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Performance of MSMEs and entrepreneurs; Strategies to overcome the effects of the pandemic

Desempeño de MiPyMEs y emprendedores; estrategias para superar los efectos de la pandemia

Lisana B. Martinez [1,2,3*] , Valeria Scherger[1,2]

[1]Instituto de Investigaciones Económicas y Sociales del Sur, Argentina
[2]Universidad Nacional del Sur, Argentina
[3]Universidad Provincial del Sudoeste, Argentina

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Abstract

Given the importance of MSMEs (Micro, Small and Medium Enterprises) in the economies and the impact of the measures addressed by governments to cope with the effects of the 2020 pandemic, it is relevant to identify the critical factors that affected business success. The post-pandemic situation of 154 Argentinean MSMEs is analyzed taking into account the profile of the entrepreneurs, the characteristics of the enterprises and the measures and strategies addressed during the study period. Ordinal logit models are applied to detect the incidence of these factors on the post-pandemic situation. A greater incidence of internal factors than external factors on business performance is identified, highlighting resilience, management capacity to manage MSMEs and improvements implemented in the production process as positive determinants of a good post-pandemic situation.

JEL Code: G17, M21, G33
Keywords: entrepreneurial success; ordinal logit; MSMEs; post-pandemic; entrepreneurship; entrepreneurship

* Author for correspondence
E-mail:lisanabelen.martinez@gmail.com (L. B. Martinez).
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Resumen

Dada la importancia de las MiPyMEs (Micro, Pequeñas y Medianas Empresas) en las economías y el impacto de las medidas abordadas por los gobiernos para sobrellevar los efectos de la pandemia de 2020, resulta relevante identificar los factores críticos que incidieron sobre el éxito empresarial. Se analiza la situación post-pandemia de 154 MiPyMEs argentinas teniendo en cuenta el perfil de los empresarios, las características de los emprendimientos y las medidas y estrategias abordadas durante el período de estudio. Se aplican modelos logit ordinales para detectar la incidencia de estos factores sobre la situación postpandemia. Se identifica una mayor incidencia de los factores internos frente a los externos sobre el desempeño empresarial, destacándose la capacidad de resiliencia, la capacidad del management para gestionar las MiPyMEs y las mejoras implementadas en el proceso productivo como determinantes positivos para que las empresas registren una situación post-pandemia buena.

Código JEL: G17, M21, G33
Palabras claves: éxito empresarial; logit ordinal; MiPyMES; post-pandemia; emprendimientos

Introduction

Micro, small and medium-sized enterprises (MSMEs) were one of the sectors most affected by the measures taken during the Covid-19 pandemic (Fabeil et al., 2020; Kantis and Angelelli, 2020; Fink et al., 2021; etc.). This situation has prompted the study of the key factors or determinants of company performance in the face of new challenges. The identification of these key aspects makes it possible to learn from past experiences and avoid situations of failure, as well as to design programs and measures to support MSMEs. For this reason, it is important to characterize the enterprises and identify the critical factors that have an impact on business survival and success in the post-pandemic period.

Much of the literature has focused on the study of business failure, emphasizing models that predict and rank firms rather than pointing to the elements that explain and distinguish successful firms from those that fail (Alaka et al., 2017; Scherger et al., 2018 and 2019, among others). That is, most of the literature focuses on estimating the best indicators capable of predicting failure situations based on different methodologies. Halabí and Lussier (2014) review the main questions that the literature on the subject tries to answer and mention that the identification and measurement of critical success factors is an area of gap.

The objective of this paper is to identify the key determinants for the performance of MSMEs[1] in the Southwest of the province of Buenos Aires (Argentina) during the post-pandemic period, considering three possible scenarios: a good, a fair or a bad situation. As explanatory variables, selects a

[1] In this article, reference will be made to the term MSMEs, which includes SMEs and entrepreneurs, referring to small enterprises that carry out some kind of productive activity.

set of factors identified in the literature to explain business failure and firm performance. The characteristics of the MSMEs and of the owners, the strategies and practices implemented, the resilience capacity, the availability of financing and the impact of external factors outside the management of the MSMEs are considered. The data used in the study come from a proprietary survey of Argentinean MSMEs conducted during the months of July and August 2021. We propose the use of an Ordinal Logit model to assess the relevance of a set of factors on firm performance.

It is considered that this work makes an important contribution to the study of the subject because it uses data from a particular sample and because there are no similar works for this region of Argentina that study the incidence of the pandemic from the perspective of business failure.

The structure of the article is as follows: the first section presents the introduction to the subject and the objective of the paper; the second section presents a review of the literature related to business failure and the identification of key factors for the performance and survival of companies and in particular the specific aspects of the post-pandemic context. The third section presents the working hypotheses, data and methodology used. The fourth section shows the results obtained and the fifth section discusses the findings and then the conclusions of the work.

Literature review

Altman (1968) defines failure as the end of the company's activity (or bankruptcy), referring to the moment in time when a marked change occurs that threatens the continuity of the organization. However, a crisis does not necessarily imply bankruptcy. A crisis can be a temporary situation in the life of a company, and in this case, the capacity to adapt and the strategies used to survive are central (Beaver, 1966). Given this discussion on the definition of failure, authors such as Lizano et al. (2010) classify companies into several segments: i) companies with negative results (economic failure); ii) companies with negative net worth (financial failure); iii) companies in receivership (more acute financial failure); and iv) companies in bankruptcy (economic and financial failure). The Covid-19 pandemic revealed different scenarios for MSMEs, showing business opportunities and crisis situations that could lead to different trajectories, including insolvency and bankruptcy. Therefore, in this context it is relevant to study the causes of business failure (Argenti, 1983; Gabás, 1997; Ooghe and De Prijcker, 2008) in a broad sense, considering the characteristics and behaviors of MSMEs to overcome the pandemic.

Most traditional models aim to determine the best economic-financial indicators or ratios capable of predicting insolvency situations in companies (Beaver, 1966; Altman, 1968; among others). Over the years, efforts in the literature have focused on overcoming the methodological limitations of these models through the introduction of more sophisticated techniques and the use of other quantitative

variables to improve the results of the estimates, identifying very few works that delve into the analysis of the causes of business failure, most of which are enunciative works that list the causes relevant to the analysis. The most relevant contributions are discussed chronologically below.

One of the first authors to work on the analysis of causes is Argenti (1976 and 1983) who points out a set of relevant factors for the prediction of business failure. Argenti (1983) proposes an A-score to diagnose companies based on the assessment of causes and errors. Among the factors he identifies poor administrative management, a passive board of directors, competition, the weak role of the financial director, the absence of middle management, the lack of budgetary control, the absence of financial planning, the lack of accounting and the lack of response to change as the determinants of poor company performance. It also identifies errors related to high indebtedness, the development of projects beyond the company's possibilities and uncontrolled growth.

Gabás (1997) then presents a list of the most common causes of business failure, distinguishing between internal, special and external causes. Among the external causes, he includes market factors (competition and falling demand) and those related to the economic and social environment (depressive phase, external crises and shocks, government policy and significant social changes). Internal causes include management inefficiency, wrong and inappropriate strategies, inefficiencies in the production system, bad investments, high indebtedness, problems related to bankruptcy costs, late payments, the age of the company and the stage in the life cycle of the product. Finally, special causes refer to the high mortality of start-ups and young companies during the first years of life.

