052	6.563**	6.331**	–
	Strategies	1.246	0.704	0.321	–
	Staff	0.850	2.887	4.894*	–

Note: Chi-square test values in each cell; *** Significance at 1 % level; ** Significance at 5 % level; *Significance at 10 % level.

associated with the existence of crisis strategies. For the negative impact of COVID, associations are made with the manager being part of the company's shareholders and with the company having a specialized staff for dealing with crises. At relational level, the impact of crises is associated with the manager's being part of the company's shareholders and with the company having a specialized staff for dealing with crises.

Since the association analysis has highlighted that there are differences between companies, we further verified whether the companies can be clustered into homogenous groups according to the level of the company, where the crisis's impact has been manifested. To this end, a two-step cluster method is applied. Optimally, four clusters are created, and their description is presented in Fig. 3.

The first cluster groups companies that only acknowledged an organizational-level impact of the crisis; the third cluster is composed of companies that have mainly a market level impact; the fourth cluster has companies that only experienced an impact at the financial level; while the second cluster has companies for which the crisis had impact at the relational, organizational, and/or financial levels. The profiles for each cluster, using companies' characteristics, are presented in Table 7.

The first cluster has the majority of the large companies, of the managers with the longest experience, and with strategies developed to face the crises. The second cluster groups companies that are the smallest, with the least manager experience, and no specialized staff in dealing with crises. The third cluster has medium-sized companies, managers with average experience, managers mainly are not among the company's shareholders, and firms with crisis strategies. The fourth and largest cluster has clearly grouped small companies, managers with less experience, managers who are among the company's shareholders, and with no specialized staff in dealing with crises.

Similarly, the clusterization method is applied for the impact of the pandemic, and the cluster description is presented in Fig. 4.

Two groups were formed, the first including companies affected by the pandemic mainly at the financial level, and the second with companies that are impacted by the pandemic at the market, organizational and/or at the financial levels. The profiles for each cluster, using companies' characteristics, are presented in Table 8.

The first cluster contains the majority of the small companies, with managers who are also the company's shareholders, companies that have crisis strategies, and have no specialized staff to deal with crises. The second cluster has companies whose manager is less experienced, is not among the company's shareholders, and has crisis strategies.

The managers were also asked about the way their company has dealt with the crises it has faced so far. 46 % of them consider that their company has adapted acceptably, using different support measures: ("with huge efforts and team efforts'', "we restricted the activity, we made production more efficient", "looking for new solutions and development opportunities", "moving our activity in the online environment"). For 38 % of the managers, the level of adaptability was very good, partially due to the activity field of the

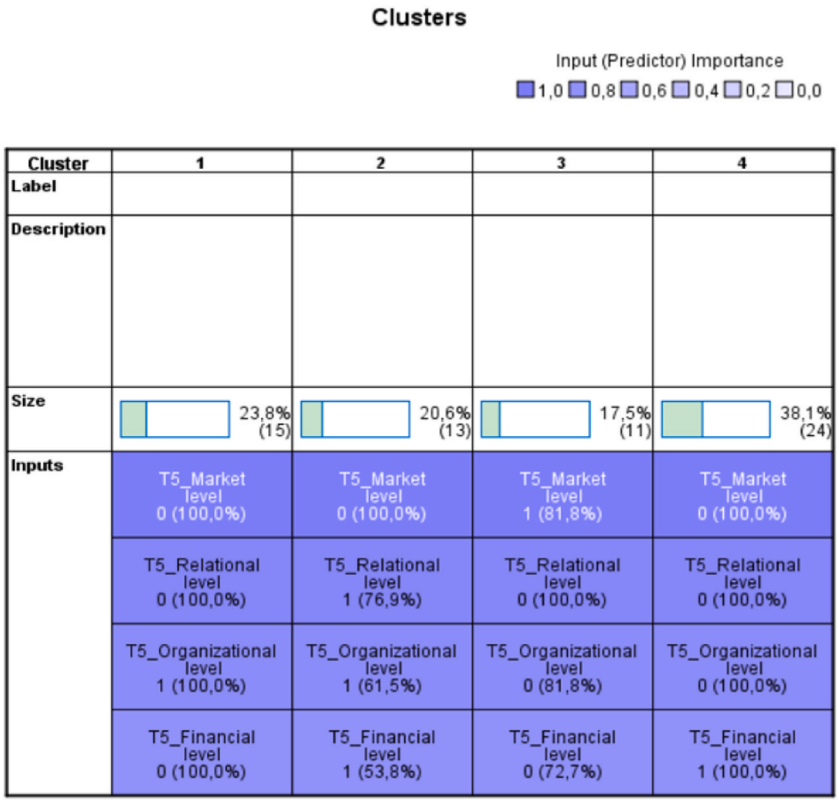

Fig. 3. Cluster description in the case of the impact of previous crises.

Table 7
Profiles for the four clusters in the case of previous crises impact.

Companies' characteristics		Cluster 1	Cluster 2	Cluster 3	Cluster 4
Size (no. Of employees)	Less than 10	5	9	3	18
	10–50	4	1	5	2
	51–250	2	1	3	3
	More than 250	4	2	0	1
Manager's experience (years)	Less than 5	6	7	2	7
	5–10	6	2	7	7
	11–15	0	3	1	6
	More than 15	3	1	1	4
Manager as shareholder	Yes	7	7	4	17
	No	8	6	7	7
The existence of resilience strategies	Yes	11	8	10	12
	No	4	5	1	12
The existence of specialized staff	Yes	7	4	6	6
	No	8	9	5	18

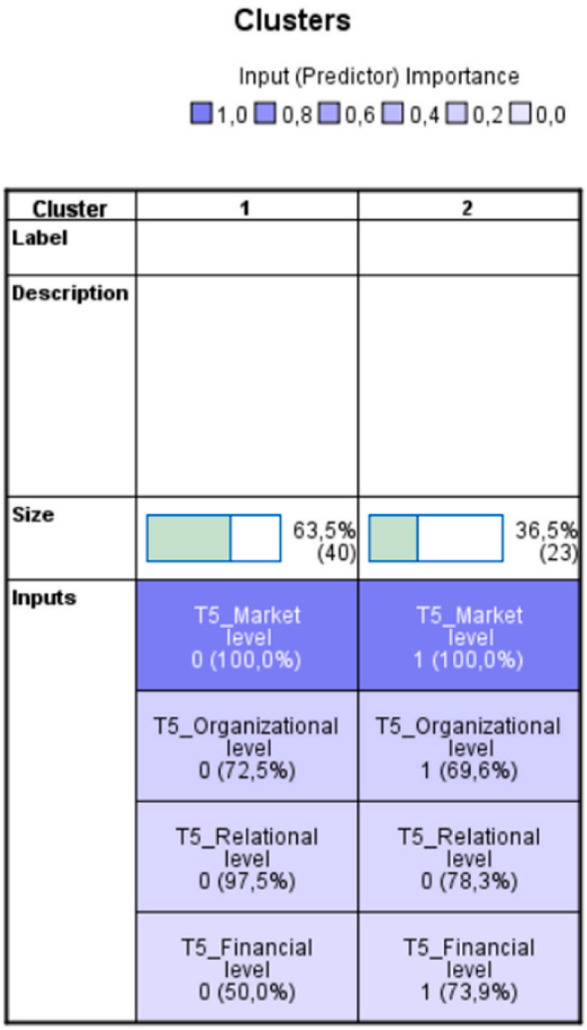

Fig. 4. Cluster description in the case on the COVID pandemic's impact.

