



Review

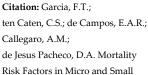
# Mortality Risk Factors in Micro and Small Businesses: Systematic Literature Review and Research Agenda

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Abstract: Most micro and small businesses (MSEs) are limited in organizational structure, financial resources, technology, and management strategies. Due to these limitations, there are many risks involved in this sector. Understanding the aspects that contribute to the risk of mortality among MSEs is important to guide entrepreneurs in the development of strategic actions and to assist governments in the elaboration of policies that support the creation of new ventures. For this, it is important to know the key factors that contribute to the risk of business mortality. Thus, the following research questions emerge: What is the state of the art on the subject of business mortality in MSE? What are the factors that contribute to the risk of mortality in MSE? What is the relationship between the factors that contribute to the risk of mortality in MSE? The objective of this research was to analyze what the risk factors are for MSE mortality and how they are related to each other. From a systematic literature review, the state of the art on the topic of business mortality in MSEs was evidenced and its risk factors were identified. One hundred and six articles, published from January 2000 to February 2021, were analyzed. The results showed 36 mortality risk factors and highlighted the risks associated with innovative processes, business management, and the characteristics of the entrepreneur. This study contributes to a theoretical framework on corporate mortality and provides an agenda for future research, showing gaps to be explored. In terms of managerial implications, we suggest that entrepreneurs prioritize training initiatives, investing in education, that MSEs participate in cooperation networks to establish partnerships between stakeholders, and that they invest in technological tools to make companies more competitive in the market.

**Keywords:** business mortality; risk factors; MSE; systematic review; conceptual framework; research agenda



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#### 1. Introduction

Entrepreneurship is considered one of the main drivers of economic growth, and therefore plays an important role in national economies [1,2]. From this perspective, micro and small enterprises (MSEs) play significant roles in the growth of the Gross Domestic Product (GDP), the generation of jobs, income distribution, and socioeconomic development [3,4]. Furthermore, they favor stability and social equity for the low-income population through entrepreneurship and business formalization [5].

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MSEs represent the majority of the total number of companies in most countries [6,7] and, because of their diversity, they are generally classified regarding the number of employees, annual turnover, and amount of total annual assets [8]. MSEs are fragile and are exposed to risks in the initial years of operation, a period in which entrepreneurs are learning to operate a new business [9]. Therefore, it was verified that the time variable impacts the risk of business mortality, since newer ventures demonstrate greater chances of failure in the first years of activity in the market [10]. Another important point that influences the risk of mortality is the size of the company; that is, the larger the enterprise, the greater the chances of its continuity [11]. Furthermore, many of these companies are unregulated and lack strategic and technological training to avoid business mortality [12,13]. Studies show that most MSEs are limited in development, working capital, organizational structure, and management strategy [14].

Business mortality is understood as the extinction of production factors, with the condition that no other organization is involved in the process, such as in cases of mergers and company restructuring [10]. There is a consensus in the literature that there is no isolated factor that determines the risk of business mortality, but rather a dynamic relationship of internal and external difficulties [15,16].

Factors associated with the risk of mortality can be broadly divided into (a) entrepreneur, which refers to the characteristics of the individual and the lack of previous experience; (b) company or business, which presents the problems in the management of the company, and (c) external environment, where there are difficulties related to the economic context and other factors of a cyclical nature [11,16]. Mahamid [17] presents another classification: (a) managerial factors, (b) financial factors, and (c) external factors. The systemic understanding of risk factors is relevant to helping other entrepreneurs overcome similar problems, carrying out planning that reduces the risk of mortality [16]. Literature suggests that business mortality risk factors are related to non-incorporation in business networks [18,19], the difficulty of accessing financing and loans [20,21], and the lack of technological tools [22,23]. Lack of management experience [24] and technical knowledge [25,26] also result in significant business mortality rates.

The present review's emphasis on understanding the dynamic relationships that influence MSE mortality was based on the gaps observed in the literature. Despite the growth of studies in the area, there is a lack of generality in the findings, and several research problems remain nuclear. Ferreira et al. [16] ensure that the level of integration between aspects related to risk is practically inseparable. Gupta and Tripathi [24] add that this topic has potential for future studies, as many factors should be analyzed to improve the performance of MSEs and help the local economy.