From these early developments, other authors such as McGahan and Porter (1997) and Rumelt (1997) find that external factors are the ones that best explain the performance of firms, to the detriment of internal causes. Among these factors they identify changes in demand and market structure and variations in consumer preferences, rivalry among current and potential competitors, falling demand and technological uncertainty, among others. Becchetti and Sierra (2003) consider it convenient to include in the analysis of performance variables related to the organization's strategy, for example, the competitive position, the degree of market concentration and the firm's level of exporting. Then, Grunert et al. (2005) highlight the importance of including age, type of business and sector in combination with economic and financial ratios as well as qualitative variables to explain failure.

Cardon et al. (2011) carry out an analysis of the causes that can be controlled with respect to those that cannot be monitored by the company's management or the entrepreneur, and therefore assess the impact of external causes on factors internal to the organization. Halabí and Lussier (2014) estimate three categories of SME performance considering as variables the use of internet and networks, working capital, availability of financial and accounting information, planning, partner involvement, educational level, family management background and marketing to predict small business performance. On the other

hand, Scherger et al. (2014 and 2015) propose a formal framework for causal analysis through the integration of a fuzzy business diagnostic model and the balanced scorecard, which is used by firms for continuous business monitoring. They propose 72 causes distributed in 14 strategic areas of the firm (business learning, innovation and technology, labour, cost optimization, technical efficiency, purchasing policy, distribution and logistics, exogenous changes, commercial management, sector evolution, customer satisfaction, quality and prices, financial management, risk management and activity results) that allow identifying the area where the problem is registered and disaggregating until the specific cause is found. The causes and symptoms identified through the analysis are used to diagnose the economic and financial situation of enterprises and then to estimate the causes of business failure and/or performance.

Khelil (2016) proposes three key categories of failure: external causes, factors linked to entrepreneurs' decisions and behaviors, and emotional causes. In addition, they identify five different profiles of entrepreneurs that could generate different entrepreneurial trajectories. Other contributions, such as Amankwah-Amoah (2016), highlight the interaction between the firm's situation and external factors as a potentially robust explanation of entrepreneurial failure. On the other hand, Eschker et al. (2017) point to entrepreneurial experience, availability of external funds (from family or personal), mentoring, use of the internet for information and networking, having a clear business plan and marketing advice as the best indicators of success for rural entrepreneurs.

In turn, Kücher et al. (2020) suggest that internal firm attributes such as leadership, management, resources, capabilities and firm age are the root causes of business failure, ruling out the influence of external factors as the main causes of business failure or success. Along these lines, Caballero-Morales (2021) identifies that innovation and cost optimization were key aspects of business recovery in the post-pandemic recovery period. Sanhokwe (2022) also focuses on internal causes by studying the survival probabilities of MSMEs, incorporating the introduction of new and improved processes or products and services to reduce the probability of failure. In turn, Heredia Bustamante et al. (2022), based on a study of Mexican SMEs, argue that entrepreneurs recognize that the implementation of innovative approaches in the accounting area of the organization can be a determining factor in consolidating a management focused on integrated accounting information systems, as well as for the generation of reports with reliable information that facilitates decision-making in highly complex contexts.

Molina-Sánchez et al. (2023), through a study of 1416 Mexican MSMEs, analyze the factors that determine the resilience of MSMEs and confirm that business management, innovation and access to finance have a positive and significant influence on their resilience. García-Contreras et al. (2021) find for a set of SMEs in Mexico and Chile that both the COVID-19 crisis and resilience factors have an influence on SME performance. Likewise, Ponce Andrade et al. (2020) analyze the fall in sales, lack of liquidity, paralysis of the supply chain and the absence of policies to support MSMEs as decisive factors

in the mortality of companies in the pre- and post-pandemic period in Ecuador. All studies conducted for global and/or specific regions show the reaffirmation of the factors that explain failure, as well as the change of dynamics and the identification of other relevant factors as a consequence of the pandemic.

The Covid-19 crisis is considered one of the largest simultaneous economic and public health crises in recent history, leading to significant drops in consumption and employment worldwide (Wenzel et al., 2020; Meahjohn and Persad, 2020; Brown et al., 2020; Liguori and Pittz, 2020; Sharma et al., 2020; Fabeil et al., 2020; Donthu and Gustafsson, 2020; Baque-Cantos et al., 2020). In response to the crisis, governments around the world adopted social distancing measures, closed borders and devised programs to support small and large businesses to heal the situation.

Portuguez and Gómez (2021) present a review of the literature, analyzing the studies that link entrepreneurship, resilience and the post-pandemic crisis situation of companies. They highlight that resilience is a key capacity that allows firms to adapt and strengthen themselves in these situations and identify as factors of this capacity those related to the attitudes and strategies adopted in the face of the crisis, the characteristics of the business and the entrepreneur, relations with institutions, human and social capital and the strategic management of the business.

All these studies show that MSMEs were heavily affected by the pandemic and that firm performance is linked to multiple causes that interact to result in trajectories of success or failure.

According to the literature review in table 1, the articles that refer to the determinants of entrepreneurial success and failure are presented.

Table 1
Relevant factors identified in the literature

Factors	Authors
Innovation and technology activities, cost optimization, technical efficiency, quality and price improvements.	Gabás (1997), Madrid and García (2006), Scherger et al. (2015), Insights (2021), Caballero-Morales (2021) and Sanhokwe (2022).
Comercial strategies	Lussier (1995), Theng and Lim (1996), Halabí and Lussier (2014) and Eschker et al. (2017).
Availability of funding sources and capital injection.	Argenti (1983), Lussier (1995), Gabás (1997), Ghosh et al. (2001), Halabí and Lussier (2014), Eschker et al. (2017) and Sanhokwe (2022).
Adaptation to market conditions and/or resilience.	Argenti (1976), Gabás (1997), Scarlat and Delcea (2011), Scherger (2015), Portuguez and Gómez (2021) and Kantis and Angelelli (2020), García-Velasco and Molina Sanchez (2021).
Managerial experience, planning, budget control, mentoring, staff quality and networking.	Gabás (1997), Lussier (1995), Ghosh et al. (2001), Ooghe and De Prijcker (2008), Scherger (2015) and Kücher et al. (2020).

Gender of owners/managers	Klyver et al. (2013), Khan and Vieito (2013) and Brahma et al. (2019).
Age of owners and/or managers	Bhave, (1994), DeTienne and Chandler (2007) and Kautonen et al. (2011).
Age and size of the company.	Dörr et al., 2022) Kantis and Angelelli (2020)
Impact of external and internal factors.	Argenti (1976 and 1983), Gabás (1997), Scherger (2015) Khelil (2016), McGahan and Porter (1997), Rumelt (1997) and Kücher et al. (2020), Baque-Cantos et al. (2020).

Source: Own elaboration

Among them, Gabás (1997), Madrid and García (2006), Scherger et al. (2015), Insights (2021), Caballero-Morales (2021) and Sanhokwe (2022) highlight the importance of innovation and technology activities, cost optimization, technical efficiency and improvements in quality and prices as relevant factors to avoid failure. Other authors (Lussier, 1995; Theng and Lim, 1996; Halabi and Lussier, 2014 and Eschker et al., 2017) highlight the incidence of business strategies for business development.