company ("the pharmaceutical sector was very adapted to pandemic changes, excellent", "the field of private security has not been affected as much as hospitality sector", "special attention is paid to the protection measures of the staff, but also of the clients"), partially due to the managers experience ("the company has shown good resilience", "each action was thought out in the long run and in this way solving a present situation resulted in a development of the company"), while 16 % of them struggled to face the crisis ("at

Table 8
Profiles for the two clusters in the case on the COVID pandemic's impact.

Companies' characteristics		Cluster 1	Cluster 2
Size (no. Of employees)	Less than 10	26	9
	10–50	6	6
	51–250	4	5
	More than 250	4	3
Manager's experience (years)	Less than 5	13	9
	5–10	13	9
	11–15	7	3
	More than 15	7	2
Manager as shareholder	Yes	27	8
	No	13	15
The existence of resilience strategies	Yes	25	16
	No	12	7
The existence of specialized staff	Yes	11	12
	No	29	11

the limit of survival", "hardly, only with the support of the banks").

Regarding the management changes, as a result of the crises that the companies had faced so far, 82.54 % of the managers (52) described different improvement measures, while 17.46 % of the managers (11) considered that no changes had been made in this area. The answers of the 52 managers were coded and grouped into six categories (Table 9), according to the management change related area: decisions making ("we have created analysis tools that allow us to make quick decisions", "most of the business has been digitalized, with management being able to make decisions based on real-time reports for both supply and sales flow and cost optimization"), financial (paying terms, investments, receivables, budgets and costs reduction), vision-related strategies ("more mature managerial vision", "more experienced, we analyzed and learned from the crisis experiences of other industries", more transparency, flexibility, predictability and more detailed analysis), marketing strategies ("development of marketing and sales policies", "customer adaptation", "online migration; more intense online communication", "diversification of products/services''), employees ("the company's administration has delegated several tasks to current employees to focus on other activities"), and acquisitions decisions (creating more or less stocks, "decisions on the acquisition of computers and software necessary for alignment with the new requirements for electronic completion of timber transport documentation"). As a conclusion, *the main changes were in the strategic marketing planning process*.

Also, *94 % of the managers agreed that the COVID-19 pandemic has made their company more alert to crisis situations/better prepared for the future*.

Table 10 presents the results of the association analysis between different forms of management changes caused by a crisis and the companies' characteristics. No tests were performed between variables with group sizes less than 5 companies.

The change in decision-making is associated with the existence of crises strategies in the company. Changes in the financial area are associated with the experience of the manager and the existing strategies in case of a crisis. The change in the strategies regarding the vision about the company is associated with the existence of previous crisis-related strategies. The change in marketing strategies is associated with the size of the company, the manager's experience, and whether the firms have crisis strategies. Finally, the change in the management of the employees is associated with whether the manager is part of the company's shareholders.

Five clusters emerged from grouping the companies into homogeneous groups and these are presented in Fig. 5.

The first cluster is represented by the companies that have registered changes mainly in their marketing strategies. The companies in the second cluster listed changes regarding their decision-making processes, and those in the third cluster in listed changes in vision strategies about their companies. The fourth cluster has companies that did not register any forms of management changes, and the fifth cluster comprises companies that listed changes regarding the decision-making process, vision strategies and/or in the financial area. Table 11 describes the profiles for each of the five clusters presented in Fig. 5.

The first cluster has the smallest or the largest companies, with experienced managers but without resilience strategies or specialized staff to face crises. The second cluster groups small companies, with less experienced managers and no specialized staff to handle the crises, while the third cluster has small companies, with less experienced managers, with managers being part of the shareholders and with strategies to be resilient during crises. Small companies, with less experienced managers and no specialized staff to face crises, are grouped in the fourth cluster, while the fifth cluster has rather large companies, where the managers are not

Table 9
Management changes as a result of the crises.

Changes	Number of answers	Percentage value (%)
decisions making	25	48.08
financial area	20	38.46
Vision-related strategies	18	34.62
marketing strategies	15	28.85
Employees	8	15.38
Acquisitions	6	11.54

Table 10
Associations between the forms of management changes because of a crisis and companies' characteristics.

Companies' Characteristics	Decision making	Financial area	Vision related strategies	Marketing strategies	Employees	Acquisitions
Size	1.422	5.000	3.193	6.917*	–	–
Experience	2.459	8.996**	0.146	10.96**	–	–
Shareholders	2.241	0.234	0.315	0.984	6.880***	–
The existence of resilience strategies	4.060**	2.870*	3.695*	5.449**	0.397	–
The existence of specialized staff	1.004	0.154	0.979	2.315	0.720	–

Note: Chi-square test values in each cell; *** Significance at 1 % level; ** Significance at 5 % level.