Another important aspect is that entrepreneurship is a global trend, and in this scenario, MSEs represent the majority of companies worldwide [25]. Understanding the problems and challenges of MSEs has gained importance at the social, governmental, business, and academic levels [24,26]. Furthermore, a nation's macroeconomic policies and government attitudes in this regard influence both the failure and success of any endeavor [27]. Roratto et al. [28] add the need to develop instruments that can reduce business mortality and create programs that incorporate accumulated theoretical and empirical knowledge.

Considering the above gaps, the following research questions emerged: RQ1. What is the state of the art on the subject of business mortality in MSEs? RQ1a. What are the factors that contribute to the risk of mortality in MSEs? RQ2. What is the relationship between the factors that contribute to the risk of mortality in MSEs?

The main objective of this research was to analyze the factors that contribute to the risk of mortality in MSEs. The specific objectives were: (i) to investigate the state of the art on the subject of business mortality in MSE, and (ii) to verify the existing relationships between the factors that contribute to the risk of mortality in MSE. For the development of this study, the method by Confort et al. [29] was carried out in ten steps. A conceptual

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model was developed to identify the relationships between the factors and a future research agenda. This research brought theoretical and managerial contributions. First, it offered a theoretical framework for business mortality. The analysis revealed the growth of studies on the subject in recent years, highlighting the method of empirical statistics in most of the articles analyzed. It contributed to the identification of future research and gaps to be explored in segments of interest, with methodologies that bring answers to the sector. Second, it contributed to understanding of the determinants of mortality risk in MSEs and their relationships. A comprehensive analysis of the literature revealed thirty-six risk factors, which were classified into five key dimensions. These findings contributed to entrepreneurs prioritizing improvement and training initiatives. The results showed a set of critical factors that lead to the risk of mortality, highlighting the risks associated with innovative processes, business management, and the characteristics of the entrepreneur. Third, this article helps policymakers and other stakeholders working in MSE to find knowledge to support the creation of new ventures and business growth.

In terms of managerial implications, it is suggested that entrepreneurs invest in education, so that their decisions are based on technical knowledge and not on intuition; that MSEs participate in cooperation networks to establish formal and informal partnerships between stakeholders; that they invest in technological tools to make MSEs more competitive in the market, and that an investigation is carried out to collect information on customers' consumption needs and desires, limitations and habits, taking into account their complaints and comments on social media. This study was organized into eight sections. Section 2 describes the methodological procedures and steps followed in this systematic review. Section 3 details the results of the state-of-the-art literature in the field. Section 4 presents the discussion and implications of the research results. In Section 5, the dimensions and subdimensions that justify the proposed model are presented, and Section 6 brings a conceptual model that structures the relationship between mortality risk factors in MSEs. Section 7 details an agenda for future research, and finally, Section 8 summarizes the findings and the managerial implications.

#### 2. Materials and Methods

This section presents all the steps taken for the systematic literature review. A systematic literature review is a secondary study used to map, critically assess, consolidate, and aggregate the results of relevant primary studies about a specific research question or topic [30]. As Tranfield et al. [31] affirm, the objective of the systematic review is to provide insights, yielding reliable and accumulated knowledge of a range of studies. Furthermore, it identifies gaps to be filled, resulting in a coherent report or synthesis. This study used the review method devised by Confort et al. [29] structured in 10 steps. In the presentation of the results, a synthesis was carried out, based on the thematic categories of corporate mortality risks proposed by Ferreira et al. [16] and Machado and Espinha [11].

Step 1. Definition of the research problem: what are the factors that contribute to mortality risk in MSEs?

Step 2. Definition of the objective: to analyze the factors that contribute to mortality risk in MSEs.