In the literature, financial resources are one of the most recognized constraints to business development, therefore, it is argued that the availability of financial sources improve the performance of MSMEs (Argenti,1983; Lussier, 1995; Gabás, 1997; Ghosh et al., 2001; Halabí and Lussier, 2014; Eschker et al., 2017). Notably, Sanhokwe (2022) shows that capital injection improves firms' chances of survival after the pandemic.

In turn, Argenti (1976), Gabás (1997), Scarlat and Delcea (2011) and Scherger (2015) comment on the importance of flexibility in the structure of firms to respond to changes in the market; i.e. they highlight resilience as one of the determinants to improve the situation of firms. Portuguez and Gómez (2021) and Kantis and Angelelli, (2020) highlight that resilience is a key capability that allowed firms to become stronger in times of pandemics.

In terms of some authors, the management of a company is related to the manager's experience, planning, budget control, counselling, staff quality and networking (Gabás, 1997; Lussier, 1995; Ghosh et al., 2001; Ooghe and De Prijcker, 2008; Scherger 2015; Kücher et al., 2020) as relevant for the success of an organization, considering that if the business management is orderly and adequate, it is possible that better strategic decisions are taken. On the other hand, some authors (Klyver et al., 2013; Khan and Vieito, 2013 and Brahma et al., 2019) consider that the gender of owners or managers affects the success of firms, identifying that women may have advantages in business management, through greater attention to detail, an interpersonal oriented approach, multitasking ability and greater risk aversion. However, barriers and inequalities have also been identified that limit women's participation and success in entrepreneurship through limited access to finance. Along these lines, other authors (Bhave, 1994; DeTienne and Chandler, 2007; Kautonen et al., 2011) consider the effect of the age of owners and/or managers on the performance

of MSMEs, although they argue that the relationship between the age of the manager and the success or failure of the firm is complex and depends on many other factors, such as previous entrepreneurial experience, education and entrepreneurial skills.

Likewise, the age and size of the firm (Dörr et al., 2022) are also determinants of business success. Kantis and Angelelli (2020) identify that the firms most affected by the pandemic are younger firms, although they note that firms in the technology sector and some dynamic start-ups had less pronounced impacts than older firms.

On the other hand, the literature highlights the impact of external factors on the performance of MSMEs. These exogenous changes are considered by most authors studying the causes of business failure (Argenti, 1976 and 1983; Gabás, 1997; Scherger, 2015; Khelil, 2016). McGahan and Porter (1997) and Rumelt (1997) mentioned that external factors best explain business failure, rather than internal causes that can be controlled by managers. In contrast, Kücher et al. (2020) suggest that internal causes are at the root of problems, dismissing the influence of external factors as primary causes of business failure or success. Given the importance of external factors, despite the discrepancies, it is proposed to consider in this variable the impact of the macroeconomic situation, the impact of measures triggered by Covid-19 and of public policy programs on firm performance.

All these causes mentioned in the literature are considered in order to investigate the trajectories (good, fair and bad) of MSMEs in the post-pandemic period with the aim of identifying the relevant aspects to survive, succeed or avoid failure. The present study is carried out on the basis of a specific survey designed to detect the characteristics of the enterprises and the manager/owner, the strategies used and the impact of external factors on the performance of the enterprises.

Working hypothesis, data and methodology

Based on the literature review and models that analyze the causes of business survival and failure, the following working hypotheses are presented. They reflect the expected impact of the variables analyzed on the post-pandemic situation of MSMEs.

H_1: Improvements in production and internal management processes, as well as increased resilience, improve the company's post-pandemic situation.

H_2: The incidence of macroeconomic environment factors and other exogenous variables affect the firm's post-pandemic performance.

H_3: Strategies implemented by MSMEs increase the likelihood of recording a good post-pandemic situation.

In our country, MSMEs are a major driver of economic activity and employment generation. However, it is known that in developing countries between 50 and 75% of enterprises cease to exist during their first years of life (Stam and Wennberg, 2009).

In order to assess the impact of the pandemic and the implementation of palliative and strategic measures to boost activity, an exploratory analysis was carried out to detect the economic situation of MSMEs in the Southwest of the province of Buenos Aires (SOB), in Argentina. This region is composed, from a political/administrative point of view, of a group of districts comprising rural and urban areas, and its population centres range from small settlements to the intermediate city of Bahía Blanca. Furthermore, the region represents 25% of the territory of the province of Buenos Aires (Schroeder and Formiga, 2011). It is characterized by an important petrochemical pole, a strong presence of agro-industrial and service companies; and represents a strategic node for the country's economic development given that it has the largest deep-water port in the country, and a road and rail transport system that allows the transport of goods to and from other areas (Elías and Barbero, 2017).

The survey was conducted online, during the months of July and August 2021, using snowball methodology. Snowball sampling is a type of non-probability sampling used when potential participants are difficult to find or when the sample is limited to a very small subset of the population. The municipalities in the region, business chambers and entrepreneurs' groups collaborated in disseminating the survey. The localities that participated in the survey are: Bahía Blanca (85), Coronel Pringles (11), Coronel Dorrego (1), Coronel Rosales (26), General Lamadrid (1), Patagones (3), Pigüé (6), Puán (4), Tornquist (8), Tres Arroyos (3), Tres Lomas (1) and Villarino (2). Of the total number of responses, only 3 companies did not disclose their location.

The survey was carried out using a google form, guaranteeing the confidentiality of the data and used for research purposes. Of the 168 responses obtained, 154 active enterprises were identified and selected to assess the post-pandemic situation.

The application of Ordinal Logit models is proposed and the post-pandemic situation of MSMEs is selected as the dependent variable, grouped into 3 categories: good, fair and bad situation. Long (1997) points out that these models can be developed from a latent variabley^* , which is linearly related to the explanatory variables, through the structural model presented in (1).

$$y^* = X_i \beta + \varepsilon_i \tag{1}$$

The latent variabley^* (post-pandemic situation) is related to the observed variabley_i^o through equation (2):

$$y_i^o = \begin{cases} 1\ si\ 0 \le y_i^* < \tau_1 \\ 2\ si\ \tau_1 \le y_i^* < \tau_2 \\ 3\ si\ \tau_2 \le y_i^* \le 1 \end{cases} \quad (2)$$

Where, τ are the cut-off points to be estimated.

For the ordinal model, the dependent variabley_i^o is defined as:

$y_i^* = 1$, -if the MSME considers the post-pandemic situation to be good.

$y_i^* = 2$, -if the MSME considers the post-pandemic situation to be regular.

$y_i^* = 3$, -MSMEs consider the post-pandemic situation to be bad.

Much of the literature uses a traditional view of success as related to positive economic or financial performance, measured by some indicator. However, there is a recent trend to measure performance based on the opinion of the owner or manager of the company, especially in SMEs that are not required to file financial statements (Wang, 2008).