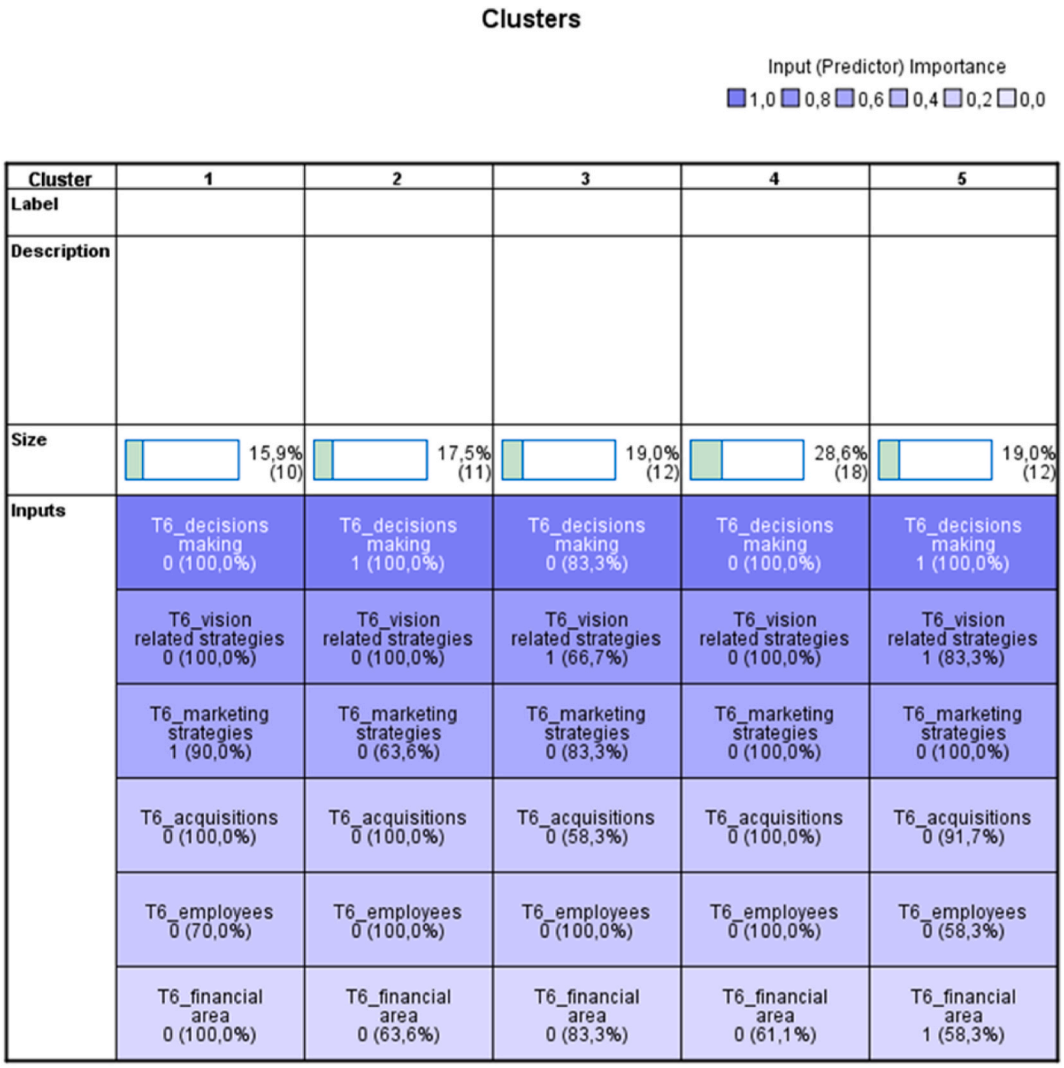

Fig. 5. The description of the five clusters for the management changes as result of the crises.

shareholders but are medium experienced managers, as well as companies that have strategies and specialized staff to face crises.

4.3. Potential factors for strengthening the business resilience

In order to *identify the perceived factors that can help the company to overcome the crisis*, we investigated the managers' plans for anticipating possible risks. We grouped the answers into three categories: strategies at the regional level, strategies at the company level, and specialized employees to manage potential threats (Table 12).

Half of the managers that affirm the existence of plans, in the region, to anticipate possible risks, characterized these measures as being ineffective: "they exist, but they are not properly calibrated to the needs of the private environment". Compared to the existing

Table 11
Profiles for the five clusters for the management changes, as a result of the crises.

Companies' characteristics		Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Size (no. Of employees)	Less than 10	6	6	8	9	6
	10–50	0	3	2	6	1
	51–250	1	2	0	3	3
	More than 250	3	0	2	0	2
Manager's experience (years)	Less than 5	2	3	3	10	4
	5–10	2	4	5	7	4
	11–15	3	2	2	0	3
	More than 15	3	2	2	1	1
Manager as shareholder	Yes	6	6	10	10	3
	No	4	5	2	8	9
The existence of resilience strategies	Yes	3	6	9	11	12
	No	7	5	3	7	0
The existence of specialized staff	Yes	2	3	5	5	8
	No	8	8	7	13	4

Table 12
The management changes, as a result of the crises.

The existence of:	Yes		No		I don't know	
	No.	Share (%)	No.	Share (%)	No.	Share (%)
strategies/plans to anticipate possible risks, in the region	14	22.22	32	50.79	17	26.98
strategies/plans to anticipate possible risks, in the company	41	65.08	22	34.92	0	0
specialized staff in the company to handle unforeseen situations/crises	23	36.51	40	63.49	0	0

strategies in the region (22.22 %), the share of companies that already have strategies/plans to anticipate possible risks is higher (65.08 %). Of these, most of the managers (34 answers) consider that their companies have solid, proper strategic plans, involving clients' policies ("we pay more attention to the selection of clients and their creditworthiness, we follow more closely their objects of activity"), costs ("optimizing production costs"), marketing strategies ("online environment development") or financial planning ("drawing up budgets in different types of economic or political scenarios"). Regarding human resources, only 36.51 % from the managers admit they have specialized staff to manage unforeseen situations/crises: "only the administration of the company is responsible for this-financial administrator (responsible for revenue relocation and budgeting), external relations manager (responsible for relations with external partners), general manager (responsible for drawing up the general strategy, considering the opinion and advice of all employees). Even if in 63.49 % of the companies there is no specialized staff, the managers also have backup solutions: ("risk management is handled by the manager, there is no specific structure"). Besides these strategies managed by specialized staff, 55.56 % of the managers considered that their companies have the necessary resources (both material and human) to deal with a possible crisis.

When discussing the received support from local/regional/national public authorities in order to overcome the difficult situation, only 31.75 % of the managers were satisfied with these measures – ("technical unemployment", "courses" or "subsidies"), while 14.29

Table 13
The perceived factors supporting the company to overcome the crises.

Factors	Details/quotes	Number of answers	Share (%)
The existence of available own resources and financial stability	- "speed to meet current needs" - "our own financial resources"	25	39.68
Fast adaptability	- "flexibility in decision making, in finding solutions" - "we acted quickly to meet our current needs"	25	39.68
Human resources	- "our main advantage is the regular and thorough training of staff for crisis management" - "understandable and available employees"	20	31.75
Digitization and online presence	- "the possibility of performing activities in the online environment" - "the possibility to move 100 % of the activity in the online environment"	20	31.75
External financial support	- "the state guaranteed obtaining a loan, paid the salaries of the staff who were technically unemployed"	18	28.57
Management strategies	- "management involvement" - "an applied business model"	15	23.81
Flexibility of employees regarding work from home	- "the employees adapted very well to the work from home"	10	15.87
Experience of previous crises	- "the experience gained in the past helped us" - "we have a long history in the market"	6	9.52
Cost reduction	- "we have found ways to reduce costs"	4	6.35

% of them considered this support as insufficient. The rest of 53.97 % of the companies didn't receive help from public authorities but they have some recommendations for support measures related to financial factors ("the hotel tax should be cancelled and subsidies for taxes and fees should be offered", "investments should be encouraged through interest-free and state-guaranteed loans", "exemption for a certain period from taxes and duties") or legislative changes ("more stable legislation that does not change every 3 months").