Step 3. Primary sources. The databases used were: Web of Science, Scopus, Science Direct, and Taylor and Francis. The Web of Science was chosen because it is considered the largest scientific database in the world and includes the most cited journals in their respective areas, Scopus and Taylor and Francis were selected for their academic-level and multidisciplinary information sources, and Science Direct was chosen in order to incorporate the areas of applied Engineering and Social Sciences. Initially, the terms 'business mortality' and 'micro and small business' were researched to verify citations in other publications. The words related to business mortality were: bankruptcy, business closure, business closure, early mortality, failure, business discontinuity, and failure. For 'micro and small business', the associated words were: microenterprise, small enterprise, small

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businesses, small and medium enterprises, MSEs, and SMEs (small and medium enterprises). All terms were added to the search.

Step 4. Keywords. The combinations presented in step 3 were considered in the analysis of the abstract and title of the paper. The keywords searched were: micro and small enterprise, MSE, SME, premature mortality of enterprise, the closing of business, and company bankruptcy. Example of a combination of keywords searched in the databases: ('micro and small enterprise\*' OR 'MSEs' OR 'SMEs') AND ('premature\* mortality\* of enterprise\*') AND ('closing\* of business\*') AND ('company\* bankruptcy\*').

Step 5. Definition of the survey period. The covered period ranged from January 2000 to February 2021. This review started with the year 2000, because it was found that studies on corporate mortality had more publications from this period onwards, that is, an average of 60 articles were published per year. Furthermore, from the 1960s to the 1990s, only a limited number of studies were published, with a mean of 6 papers published per year.

Step 6. Criteria for inclusion and exclusion of articles. After reading the title and abstract verified in step 4, the filters used for selection were: (a) studies on critical mortality risk factors in MSE; (b) type of document, for which only scientific papers were selected, and (c) the language of publication, considering articles in English. Duplicate articles and those that did not respond to the problem of this study were excluded.

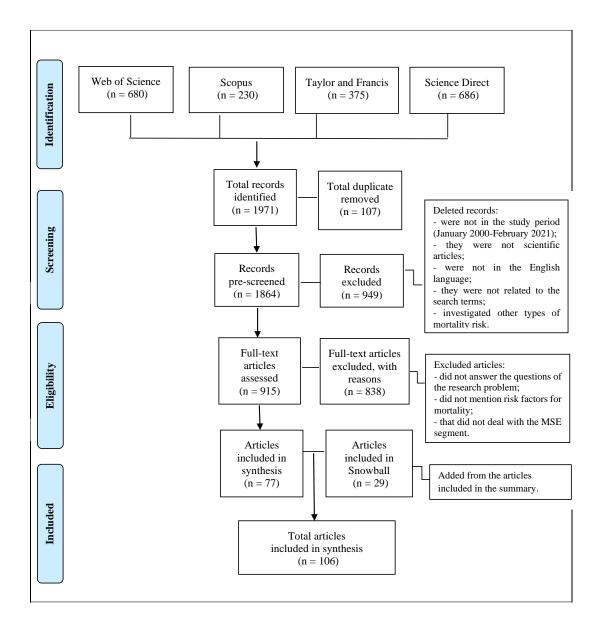
Step 7. Article qualification criteria. The introduction and conclusion of the papers selected in step 6 were read to verify the focus of the research. The number of citations of the article and descriptive and explanatory studies were considered.

Step 8. Methods and tools. The method included the steps that facilitated learning and filtering the search process. A complete reading of the selected articles was carried out for a better understanding.

Complementing the previous steps, the Systematic Reviews and Meta-Analyses Protocol (PRISMA) was used (Figure 1), which aims to improve the reporting and evaluation of systematic reviews in a given area, making it complete and transparent [32]. This protocol was structured in four stages: identification, selection, eligibility and, inclusion. During identification, relevant studies were sought, resulting in a total of 1971 articles. In selection, a double screening was performed. Duplicate articles were excluded (n = 107) and the analysis of titles and abstracts was performed, with articles that did not present a relationship between the search terms being eliminated (n = 949). On eligibility, the studies were read and analyzed. Articles that did not answer the research questions and those that did not mention mortality risk factors or determinants were excluded, as well as studies that dealt with another type of company (n = 838). It was found that although the term 'micro and small business' was among the keywords, some articles that did not include this sector appeared as a results.

In the last stage, 77 articles were included. In the end, the Snowball method was applied, capturing 29 articles. This technique was used to select additional works from early paper references [33]. Thus, 29 works were added to 77 articles, totaling 106.