Given the proposed segmentation, the sample is divided into 79 MSMEs belonging to the good situation ($y_i^* = 1$), 53 that say they are in a fair situation ($y_i^* = 2$) and 21 MSMEs that consider the situation to be bad ( ). $y_i^* = 3$

Considering the hypotheses put forward, the independent variables relevant to success and/or survival are presented. In the analysis, ordinal scale variables, continuous variables and dichotomous variables are used. In the case of the scale variables, they are measured through linguistic labels grouped into 4 ordinal categories (Very much: 1; Quite a lot: 0.75; Little: 0.5; Almost nothing: 0.25) that reflect the opinion of the MSME entrepreneurs regarding the incidence of the different factors on the performance of the company. The labels were applied following Zimmermann (1991), who argues that the highest values correspond to the causes or factors with the highest incidence. First, a set of linguistic labels are selected so that experts can assess the existence of each cause. Then, the linguistic labels are translated into a quantitative scale that shows the incidence of each cause calculated through the cumulative frequency for the scale defined in each case.

Table 2 describes the variables selected for the estimation of the models and the description of the issues assessed in each of them.

Table 2
Independent variables

Variable	Description	Measurement
Production process (Proc_Prod)	Product/service features and technology Be price and cost competitive Quality of the product/service	It measures the contribution of causes related to the production process on a scale of 0.25 to 1.

Comercial strategies (Pol_Comer)	Advertising and promotions Having more branches and/or sales platforms	It measures the degree of incidence of marketing-related factors on a scale of 0.25 to 1.
Funding (Financing)	Availability of funding sources	It evaluates their incidence on a scale of 0.25 to 1.
Resilience (Resilience)	Ability to adapt to market conditions and flexibility of the enterprise	It measures adaptive capacity on a scale of 0.25 to 1.
Management (Management)	Owners' experience and training Have a clear business plan Hours of work in the venture Networking External advice	It measures the impact of factors related to administration on a scale of 0.25 to 1.
External Factors (Exogenous)	Macroeconomic situation Opportunity for the health situation Public policy programmes	Measures the impact of issues external to the company on a scale of 0.25 to 1.
Seniority (Seniority)	Years in operation from inception to 2021	Continuous variable
Gender (Gender)	Gender of the owner/manager of the company	Dichotomous variable. Takes value 1 if female and 0 if male.
Age (Age)	Age of the owner/manager of the company	Continuous variable
Size (Fact_Level)	Average monthly turnover level	It measures the level of turnover in 6 categories (0.16; 0.33; 0.50; 0.66; 0.83; 1).
E-commerce (Com_Electronic)	Networking and selling via WhatsApp Sales on online platforms	Dichotomous variable. Takes a value of 1 if e-commerce is introduced and 0 if it is not.
Delivery/Take Away (Deliv_Take)	Delivery and take-away	Dichotomous variable. Takes value 1 if they implemented the strategy and 0 if they did not use it.
Electronic Means of Payment (Med_Elect)	Electronic means of payment	Dichotomous variable. Takes value 1 if they implemented the strategy and 0 if they did not use it.
Public aid (Help_Pub)	Tax aid ATP and subsidised credits Advice and training	Dichotomous variable. Takes a value of 1 if they received some kind of public aid and 0 if they did not.

Source: Own elaboration. Own survey of MSMEs. Year 2021

Results

Characterization of MSMEs

In the first instance, some results are presented in order to characterize the MSMEs and the profile of the owners and managers. As can be seen in Table 3, of the total number of enterprises that participated in the

survey, only 17 are technology-based enterprises (TBEs), which are characterized by the use of state-of-the-art technology for the production of goods or services. Their relationship with the sector to which they belong depends on the type of technology they use and the sector in which they operate. In this case, 70% of them belong to the service sector and the rest to production and development. Those MSMEs that are not TBEs are more evenly divided between the services, production and/or product development and marketing sectors. The remaing 3% belongs to the construction sector.

Table 3
MSME sector

Sector	Is it a technology-based venture?		
	No	Yes	Total
Production and development	43 (32%)	5 (30%)	48 (32%)
Marketing	42 (31%)	0	42 (28%)
Services	46 (34%)	12 (70%)	58 (37%)
Construction	4 (3%)	0	4 (3%)
Total	135	17	152

Source: Own elaboration

Another characteristic of the companies in the study sample is that 60% of the respondents stated that they had no employees, 27% had between 1 and 9, 8% had between 10 and 24, 0.65% had between 24 and 49 and 2.6% had between 50 and 99 employees. Only 1.3% mentioned having more than 100 employees. This information confirms the preponderance of MSMEs in the region.

On the other hand, with regard to the age of the company, there is a high dispersion with a standard deviation of 12.46%, with MSMEs showing an average age of 11 years, although the oldest company is 60 years old and the youngest is only one year old.

Regarding the characteristics of the owners and managers, 54% are men and the remaining 46% are women. The average age is 42 years, with a minimum age of 17 and a maximum age of 73.

One of the determinants traditionally recognized in the literature for the growth of MSMEs is access to and availability of financing (Guercio et al., 2019; Briozzo et al., 2016; Guercio et al., 2016), given that smaller firms have more difficulty accessing external financing due to adverse selection, and this is more acute during the pandemic (Heredia Zurita and Dini, 2021). Given these particularities, the form of financing used is related to the post-pandemic situation of MSMEs.

Table 4
Sources of funding vs. post-pandemic situation

Source / Situation	Own funds	External Funds	Subsidies	Total
Good	50%	12%	2%	52%
Regular	32%	6%	2%	35%
Mala	12%	4%	0,50%	13%

Source: Own elaboration

As can be seen in Table 4, 52% of MSMEs consider the post-pandemic situation to be good. Within this subgroup, 50% are financed with their own funds (reinvestment of profits), 12% use external funds (contributions from investors, bank loans and loans from suppliers/customers) and only 2% use subsidies to finance part of their activity. It is important to clarify that, when answering this question, they were asked about the forms of financing used, being able to select more than one source.

Regarding the use of external funds, the companies that say they are in a better situation are those that use them in greater proportion than those in a worse situation (12% vs. 4%). The share of subsidies is low in all cases (only 2%). Therefore, according to the information from the survey, it can be stated that the main source of financing for this group of MSMEs is own funds or reinvestment of profits, and to a lesser extent external funds, the latter depending on the post-pandemic situation.

On the other hand, the most common problems faced by MSMEs during the pandemic and the strategies implemented to cope with them were investigated. Table 5 presents the results. 48% of the cases report problems related to the reduction of customers, followed by the shortage of products, inputs and labour (43%) and tax and fiscal pressure (31%).

Table 5
Problems identified and strategies adopted during the pandemic

Problems detected	%	Strategies adopted	%
Inconveniences with employees	14	Social networks and WhatsApp sales	60
Tax or fiscal pressure	31	Delivery and/or take-away	34
Product, input or labour shortages	43	Online platforms	23
Reduction of customers	48	Electronic payments	60
Increased indebtedness	19		

Source: Own elaboration

Regarding the strategies adopted to overcome the emerging problems, 60% of MSMEs created social networks and used WhatsApp as a sales channel and incorporated electronic means of payment. Undoubtedly, both strategies adopted were the ones that, according to the category to which they belonged, allowed companies to continue their activities during the compulsory social isolation measures. In the same vein, 34% adopted delivery and/or take-away services.