In order to investigate the perceived factors supporting the company to overcome the crisis, we grouped the managers' answers in nine important categories, according to the content of answers and we labeled these categories, using suggestive names, as Table 13 presents in the first column.

The two most important factors that helped firms during different crises are the existence of available resources in the company (the team, the existing clients, their own financial resources, the equipment, the infrastructure") and their capacity to adapt quickly to the new market context. In addition, 31.75 % of the managers mentioned the importance of human resources (loyal and well-trained employees) and digitalization (the possibility to work online, to sell online, using the websites or the flexibility to move the entire activity in the online environment). Another factor supporting the companies was the external financial help received from the authorities or from other sources (family, friends). The efficiency of management strategies (23.81 % of the respondents) and the flexibility of employees to work from home (of the respondents) were also significant factors during the crises. A few managers (less than 10 %) mentioned that the previous experience of the company in crises situations and the strategy of cost reduction were useful in this context.

We wanted to investigate the associations between the factors that support the company in the case of a crisis and the companies' characteristics – i.e. the size of the company, the manager's experience in the current position and the membership among the company's shareholders, the existence of strategies to anticipate possible risks, and of specialized staff to handle unforeseen crises. Table 14 presents the results of the Chi-square tests performed to analyze these associations. No tests were performed between variables with group sizes less than 5 companies.

The factor *Fast adaptability* is statistically associated with the company size and the existence of specialized staff in managing crises. The factors *Human resources* and *External* financial support are associated only with the company size. On the other hand, no significant associations were identified between the other factors and the companies' characteristics.

We verified whether the companies can be clustered into homogenous groups according to company characteristics and the supporting factors. Also, a two-step cluster method is applied. Optimally – with the biggest average Silhouette coefficient – three clusters are created, and their description is presented in Fig. 6.

The first cluster has companies that were supported by their own resources and financial stability but also some from external financial support. The second cluster grouped the companies that overcame the crises due to support from fast adaptability, digitalization, and an online presence. The third cluster has the companies that were supported from inside, due to their management strategies. The profiles for each cluster, using companies' characteristics, are presented in Table 15.

As Table 15 indicates, Cluster 1 has small companies, with less experienced managers, who have crisis strategies. Custer 2 grouped small companies, with less experienced managers, who do not have specialized staff to manage the crises. Cluster 3 describes the medium to large companies, with experienced managers who are among the shareholders, companies that have crisis strategies.

4.4. Companies' reaction in facing the pandemic crisis and lessons for the future

In order *to investigate the measures taken by companies to solve the problems generated by the most significant crises*, five aspects were highlighted: the presence of specialized staff to handle potential problems, the time needed to manage a major crisis (resilience speed), the companies' 'capacity to properly respond, in the event of possible crises that may occur in the future, the measures adopted in the pandemic context that can be used in the future and recommendations for specific measures to better manage future crises that the company may face.'

Asked if there are specialized structures/staff in their company to handle unforeseen situations/crises, 65.08 % of the managers (41) gave a negative answer ("there is no structure, risk management is handled by the management team"), while 34.92 % of them (22 answers) identified categories of staff that are responsible for this important role: administrative staff ("only the company's

Table 14
Associations between the factors that support the company in the case of a crisis and the companies' characteristics.

Factors	Size	Experience	Shareholders	The existence of resilience strategies	The existence of specialized staff
The existence of available own resources and financial stability	5.106	5.202	0.958	0.021	0.005
Fast adaptability	6.645*	1.623	0.958	0.471	2.797*
Human resources	3.916	2.369	0.366	1.269	4.323**
Digitization and online presence	0.527	3.628	0.366	0.312	2.301
External financial support	7.333*	3.527	0.001	0.028	0.685
Management strategies	0.980	5.598	0.984	0.590	0.104
Flexibility of employees regarding work from home	–	–	0.095	3.290*	0.217
Experience of previous crises	–	–	–	–	–
Cost reduction	–	–	–	–	–

Note: Chi-square test values in each cell; *** Significance at 1 % level; ** Significance at 5 % level.

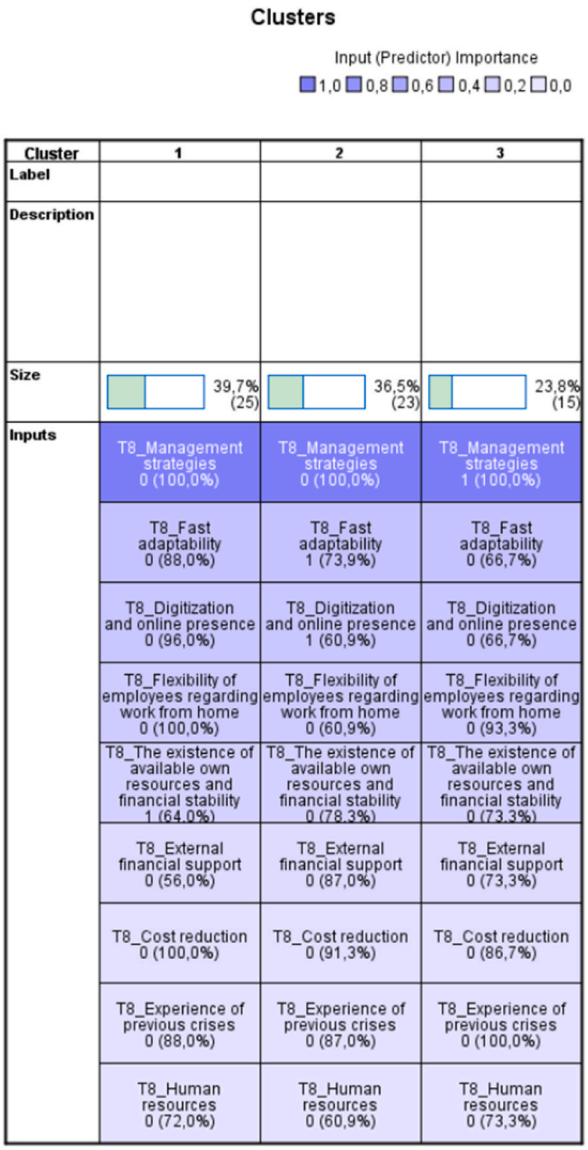

Fig. 6. Description of clusters in the case of the factors that support the company during crisis.

Table 15
Profiles for the three clusters in the case of factors that support the company during crisis.