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**Figure 1.** Steps of the PRISMA protocol for systematic literature review.

Steps 9 and 10. Processing and output. A spreadsheet with the 106 selected papers was created (Appendix A). In the final step, based on the findings in the literature, a conceptual model [34–36] that organized the existing relationships between the risk determinants found was created.

As for the philosophy of scientific research, it was verified that it is a method that, when applied in different areas, allows the researcher to generate ideas in knowledge in the context of research. There are four main trends in research philosophy that are distinguished and discussed, namely: positivist research philosophy, interpretivist research philosophy, pragmatist research philosophy, and realist research philosophy [37].

This study is guided by the interpretivist research philosophy. The interpretivist research philosophy says that the social world can be interpreted subjectively. The greatest attention here is given to understanding the ways in which people experience the social world. The interpretivist research philosophy is based on the principle that the researcher plays a specific role in observing the social world. According to this philosophy, research is based on and depends on what the interests of the researcher are. It is noteworthy that interpretive research uses qualitative methods, mostly, and the following data collection

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techniques: document study, image data analysis, observation and interview. This research works with interpretation, with the creation of theories, where researcher and reality are mixed. In this study, the interpretivist approach fits the need to study a phenomenon (business mortality risk) to seek an answer, where knowledge is not constructed and the objective of the research is a broad description of the phenomenon under study [37].

#### 3. Results

This section presents the results identified in the 106 analyzed studies.

#### 3.1. Descriptive Analysis

The final selection of articles was presented in terms of stratification, publications by year, and countries.

With the use of keywords, the database with the highest number of relevant studies was Science Direct (n = 686) (Figure 2). After the first and second screening process, Web of Science stood out for the largest number of selected articles (37). In Filter 1, duplicated articles in the databases were excluded, and in Filter 2, the papers were read and analyzed (Figure 2).

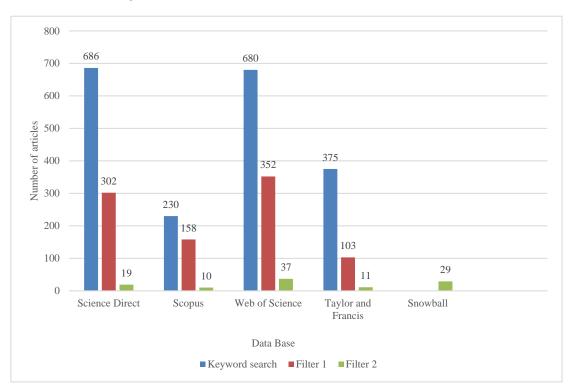


Figure 2. Number of publications by databases and Snowball.

In the last ten years (2010–2020), the number of articles published increased. Out of the 106 papers analyzed, 92 were published in this period (Figure 3). The years with the highest number of articles analyzed were 2019 and 2020, with 16 and 18, respectively.

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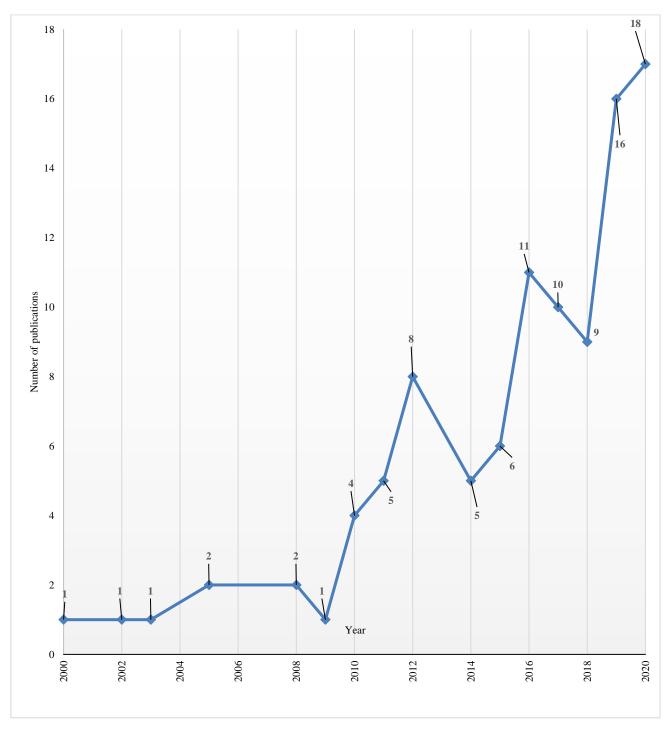


Figure 3. Number of publications per year selected.