The Argentinean Ministry of Productive Development and local governments implemented various lines of credit and subsidies to reactivate production. One of the measures applied to protect domestic production and mitigate the effects of the pandemic was the implementation of public aid.

Table 6 shows that only 38% of the companies in the sample received some type of aid. Among the most frequently used was the Emergency Assistance for Work and Production (ATP) obtained by 24% of the MSMEs, followed by the reduction or moratorium on taxes and duties and those that received some kind of advice and training on financial issues and sources of financing (10%) and advice on social networks and on-line sales (7%).

Table 6
Scope of public support

Public aid		Types of aid received	
They received	38%	Reduction or moratorium of taxes and duties	10%
Did not receive	58%	ATP and subsidised credits	24%
NS/NC	4%	Advice. and training. on financial issues and sources of financing.	10%
		Advice and training in social networks and online sales.	7%

Source: Own elaboration

Model estimation

Ordinal Logit models allow estimating the incidence of the selected variables on the probability of belonging to each group according to the post-pandemic situation: $y_{(i)}{}^{(*)}=1$(good), $y_{(i)}{}^{(*)}=2$ (fair), $y_{(i)}{}^{(*)}=3$ (bad). Table 7 presents the discrete and marginal changes in the post-pandemic situation of MSMEs using 4 alternative models, where different variables have been incorporated in order to test their sensitivity. As can be seen, all models are significant. In addition to the models presented, other estimates including firm activity, sector and the use of other strategies implemented during the pandemic were tested and found to be broadly non-significant.

In model 1, the variables Proc_Prod, Management, Resilience, Financing, Seniority and Age of the owner or manager ($H_{1)}$ are significant. In model 2, the variable Nivel_Fact is incorporated, which turns out to be significant. As a consequence of this incorporation, the variables Proc_Prod and Age of the company are no longer significant in this model.

In turn, in models 3 and 4, the strategies applied by the entrepreneurs in the pandemic are incorporated, i.e. the incorporation of Electronic_Com, Med_Elect and Deliv_Take. It can be observed that in model 3, the variable Nivel_Fact is also included, which turns out to be significant, as is the variable Deliv_Take, in addition to the variables Resilience and Financing ($H_1$and $H_{3)}$.

In this case, the internal variables, such as Resilience and Fact_Level, together with Financing are significant and present the expected signs, with the probability of success increasing the higher the Resilience and Fact_Level of the MSME. The Financing variable shows the inverse sign, consistent in all the models analysed. In this sense, it can be interpreted that those companies that had access to external financing reduced their probabilities of being in a good situation. This situation is repeated in model 4 when incorporating the variable Ayuda_Pub.

Table 7
Discrete and marginal changes in the probability of business success

	MODEL 1			MODEL 2		
Variable	Y=1	Y=2	Y=3	Y=1	Y=2	Y=3
Proc_Prod	0.235*	-0.154*	-0.081*	0.126	-0.093	-0.033
Pol_Comer	-0.249	0.163	0.085	0.012	-0.008	-0.003
Management	0.217**	-0.142**	-0.074**	0.220**	-0.162**	-0.057**
Exogenous	-0.140	0.0918	0.048	-0.227	0.167	0.059
Resilience	0.676**	-0.443**	-0.232**	0.971***	-0.717***	-0.253***
Funding	-0,819***	0.537***	0.282***	-1.191***	0.880***	0.311***
Seniority	0.008*	-0.005*	-0.002*	0.004	-0.003	-0.001
Gender	0.029	-0.019	-0.010	0.067	-0.049	-0.017
Age	-0.009**	0.006**	0.003**	-0.008	-.000	0.002
Fact_Level	-	-	-	0.622***	-459***	-0.162***
Remarks	149			115		
Log-likelihood	-127.900			-89.3705		
LRchi2	35.67			44.07		
Pseudo R^2	0.1224			0.1978		
	MODEL 3			MODEL 4		
Variable	Y=1	Y=2	Y=3	Y=1	Y=2	Y=3
Proc_Prod	0.142	-0.107	-0.035	0,416	-0.290	-0.126
Pol_Comer	0.004	-0.003	-0.001	-0,158	0.111	0.047
Management	0.153	-0.115	-0.038	1,124**	-0.784**	-0.339**
Exogenous	-	-	-	- 0,371	0.259	0.112
Resilience	0.807***	-0.606***	-0.200***	0,998***	-0.696***	-0.301***
Funding	-1.342***	1.009***	0.333***	-1,094***	0.764***	0.331***
Fact_Level	0.644***	-0.484***	-0.160***	-	-	-
Electronic_Com	0.096	-0.072	-0.0239	-0.061	0.044	0.019
Deliv_Take	-0.208*	0.150*	0.058*	-0.075	0.052	0.024
Med_Elect.	-0.079	0.060	0.019	-0.089	0.064	0.027
Seniority	0.002	-0.001	-0.000	0.006	-0.004	-0.001
Gender	0.062	-0.047	-0.015	-0.061	0.043	0.019
Age	-0.007	0.0053	0.001	-0.009**	0.007**	0.003**

Help_Pub	-	-	-	-0.172*	0.115*	0.056*
Remarks	115			142		
Log-likelihood	-88.269			-116.753		
LRchi2	46.27			45.17		
Pseudo R^2	0.207			0.162		

Source: Own elaboration
Significance levels are indicated as: *10%, **5%, ***1%. Chi2 tests measure joint significance. Wald test: Prob > chi2 = 0.0010 Prob > chi2 = 0.0000

It is striking that both the variables Com_Electronic and Med_Elect are not significant in determining the post-pandemic trajectory of MSMEs.

According to the results obtained in model 1, it can be affirmed that improvements related to the productive process (Proc_Prod) increase by 23.5% the probability that the company belongs to situation 1, i.e. to register a good performance; while any improvement in the productive process decreases the probability of belonging to group 2 (regular) by 15.4% and to group 3 (bad) by 8.1%. The same effects can be seen in the Management variable, which contributes positively to the post-pandemic situation of the MSME by 21.7%, while it decreases the probability of being in a regular or bad situation. The same relationship is observed in the variables Resilience and Seniority, where the increase in these factors increases the probability of being in situation 1 by 67.6% and 8%, respectively. This confirms hypothesis 1, which reflects that improvements in issues related to the production process, internal management and resilience increase the probability of business success.

The results of the variable Age of owners and managers stand out, where it is observed that an increase in age implies a lower probability of a good performance. The same is true for the variable Financing, where greater availability does not correspond to a better situation for the MSME. In other words, any increase in the availability of financing increases the chances of belonging to groups 2 and 3. Given these results, a disaggregated study between own and external sources is considered relevant, given the increased risk implied by greater leverage, especially in the context of the pandemic. In none of the models is the exogenous variable significant, and hypothesis 2 cannot be confirmed.

In model 2, the variable Nivel_Fact behaves according to the expected sign, indicating that a higher level of turnover increases the probability of MSMEs to belong to group 1, i.e. to be in a good post-pandemic situation, by 62.2% and decreases the probability to belong to group 2 by 45.9% and to group 3 by 16.2%.