Companies' characteristics		Cluster 1	Cluster 2	Cluster 3
Size (no. Of employees)	Less than 10	12	16	7
	10–50	6	2	4
	51–250	4	3	2
	More than 250	3	2	2
Manager's experience (years)	Less than 5	11	9	2
	5–10	7	8	7
	11–15	5	3	2
	More than 15	2	3	4
Manager as shareholder	Yes	12	13	10
	No	13	10	5
The existence of resilience strategies	Yes	16	14	11
	No	9	9	4
The existence of specialized staff	Yes	10	7	6
	No	15	16	9

administration is responsible for managing contingencies"), managers ("there is a manager responsible for the financial issues who can look for solutions to crisis situations") or other employees ("there are some employees but they also have other responsibilities included in their job description").

Regarding the time needed to manage the major crisis, the managers were asked how long it has been since the onset of the major crisis that the company they represent has managed to get through the critical period. We grouped the answers in five main categories, presented in Table 16.

More than one third of the managers, (36.51 %) consider that, for their companies (activating in the hospitality sector, veterinary medical services or events planning), the pandemic crisis has not been overcome and they will need one or even two years for this. On the other hand, 6.35 % of the participants presented an optimistic version, because the companies (from fields such as the distribution of frozen products or the distribution of household appliances) manage to maintain or even increase their financial performance, on the market. Previously, when discussing the pandemic's effects, these managers were less concerned than the others because either their field of activity field was not very affected by the COVID-19 pandemic, or they could find proper solutions ("we have focused our resources on the online environment, we are fine", "it was difficult, but it forced us to find new, innovative solutions"). The rest of the answers were grouped into three categories, depending on their resilience speed: very quickly - less than 6 months (retail or pharmaceutical companies); short time for recovery - between 7 and 12 months (retail sale of furniture, lighting and household goods); and medium and long term - more than 1 year (business and management consultancy, construction, insurance and reinsurance, agriculture).

Based on the general resources of the company they represent, 68.25 % of the managers (43 answers) consider that their company has the capacity to properly respond, in the event of possible crises that may occur in the future.

The companies' challenges in the pandemic context forced the managers to find and to implement new measures, to support their resilience capacity. Some of these measures will continue to be implemented in the company's activity after this health crisis ends. Based on the managers' answers, we grouped these measures in six categories, as Table 17 describes.

These measures are important resources for the companies and their managers, who learned important lessons for potential future crises. The most important measure is related to accelerated computerization and the use of the online environment (26.98 % of the answers): digitalization systems, the transfer of activities that were physically performed to the online environment, the focus on online sales, the consolidation of information technology in the company, and online training development. Another lesson that will be applied in the future is the efficient management of financial resources (23.81 % of the answers): the reduction of investments, resource savings, efficient cash flow management, and intelligent cost savings. The COVID-19 pandemic generated the change of the methods and the workspaces of the employees and working from home (smart working) became an important part of the resilience strategy (22.222 % of the answers). Also, the companies were forced to introduce hygienic-sanitary measures, imposed by state authorities but necessary to overcome the health crisis (14.29 % of the answers). Because the need for efficiency is crucial to the company's survival during a crisis, managers learned to implement measures for reducing bureaucracy and simplifying procedures (7.95 % of the answers). The last measure that was applied during the crisis and will be used in the future refers to diversification (4.76 of the answers), a market strategy focused on the marketing mix, such as diversifying the companies' activity and diversifying the portfolio of products/services offered to the customers.

To explore the associations between the implemented measures during the COVID pandemic and important characteristics of the companies, a Chi-square test is performed. The results are presented in Table 18.

The measures related to accelerated computerization and the use of the online environment are significantly associated with the manager being a shareholder and the company having crisis strategies. Working from home is associated with the size of the company and with the manager being a shareholder. There were no other identified associations regarding the other implemented measures during the pandemic crisis. Cluster analysis identified four clusters, as described in Fig. 7.

Four groups were formed, with the first having companies implement measures regarding accelerated computerization and the use of the online environment. The second cluster grouped the companies implementing measures regarding the work from home, while the hygienic-sanitary measures correspond to companies grouped in the third cluster. The last cluster has companies with measures regarding the efficient management of financial resources. The profiles for each cluster, using companies' characteristics, are presented in Table 19.

Table 16
The time needed to manage the major crisis.

Category	Details/quotes	Number of answers	Share (%)
It was not the case	- "our company had a higher turnover in 2020 than in 2019, due to the online sales"	4	6.35
It has not been overcome (the COVID-19 pandemic)	- "I think that due to the pandemic there is still an active crisis, this being the first crisis for HORECA sector" - "according to current plans, the company will exceed the critical period by the end of 2022"	23	36.51
Very quickly	- "in one month", "in 2–3 months", "in 4–6 months"	19	30.16
Short time for recovery	- "in 7–8", "in 10–12 months", "in one year, both in the case of financial crisis and the pandemic"	7	11.11
Medium and long term	- "in 2 years, in the case of financial crisis " - "in 3 years, in the case of pandemic crisis"	10	15.87

Table 17
The measures implemented during the pandemic, also to be used in the future.

Measures	Details/quotes	Number of answers	Share (%)
Accelerated computerization and the use of the online environment	- "online sales" - "continued use of the digitized system implemented by external partners to carry out joint work"	17	26.98
Efficient management of financial resources	- "the reduction of investments will be further implemented, and we will try to restore financial resources" - "efficient cash flow management"	15	23.81
Working from home	- "smart working"	14	22.22
Hygienic-sanitary measures	- "respecting hygienic-sanitary measures"	9	14.29
Reducing bureaucracy and simplifying procedures	- "reduction of bureaucracy regarding the presence of a smaller number of documents in the physical file for the persons recruited for the purpose of the company's activity"	5	7.94
Diversification	- "diversification of the portfolio of services offered to clients"	3	4.76

Table 18
Associations between the implemented measures during the pandemic and the companies' characteristics.

Measures	Size	Experience	Shareholders	The existence of resilience strategies	The existence of specialized staff
Accelerated computerization and the use of the online environment	4.930	1.536	4.125**	3.327*	1.692
Efficient management of financial resources	3.277	2.173	0.630	1.929	0.877
Working from home	29.314***	0.882	12.416***	0.319	1.414
Hygienic-sanitary measures	–	–	0.001	1.967	0.924
Reducing bureaucracy and simplifying procedures	–	–	–	–	–
Diversification	–	–	–	–	–

Note: Chi-square test values in each cell; *** Significance at 1 % level; ** Significance at 5 % level.

The first cluster contains mostly small companies, with less-experienced managers who are also shareholders, and companies with no experienced staff. The second cluster has medium to large companies that have crisis strategies, with somewhat-experienced managers who are not shareholders. Small companies, with less-experienced managers, that do not have specialized staff to manage the crisis, form the third cluster. The last cluster grouped the small and medium companies with managers that have a little to average experience, already having crisis strategies.

Based on their resilience experience, most of the managers (36 participants, representing 57.14 % of the total sample) offered valuable recommendations for specific measures to better manage future crises that a company may face. In general, each manager made more than one suggestion, and the answers were grouped in 5 categories, as Table 20 presents.

The managers' main recommendations are related to marketing, financial, and employee strategies. Regarding marketing strategies (66.67 % of the 36 managers that agreed to give suggestions), the measures involved diversification ("better diversification of the portfolio of services offered", "expanding the activity by equipping it with wood processing equipment to meet the increasingly diverse demands"), analysis ("tracking the market and competitors and how they adapt", "studies and analyzes for data collection and their use for the development of new strategies"), customer relationship strategies (for both business to business and business to consumer market), collaboration with competitors for possible crises, and strategic planning (setting objectives, the priorities, the best marketing strategies).

As for financial strategies (50 % of the 36 managers that agreed to give recommendations), most of the suggestions were related to capitalization ("in recent years, we have capitalized on the company but in the face of a natural calamity like drought you can't resist without national support", "accumulation of cash in order to be prepared for a new crisis, "improving capitalization and liquidity indicators"), investments ("stopping or reducing investment in order to be prepared for a new crisis") and costs ("negotiating a more flexible workplace lease", "in times of crisis you have to give up profit, invest, and conserve capital"). Also, 11.11 % of the participants recommended the implementation of a crisis budget ("monthly or fixed-term allocation of a budget saved for unforeseen expenses in order to manage crises", "a reserve fund").

For 25 % of the managers, the improvement of employee-related strategies is good advice to better manage future crises that the company may face in the future. These measures consider two directions: changes in the dynamics of the number of employees ("there is a possibility of staff reductions and an inability to find new employees; this last aspect is a characteristic of the Romanian labor market", "keep employees - the most profitable resource", "hiring people specialized in crisis management") and internal communication ("a better communication with the staff").

The other two suggestions are measures involving external support ("state support in partial exemption from taxes and fees", "exemption from rent payment by the local council, at least during the state of emergency") and outsourcing ("outsourcing more services").

To explore the associations between measures' recommendations and the companies' characteristics (the size of the company, the manager's experience as well as status as a shareholder, the existence of strategies to anticipate possible risks and of specialized staff to

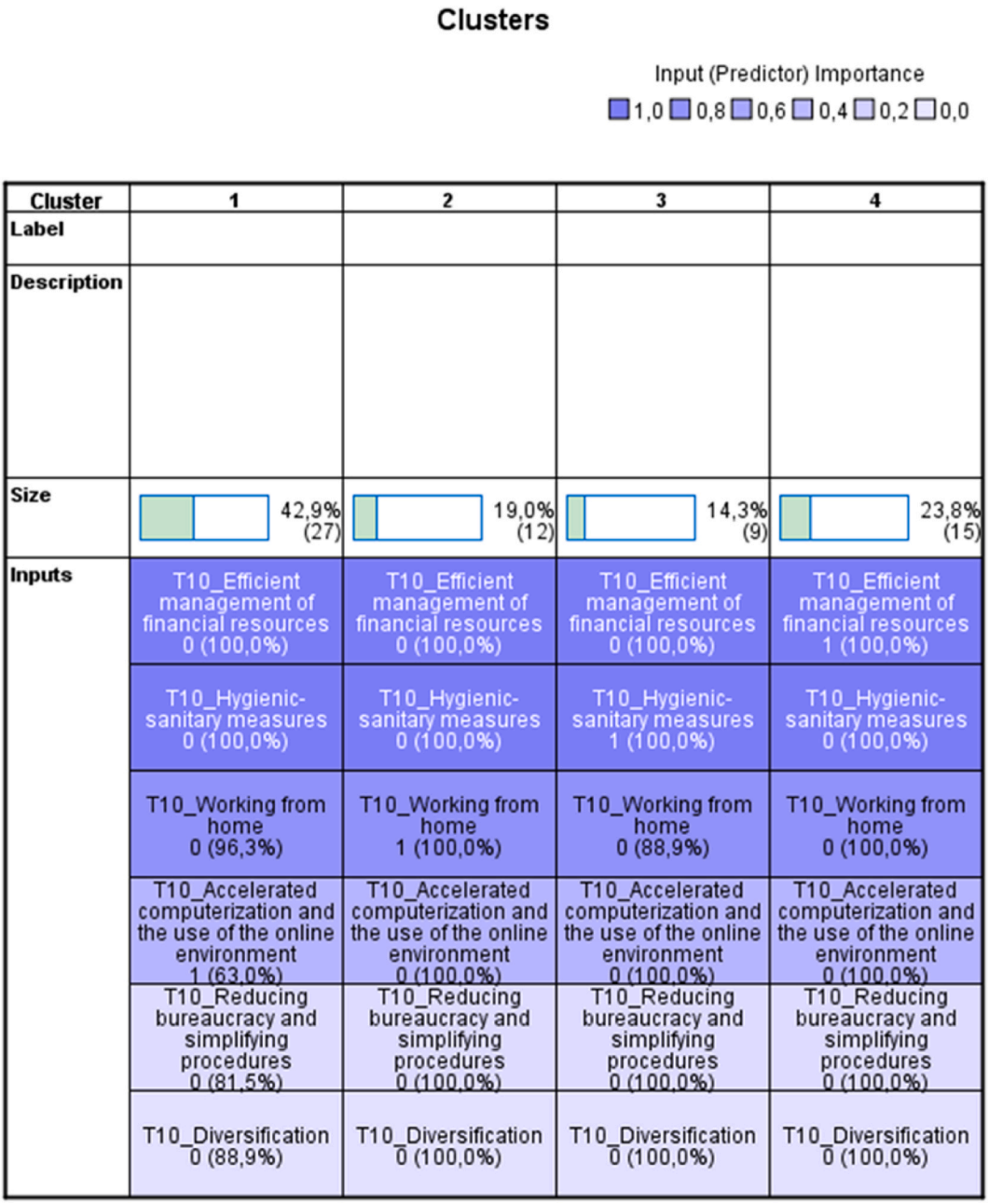

Fig. 7. Cluster description in the case of implemented measures during the pandemic.

handle unforeseen crises), a Chi-square test is performed. No tests were performed between variables with group sizes less than 5 companies. The results are presented in Table 21.

As Table 21 indicates, the recommendations regarding marketing strategies are associated with the size of the company. Also, the financial strategy recommended by the managers was the association with the managers being shareholders or not. No other statistically significant associations were identified. Since the association analysis has highlighted that there are some differences between companies, further we will verify whether the companies can be clustered into homogenous groups according to the measures' recommendations. As with the previous analysis, a two-step cluster method is applied. Optimally– with the biggest average Silhouette coefficient – two clusters are created and their description is presented in Fig. 8.