As can be seen, with the incorporation of the variables linked to the strategies implemented in models 3 and 4, only the variable Deliv_Take turns out to be significant (model 3), but with the opposite sign to that expected. In this case, hypothesis 3 associated with the hypothesis that the strategies

implemented by the MSMEs improved their probabilities of being in a good post-pandemic situation is rejected.

On the other hand, in relation to the variable Ayuda_Pub, although it is significant in model 4, according to the results obtained it can be interpreted that those MSMEs that received this type of aid are less likely to be in a good situation. This result could be linked to the minimum requirements of the company to obtain some type of public aid, i.e. to be in a bad situation and that in the short term the aid received does not manage to restore the company's situation prior to the pandemic.

Discussion of the results

The results obtained in model 1 confirm that improvements in the production process increase the likelihood of MSMEs to belong to group 1, highlighting the importance of innovation activities and technical efficiency (Insights, 2021; Caballero-Morales, 2021; Sanhokwe, 2022). Eschker et al. (2017), Kücher et al. (2020) and Portuguez and Gómez (2021) highlight the importance of management for the development of MSMEs, noting that firms that are more likely to belong to group 1 in the post-pandemic have more capable owners or managers with more experience in managing the firm.

Particularly in the context of the pandemic, several papers comment on the importance of the adaptability and flexibility of the company to overcome the crisis (Pedroni, 2022; Izquierdo, 2021; Caballero-Morales, 2021; Portuguez and Gómez, 2021). This capacity for resilience to respond to unexpected market changes has a significant impact on the success of MSMEs and increases their chances of belonging to group 1.

In turn, as observed in model 3, size (measured through the variable Nivel_Fact) positively affects the probability of showing a good post-pandemic situation (Dörr et al., 2022). The same is reflected in the firm's age variable (Gabás, 1997; Berger and Udell, 1998; Guercio et al., 2019; Kantis and Angelelli, 2020) since older MSMEs are more likely to experience a good stage because they have experience that allows them to overcome those factors that alter the functioning of the firm.

On the other hand, the availability of funding sources (Financing) did not show the expected sign. In this case, the greater availability of sources of finance reduced the chances of a good post-pandemic situation. The public support variable, which represents the support programs provided to MSMEs in the context of the pandemic, behaved similarly. These results confirm that those companies in the sample that received either more funding or more aid, given the risk taken, were not able to compensate for their economic-financial situation. In developing countries, particularly in Argentina, according to Corzo et al. (2022) the financial instruments available to MSMEs are scarce and require high reporting requirements and are difficult to comply with.

MSMEs in the context of the pandemic had to apply various strategies to overcome the crisis, including the incorporation of new technologies, remote work and digitization of processes, among others. In summary, the post-pandemic presented both challenges and opportunities for companies, with those that were able to be flexible and adapt quickly to changes in technology, human capital, finance and innovation being better positioned to overcome the new challenges.

Conclusions

The study proposes to identify the key variables that affect the performance of MSMEs in the post-pandemic period. Based on the literature on business failure and business diagnostics, the relevant variables for the analysis are detected and working hypotheses that reflect the incidence of the different factors on the performance of the firms are proposed. Ordinal Logit models are estimated to show the probability that MSMEs belong to different groups, good, fair and bad trajectories, considering post-pandemic situation as the dependent variable.

Four models are presented, identifying that the significant variables for firm performance are those linked to issues inherent to entrepreneurial capabilities and skills, to aspects related to efficiencies in the production process, to flexibility and resilience, to the availability of finance, to the size and age of the firm, and to the age of the owner/manager.

According to the results obtained, those MSMEs that have less management capacity, are less resilient, of smaller size and age, and with young owners or managers, are more likely to end up in a bad situation despite implementing new strategies and tools during the pandemic. Therefore, the marginal effect of firms' ability to react and resilience to adapt to the new reality is highlighted as a determinant of post-pandemic performance. The results confirm the view of Kücher et al. (2020), among other authors who suggest that internal causes are at the root of the problems while dismissing the influence of factors external to the firm.

The identification of these factors is of vital importance for the design of support programs that enhance the success and survival of MSMEs, which are indispensable agents for achieving economic growth.

This article is novel in its application to the subject and given the use of its own database focused on a particular region, its results are not generalizable. As future lines of research, it is proposed to delve deeper into the problems and strategies implemented in a broader sample, as well as to consider economic and financial indicators that allow for the identification of other performance measures.

References

Alaka, H.O., Oyedele, L.O., Owolabi, H.A., Kumar, V., Ajayi, S.O., Akinade, O.O. & Bilal, M. (2017). Systematic review of bankruptcy prediction models: Towards a framework for tool selection, Expert Systems with Applications, 94 (15), 164-184. https://doi.org/10.1016/j.eswa.2017.10.040

Al-Fadly, A. (2020). Impact of COVID-19 on SMEs and employment, Entrepreneurship and Sustainability Issues, 8(2), 629-648. https://doi.org/10.9770/jesi.2020.8.2(38)

Altman, E.I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy, The Journal of Finance, 23(4), 589-609. https://doi.org/10.2307/2978933

Amankwah-Amoah, J. (2016). An integrative process model of organizational failure. Journal of Business Research, 69 (9), 3388-3397. https://doi.org/10.1016/j.jbusres.2016.02.005

Argenti, J. (1976). Corporate Collapse: The Causes and Symptoms. John Wiley and Sons, New York.

Argenti, J. (1983). Prediction Corporate Failure, Accountants Digest, Institute of chartered Accountants in England and Wales, 138, 1-25.

Baque-Cantos, M. A., Cedeño-Chenche , B.S., Chele-Chele , J.E., & Gaona-Obando, V.B. (2020). SME failure: Triggering factors, Ecuador 2020. Revista Científica FIPCAEC (Fomento de la investigación y publicación científico-técnica multidisciplinaria). ISSN: 2588-090X. Polo de Capacitación, Investigación y Publicación (POCAIP), 5(4), 3-25. https://doi.org/10.23857/fipcaec.v5i4.293

Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. International Journal of Finance & Economics, 26(4), 5704-5719. https://doi.org/10.1002/ijfe.2089

Bhave, M.P. (1994). A process model of entrepreneurial venture creation. Journal of Business Venturing, 9(3), 223-242. https://doi.org/10.1016/0883-9026(94)90031-0

Beaver, W.H. (1966). Financial ratios as predictors of failure, Journal of Accounting research, 4, 71-111. https://doi.org/10.2307/2490171

Becchetti, L., & Sierra, J. (2003). Bankruptcy risk and productive efficiency in manufacturing firms, Journal of Banking and Finance, 27(11), 2099-2120. https://doi.org/10.1016/S0378-4266(02)00319-9

Berger, A., & Udell, G. (1998). The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle. Journal of Banking and Finance, 22(6-8), 613-673. https://doi.org/10.1016/S0378-4266(98)00038-7

Briozzo A., Vigier, H.P., & Martinez L.B. (2016) "Firm-level determinants of small and medium enterprises financing decisions. Evidence from Argentina", Latin American Business Review, 17, 245-268.