The first cluster groups companies that generally have no strategies to recommend, and also some companies with recommendations for marketing strategies. The second cluster has the companies with recommendations for financial strategies, marketing strategies, and some employee strategies. The profiles for each cluster, using companies' characteristics, are presented in Table 22.

Table 19
Profiles for the four clusters in the case of implemented measures during the pandemic.

Companies' characteristics		Cluster 1	Cluster 2	Cluster 3	Cluster 4
Size (no. Of employees)	Less than 10	19	2	6	8
	10–50	6	0	1	5
	51–250	2	4	2	1
	More than 250	0	6	0	1
Manager's experience (years)	Less than 5	7	4	4	7
	5–10	12	3	3	4
	11–15	4	2	1	3
	More than 15	4	3	1	1
Manager as shareholder	Yes	21	2	5	7
	No	6	10	4	8
The existence of resilience strategies	Yes	17	8	4	12
	No	10	4	5	3
The existence of specialized staff	Yes	9	5	2	7
	No	18	7	7	8

Table 20
The recommendations for specific measures to better manage future crises.

Categories	Measures	Number of answers	Share (%)[a]
Marketing strategies *(24 answers, 66.67 % of the managers[a])*	diversify the companies' activity	9	25.00
	marketing analysis	6	16.67
	customer relations	3	8.33
	supporting business customers	2	5.56
	collaboration with the competitors	2	5.56
	strategic planning	2	5.56
Financial strategies *(18 answers, 50 % of the managers[a])*	capitalization	5	13.89
	reducing expenses	5	13.89
	stopping investments	4	11.11
	crisis budget	4	11.11
Employee strategies *(9 answers, 25 % of the managers[a])*	changes in the dynamics of the number of employees	6	16.67
	internal communication	3	8.33
External support *(3 answers, 8.33 % of the managers[a])*	state support	3	8.33
Outsourcing *(3 answers, 8.33 % of the managers[a])*	outsourcing of services	3	8.33

[a] From the total number of managers that answered positively to the questions (36 managers).

Table 21
Associations between the measures' recommendations and the companies' characteristics.

Categories	Size	Experience	Shareholders	The existence of resilience strategies	The existence of specialized staff
Marketing strategies	9.275**	1.819	0.121	1.679	0.016
Financial strategies	3.846	2.814	5.040**	1.788	2.219
Employee strategies	–	–	0.001	2.619	0.046
External support	–	–	–	–	–
Outsourcing	–	–	–	–	–

Note: Chi-square test values in each cell; *** Significance at 1 % level; ** Significance at 5 % level.

According to Table 22, the first cluster has small to medium companies, with managers with low to average experience, but with no specialized staff to handle the crisis. The second cluster grouped companies with managers with average to long, who are shareholders, that implemented resilience strategies in a crisis scenario but with no specialized staff in this area.

5. Discussions and conclusions

The results prove that the COVID-19 pandemic had a significant impact on Romanian companies, with most of the participants to our study considering it to be the most important crisis in terms of general and macroeconomic impact. From this point of view, important differences were also identified between the way the managers perceive the pandemic comparing to the previous crises in terms of impact. In this context, most of the managers focused on the negative effects of the pandemic, while many of them mentioned the negative impact of the pandemic on their businesses [72]. Compared to the perceived impact of the previous crisis [73], differences related to most of the items were encountered especially about additional costs, working place, reducing or closing operations, clients, strategies, and suppliers.

The negative effects of the crisis, resulting from the present research, are in line with other studies. The crisis companies faced, including the pandemic, lead to financial negative effects-such as declining sales and declining turnover [72,74–76], changes in the

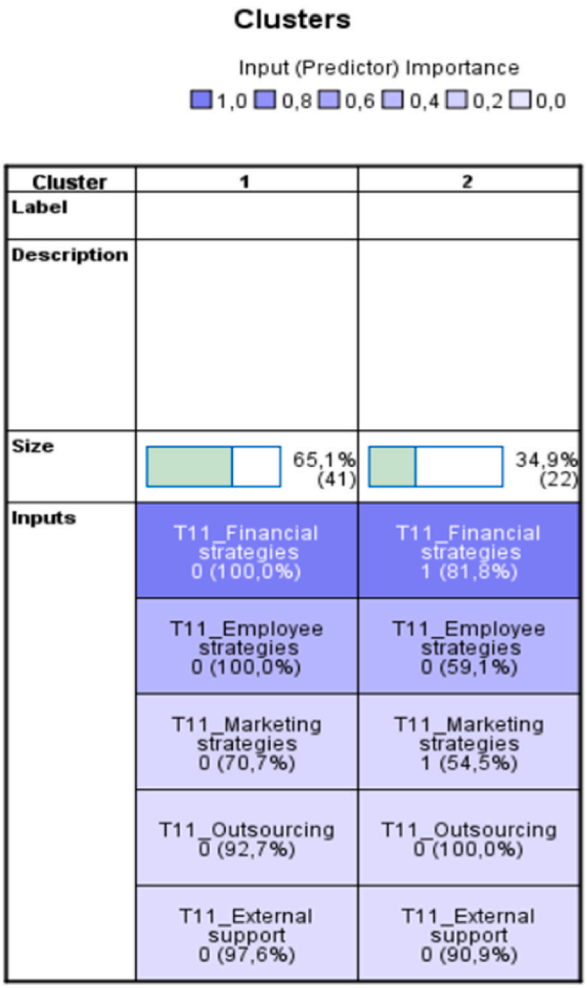

Fig. 8. Cluster description in the case of recommended measures to overcome future crises.

Table 22
Profiles for the two clusters in the case of recommended measures to overcome the future crises.

Companies' characteristics		Cluster 1	Cluster 2
Size (no. Of employees)	Less than 10	21	10
	10–50	10	2
	51–250	7	2
	More than 250	3	4
Manager's experience (years)	Less than 5	16	6
	5–10	15	7
	11–15	4	6
	More than 15	6	3
Manager as shareholder	Yes	20	15
	No	21	7
The existence of resilience strategies	Yes	23	18
	No	18	4
The existence of specialized staff	Yes	16	7
	No	25	15

workplace [76], the need to reduce or even close the activity [74], decreasing number of clients [74] or changing market strategies.

The results also confirm the specificity of the pandemic, as a crisis with multidimensional effects on society, compared to the most recent global financial crisis, for example. At the same time, it was confirmed the fact that not all companies were influenced in the same way and with the same intensity, with some patterns being identified when analyzing the level where the impact of the crisis manifested. The analysis performed here suggests the existence of some important differences related to the main changes adopted in

the strategic marketing planning process, the perceived factors supporting the company to overcome the crisis, the measures implemented during the pandemic etc., confirming the existence of some behavioral patterns for each considered item.

The pandemic crisis had a positive effect as well, providing a better mindset for future challenges, at the management level. The pandemic generated the changes in the mentality of these companies – they integrated in their business different measures and strategies to help and to prepare them for the future challenges. Management and leadership are the two dimensions that are primarily responsible for identifying, selecting, and implementing solutions necessary to overcome the shortages generated by the crisis, results which are consistent with Domi & Krasniqi (2019) [49], Kashyap et al. (2020) [77], and Noor et al. (2020) [42].

The primary source of the necessary resources to overcome the shortages generated by the COVID crisis was self-support. Most of the companies realized that in case of crises they can rely on their own resources, on their own competencies, and they do not expect to get any external financial support. At the same time, most of the companies didn't receive help from public authorities or any public support was considered inefficient comparing with the magnitude of the impact [78,79]. The resources that were relevant for the companies were related to the human resources and the financial potential. In the first category, we can include the flexibility of the program, through working from home and balancing remote and real life, results that are consistent with Kashyap & Raghuvanshi (2020) [52], and skills transitions, agility and innovation, consistent with the findings of Kashyap et al. (2020) [77] and Tera et al. (2021) [55].

As a result of the crises that the companies had faced so far, the most important management changes referred to the strategic marketing planning process. They are related to: decisions making processes (new analysis tools for making decisions quickly and digitalization), financial aspects (paying terms, investments, receivables, budgets and costs reduction), vision-related strategies (transparency, flexibility, predictability) and marketing strategies (such as customer relationship strategies, online migration or diversification). More than half of the companies have strategies or plans to anticipate the risks of facing a new crisis and some of them even have specialized staff to handle unforeseen situations or crises.

Based on their resilience experience, the managers offered valuable recommendations related to marketing, financial, and employee-related measures to better manage future crises. The permanent improvement of marketing strategies (diversification, customer relationship strategies, strategic analysis and planning) represents an important resource supporting companies to better handle a potential crisis. Financial measures (capitalization, investment policy and cost management) and employee-related strategies [80] are also necessary for overcoming the crisis.

Last, but not least, one of the most important lessons learned from the pandemic crisis that can be helpful in the future is represented by the role of digitalization, especially in terms of accelerated computerization and use of the online environment. These findings correspond with other studies related to the role of deeper digital capabilities in helping companies to overcome the pandemic more easily [51,77,81].

In conclusion, the main results indicate that the most important crises affecting the companies are related to issues in their specific field of activity (such as legal regulations, political factors), general country characteristics (socio-demographic or legislative factors), and global factors (the financial crisis and the COVID-19 pandemic). These crises affected the firms on the financial, organizational, and marketing levels, but most of the analyzed companies found different ways to adjust and to overcome the crisis.

The strengths of our study are primarily related to the fact that it was conducted during the pandemic, more than one year from its beginning, when companies already had enough experience in dealing with the effects of this medical crisis, as well as the time necessary for adapting to the new context. Secondly, using the in-depth interview allowed us to add new items and adjust the approaches used for previous crises in order to capture the specificity of the pandemic, but also the particularities of the Romanian business environment. In addition, it must be emphasized that the results related to the cluster analysis proved the existence of some behavioral patterns related to the reaction, a fact that could be very helpful for the practitioners in assessing the utility of this study, but also for other researchers who would intend to focus their analysis on a specific industry or type of companies.

5.1. Theoretical and practical implications

One important theoretical implication might be related to the research methodology. The questions used for in-depth interviews, the items considered relevant for each specific research objective, as well as the way the specificity of the pandemic crises was integrated in the analysis could be significant theoretical inputs for the literature in the field. The list of the companies' affected resources during previous crises (for every of the fourth levels – the financial, organizational, market, and relational levels) or the items describing the perceived factors supporting the company to overcome the crises (such as the existence of available own resources and financial stability, company's fast adaptability capability, the quality of human resources or the digitization and online presence) are significant resources that can be used in further quantitative surveys. Also, both the analysis investigating the associations between different aspects of companies' resilience (the level at which the negative impact of previous crises or the COVID crisis have manifested in the company, the factors that support the company in the case of a crisis, the measures implemented during the pandemic) and the companies' characteristics (the size of the company, the manager's experience in the current position and the belonging to the company's shareholders, the existence of strategies to anticipate possible risks and of specialized staff to handle unforeseen crises) and the cluster grouping analysis can be replicate in other research studies on that topic.

At the same time, the paper is of major interest to managers and business practitioners, synthesizing best practices and relevant experiences that are useful in a context where the business environment is increasingly facing more and more diverse and unexpected crises. This research study revealed that managers have learned important lessons from the past for potential future crises. Accelerated computerization and the use of the online environment is the most important measure to support the resilience capacity that will continue to be implemented in the companies' activity. The companies worked on digitalization systems, transferred the activities that

were physically performed in the online environment, focused on online sales, consolidated their information technology systems, and developed online training programs. Also, the efficient management of financial resources was another lesson that will be applied in the future: the reduction of investments, resource savings, efficient cash flow management, and intelligent cost savings. These measures can be used by other companies, with less experience on the market, when implementing strategies to handle potential crisis.

Thus, the study contributes to strengthening the relationship between scientific research and the beneficiaries of its results in the economic and social fields, increasing the relevance and impact of the theoretical approach. Moreover, the results are relevant for the policymakers, confirming the necessity of focusing on the Sustainable Development Goals, especially on *Decent work and economic growth*, as well as *Sustainable cities and communities*, as premises for building and consolidating business resilience.

5.2. Research limitations

The first research limitation derives from the exploratory nature of the study, with valuable results that still need to be confirmed in other future studies. Also, the structure of the sample is a second limitation, due to the fact that the companies were randomly chosen, trying to cover as many domains as possible and the whole North-East region of Romania, according to the availability of the managers to participate in the interviews. Furthermore, because the managers participated in our study while they were still confronting the pandemic, it is possible to have distortions when it comes to comparisons between the pandemic and the previous crises they had to overcome.

5.3. Future research directions

One important possible future research agenda is to conduct a quantitative survey based on a questionnaire built with items discovered in this qualitative research. The survey will include a larger sample, structured on relevant companies' characteristics, and covering the entire country. This way, the scientific relevance of the results will increase, and potential regional specificities could be found. At the same time, the existing research methodology, combining qualitative and quantitative methods, could also be used in the future, in the case of new crises, in order to identify changes in managers' behavior and companies' reactions, and to improve the questionnaire for the quantitative analysis.

Data availability statement

Data included in article/supp. Material/referenced in article.

CRediT authorship contribution statement

Liviu-George Maha: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Supervision, Writing – original draft, Writing – review & editing. **Iuliana Claudia Stoian:** Data curation, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing. **Silviu Bejenar:** Formal analysis, Investigation, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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