Brown, R., Rocha, A., & Cowling, M. (2020). Financing entrepreneurship in times of crisis: exploring the impact of COVID-19 on the market for entrepreneurial finance in the United Kingdom. International Small Business Journal, 38 (5), 380-390. https://doi.org/10.1177/0266242620937464

Caballero-Morales, S. (2021). Innovation as Recovery Strategy for SMEs in Emerging Economies during the COVID-19 Pandemic. Research in International Business and Finance, 57, 101396. https://doi.org/10.1016/j. ribaf.2021.101396

CAME (2021b). IMAF-SMEs Report. Retrieved from https://www.redcame.org.ar/advf/documentos/2021/04/608af1c147b57.pdf

CAME (2121a). IMAF-Entrepreneurs Report. Retrieved from https://www.redcame.org.ar/advf/documentos/2021/04/608af1c1495e7.pdf

Cardon, M.S., Stevens, C.E., & Potter, D.R. (2011). Misfortunes or mistakes: Cultural sensemaking of entrepreneurial failure. Journal of Business Venturing, 26(1), 79-92. https://doi.org/10.1016/j.jbusvent.2009.06.004

Corzo, L.J, Guercio, M.B. & Vigier, H.P. (2022). Scope of subsidized rate credits for Argentinean MSMEs, Revista Finanzas y Política Económica, 13 (2), 287-316, https://doi.org/10.14718/revfinanzpolitecon.v13.n2.2021.2.

DeTienne, D.R., & Chandler, G.N. (2007). The role of gender in opportunity identification. Entrepreneurship theory and practice, 31(3), 365-386.

Donthu, N. & Gustafsson, A. (2020). Effects of COVID-19 on business and research. Journal of Business Research, 117, 284-289. https://doi.org/10.1016/j.jbusres.2020.06.008

Dörr, J. O., Licht, G., & Murmann, S. (2022). Small firms and the COVID-19 insolvency gap. Small Business Economics, 58(2), 887-917.

Elias S. & Barbero A. (2017) Situación del oleoturismo y lineamientos para su desarrollo en la región del sudoeste bonaerense, Argentina, Interamerican Journal of Environment and Tourism, 13(1). http://dx.doi.org/10.4067/S0718-235X2017000100091.

Eschker, E., Gold, G., & Lane, M.D. (2017). Rural entrepreneurs: what are the best indicators of their success?". Journal of Small Business and Enterprise Development, 24(2), 278-296. https://doi.org/10.1108/JSBED-07-2016-0112

Fabeil, N.F., Pazim, K.H., & Langgat, J. (2020). The impact of Covid-19 pandemic crisis on micro-enterprises: Entrepreneurs' perspective on business continuity and recovery strategy. Journal of Economics and Business, 3(2), 837-844. https://ssrn.com/abstract=3612830

Fink, H., Beltramino, N., Galán L., & Bianchi, E. (2021). Economic impact of the Covid-19 crisis on SMEs in Argentina. National University of Villa María, Secretariat of Internationalisation. http://biblio.unvm.edu.ar/opac_css/39807/3235/2021-BELTRAMINO-GALAN-BIANCHI-Impacto-econ-crisis-COVID19-pyme-arg.pdf

García-Contreras, R., Valle-Cruz, D. & Canales-García, R.A. (2021). Organizational selection: resilience and SME performance in the COVID-19 era. Estudios Gerenciales, 37(158), 73-84. https://doi.org/10.18046/j.estger.2021.158.4291

Gabás Trigo, F. (1997). Prediction of Business Insolvence; In: Predicción de la Insolvencia Empresarial, Antonio Calvo-Flores Segura and Domingo García Pérez de Lema Eds, AECA, Madrid, 11-32.

García-Velasco K. & Molina Sanchez R. (2021) The resilience of SMEs in the face of the Covid-19 pandemic: the case of Guanajuato, Revista Jóvenes en la Ciencia, 10, 1-21 http://repositorio.ugto.mx/handle/20.500.12059/6044

Ghosh, B.C., Tan, W.L., Tan, T.M. & Chan, B. (2001). The key success actors, distinctive capabilities and strategic thrusts of top SMEs in Singapore, Journal of Business Research, 51, 209-21. https://doi.org/10.1016/S0148-2963(99)00047-8

Grunert, J., Norden, L., & Weber, M. (2005). The Role of Non-Financial Factors in Internal Credit Ratings, Journal of Banking and Finance, 29(2), 509-531. https://doi.org/10.1016/j.jbankfin.2004.05.017

Guercio, M.B., Martinez L.B., Bariviera A.F. & Scherger V. (2020). Credit Crunch or Loan Demand Shortage: What is the Problem with the SMEs' Financing?, Czech Journal of Economics and Finance, Vol. 70(6), 521-540. https://doi:10.32065/CJEF.2020.06.02

Guercio, M.B., Martinez LB. & Bariviera A.F. (2019). SME steeplechase: When obtaining money is harder than innovating, International Journal of Financial Studies, 7 (2), 25. https://doi:10.3390/ijfs7020025

Guercio, M.B., Vigier H.P., Briozzo A. & Martinez L.B. (2016). Financing SME in the software and informatics services sector in Argentina, Cuadernos de Economía, 35 (69), 615-635, https://doi.org/10.15446/cuad.econ.v35n69.46654.

Halabí, C.E., & Lussier, R.N. (2014). A model for predicting small firm performance, Increasing the probability of entrepreneurial success in Chile, Journal of Small Business and Enterprise Development, 21(1), 4-25. https://doi.org/10.1108/JSBED-10-2013-0141

Heredia Bustamante J. A, Aguilar Talamante P. & A.B Leyva Carreras (2022), Innovación en los procesos administrativos y contables de las pequeñas y medianas empresas (pymes) para enfrentar problemas de crisis por el COVID-19, Revista de Investigación Académica sin Frontera, Año 15 (38), 1-20. https://doi.org/10.46589/rdiasf.vi38.505

Heredia Zurita, A. & Dini M. (2021). Análisis de las políticas de apoyo a las pymes para enfrentar la pandemia de COVID-19 en América Latina, Project Documents (LC/TS.2021/29), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).

Insights, C.B. (2021). Startup Failure Post-Mortems, Database, www.cbinsights.com

Izquierdo, S.I., Diez Alberdi, A. M., & Camio, M.I. (2021). Resilience in tourist destinations. An analysis of the cities of Tandil and Mar del Plata, Argentina in the face of covid-19. Pymes, innovación y desarrollo, 8(3), 15-40. https://bit.ly/3ElqROh

Kantis, H., & Angelelli, P. (2020). Entrepreneurship ecosystems in Latin America and the Caribbean facing Covid 19. Impact, needs and recommendations, IDB, retrieved from https://publications.iadb.org/publications/spanish/document/Los-ecosistemas-de-emprendimiento-de-America-Latina-y-el-Caribe-frente-al-COVID-19-Impactos-necesidades-y-recomendaciones.pdf

Khan, Walayet A., Vieito, João Paulo (2013). CEO gender and firm performance. Journal of Economics and Business, 67, 55-66. https://doi.org/10.1016/j.jeconbus.2013.01.003

Kautonen, T., Tornikoski, E. T., & Kibler, E. (2011). Entrepreneurial intentions in the third age: the impact of perceived age norms. Small Business Economics, 37, 219-234. https://doi.org/10.1007/s11187-009-9238-y

Klyver, K., Nielsen, S. L., & Evald, M. R. (2013). Women's self-employment: An act of institutional (dis) integration? A multilevel, cross-country study. Journal of Business Venturing, 28(4), 474-488. https://doi.org/10.1016/j.jbusvent.2012.07.002

Khelil, N. (2016). The many faces of entrepreneurial failure: Insights from an empirical taxonomy, Journal of Business Venturing, 31(1), 72-94. https://doi.org/10.1016/j.jbusvent.2015.08.001

Kücher, A., Mayr, S., Mitter, C., Duller, C., & Feldbauer-Durstmüller, B. (2020). Firm age dynamics and causes of corporate bankruptcy: Age dependent explanations for business failure, Review of Managerial Science, 14(3), 633-661. https://doi.org/10.1007/s11846-018-0303-2

Liguori, E.W., & Pittz, T.G. (2020). Strategies for small business: Surviving and thriving in the era of COVID-19. Journal of the International Council for Small Business, 1 (2), 106-110. https://doi.org/10.1080/26437015.2020.1779538

Lizano M.M., Ochovo, R.B., & de Lema, D.G.P. (2010). Different business failure processes: A dynamic analysis through the application of statistical clustering techniques, European Journal of

Management and Business Economics, 19 (3), 67-88. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=3341036

Lussier, R.N. (1995), A non-financial business success versus failure prediction model for young firms, Journal of Small Business Management, 33(1), 8-20.

Long, J.S. (1997). Regression models for categorical and limits dependent variables. Thousand Oaks, Sage.

Madrid, A., & García, D. (2006). Factores que explican el fracaso empresarial en la PyME, Gestión: Revista de Economía, 36, 5-9. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=2055435

McGahan, A., & Porter, M. (1997). How Much Does Industry Matter, Really?. Strategic Management Journal, 18, 15-30. https://doi.org/10.1002/(SICI)1097-0266(199707)18:1+<15::AID-SMJ916>3.0.CO;2-1

Meahjohn, I., & Persad, P. (2020). The Impact of COVID-19 on Entrepreneurship Globally. Journal of Economics and Business, 3(3), 1165-1173.https://ssrn.com/abstract=3687519

Molina-Sánchez R., López-Salazar A. & López-Salazar G.L. (2023). Innovation, financing and business management, factors that determine the resilience of MSMEs. Un modelo explicativo con ecuaciones estructurales, Ciencias Administrativas Teoría y Praxis, Núm. 1 Año 19, pp. 31-47. https://doi.org/10.46443/catyp.v19i1.319

Ooghe, H., & De Prijcker S. (2008). Failure processes and causes of company bankruptcy: a typology, Management Decision, 46(2), 223-242. https://doi.org/10.1108/00251740810854131

Ponce Andrade, J., Palacios Molina, D., Palma Avellan, A. & Salazar Olives,G. (2020). Crisis económica pre y post-pandemia: su incidencia en la mortalidad de las MiPymes en Ecuador, Revista Observatorio de la Economía Latinoamericana, 9(5). https://www.eumed.net/rev/oel/2020/09/crisis-ecuador.html

Pedroni, F. (2022). Innovation as a resilience strategy during the COVID-19 crisis: qualitative analysis of Argentinean MSMEs. Cuadernos Latinoamericanos de Administración, 18(34). https://doi.org/10.18270/cuaderlam.v18i34.3886

Portuguez Castro, M., & Gómez Zermeño, M.G. (2021). Being an entrepreneur post-COVID-19 - resilience in times of crisis: a systematic literature review, Journal of Entrepreneurship in Emerging Economies, 13(4), 721-746. https://doi.org/10.1108/JEEE-07-2020-0246

Rumelt, R.P. (1997). How much does industry matter?, Strategic Management Journal, 12(3), 167-185. https://doi.org/10.1002/smj.4250120302

Sanhokwe H. (2022). Reimagining the SME failure phenomenon: incorporating regenerative effects and predicting Enterprise regenerative capacity, Journal of Entrepreneurship in Emerging Economies, http://doi.org/10.1108/JEEE-01-2022-0010.

Scarlat, E. & Delcea, C. (2011). Complete analysis of bankruptcy syndrome using grey systems theory, Grey Systems: Theory and Applications, 1(1), 19-32. https://doi.org/10.1108/20439371111106704

Scherger V., Terceño, A. & Vigier, H. (2019). A systematic overview of the prediction of business failure, International Journal of Technology, Policy and Management, 19(2), 196-211. https://doi.org/10.1504/IJTPM.2019.100601

Scherger V., Terceño, A., Vigier, H., & Barberá-Mariné, M.G. (2015). Detection and assessment of causes in business diagnosis, Economic Computation and Economic Cybernetics Studies and Research, 49(4), 211-229. http://www.ecocyb.ase.ro/nr20154/13%20-%20Scherger%20Valeria.pdf

Scherger V., Vigier, H., & Barberá-Mariné, G. (2014). Finding business failure reasons through a fuzzy model of diagnosis, Fuzzy Economic Review, 19(1), 45-62. https://EconPapers.repec.org/RePEc:fzy:fuzeco:v:xix:y:2014:i:1:p:45-62

Scherger V., Vigier, H., & Terceño, A. (2018). Critical review of business failure prediction models. Journal of Management and Organizations, 21(40), 153-180. https://rayo.xoc.uam.mx/index.php/Rayo/article/view/23

Schroeder R.V. & Formiga N. (2011). Opportunities for local development: the case of Southwest Buenos Aires (Argentina), Cuadernos de geografía, Revista colombiana de geografía, 20 (2), 91-109.

Sharma P., Leung, T.Y., Kingshott, R.P.J., Davcik, N.S., & Cardinali, S. (2020). Managing uncertainty during a global pandemic: An international business perspective. Journal of Business Research, 116, 188-192. https://doi.org/10.1016/j.jbusres.2020.05.026

Stam, E., & Wennberg, K. (2009). The roles of R&D in new firm growth. Small Business Economics, 33(1), 77-89. https://doi.org/10.1007/s11187-009-9183-9

Sun, J., Li, H., Huang, Q.H. & He, K.Y. (2014). Predicting financial distress and corporate failure: a review from the state-of-the-art definitions, modeling, sampling, and featuring approaches, Knowledge-Based Systems, 57, 41-56. https://doi.org/10.1016/j.knosys.2013.12.006

Theng L.G. & Lim, J.W.B. (1996). An exploratory study of factors affecting the failure of local small and medium enterprises, Asia Pacific Journal of Management, 13(2), 47-61. https://doi.org/10.1007/BF01733816

Wang, C.L. (2008). Entrepreneurial orientation, learning orientation, and firm performance, Entrepreneurship Theory and Practice, 32(4), 635-657. https://doi.org/10.1111/j.1540-6520.2008.00246.x

Wenzel M., Stanske S. & Lieberman M.B. (2020). Strategic responses to crisis. Strategic Management Journal, 41(7/18). http://doi.org/10.1002/smj.3161

Zimmermann, H. (1991). Fuzzy Set Theory and its Applications. Kluwer Academic Publishers, Dordrecht.