The articles were published in 19 different countries. The countries that had the highest numbers of publications were the United Kingdom, Brazil, and the Netherlands, with 39, 18, and 12, respectively. Next was the United States, with eight papers, and India, with seven. Despite its relevance, the topic has not been studied in most countries.

The selection of articles was presented in terms of general characteristics [38], the most productive journals and authors, and the most relevant keywords.

Considering Table 1, the total number of publications (TP) increased from one in 2000 to nineteen in 2020. In 2021, the six publications were from January and February, when data collection ended. There was also an increase in the total number of authors (AU),

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from three in 2000 to fifty-five in 2020. The page count in each journal (PG) grew in the period 2016–2020, which justifies the concern with the research problem.

<b>Table 1.</b> General and annual characteristic	S O	i seiectea	articles.
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Year	TP	AU	PG	AU/TP	PG/TP
2000	1	3	9	3.0	9.0
2002	1	3	18	3.0	18.0
2003	1	1	11	1.0	11.0
2005	2	3	27	1.5	13.5
2008	2	3	18	1.5	9.0
2009	1	1	12	1.0	12.0
2010	4	9	64	2.3	16.0
2011	5	14	72	2.8	14.4
2012	8	21	84	2.6	10.5
2014	5	10	43	2.0	8.6
2015	6	20	85	3.3	14.2
2016	11	27	144	2.5	13.1
2017	10	25	147	2.5	14.7
2018	9	29	169	3.2	18.8
2019	14	35	183	2.5	13.1
2020	19	55	289	2.9	15.2

TP total number of publications; AU total number of authors; PG page count.

We found that the research on the mortality risk of MSE is increasing because entrepreneurship is a global trend, as it is considered a driver for economic growth [4,39,40] and a contributor to the creation of jobs and innovations [2]. Therefore, the management of MSEs has gained importance at the social, governmental, business, and academic levels [6].

The most productive periodicals were Procedia—Economics and Finance, with seven publications, and Procedia—Social and Behavioral Sciences, with four publications, representing 6.6% and 3.7% of the total, respectively (Table 2). Of the ten most productive journals, six were from the United Kingdom (18 publications) and two were from Brazil (4 publications).

**Table 2.** The ten most productive journals on the topic of this review.

Top 10	Journals	TP	Country	%
1	Procedia Economics and Finance	7	the Netherlands	6.6
2	Procedia-Social and Behavioral Sciences	4	<b>United Kingdom</b>	3.7
3	Cogent Business & Management	3	United Kingdom	2.8
4	Journal of Small Business & Entrepreneurship	3	United Kingdom	2.8
5	Journal of Small Business and Enterprise Development	3	United Kingdom	2.8
6	World Development	3	United Kingdom	2.8
7	African Journal of Business Management	2	South Africa	1.8
8	Brazilian Journal of Operations & Production Management	2	Brazil	1.8
9	Information Technology for Development	2	<b>United Kingdom</b>	1.8
10	Innovation & Management Review	2	Brazil	1.8

TP total number of publications, % percentage of publications in the dataset.

To classify the articles according to the type of research, the division of theory construction research into analytical and empirical was used [41]. Analytical research uses

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deductive techniques to find results, while empirical research uses induction and empiricism to arrive at theories. The two types of research are subdivided into three categories each. Thus, there are six types of research, with different methodologies, and each one aims to develop a theory.

Analytical research was divided into analytical conceptual research, analytical mathematical research, and analytical statistical research. The different categories are distinguished in the use of logic and mathematics for the construction of a theory. The conceptual research aims to introduce new concepts to existing problems where the methodology used is logic. Analytical mathematical research develops mathematical relationships between variables and studies the behavior of models in different situations. Analytical statistical research integrates mathematical logic models and statistical models, providing models integrated into a single theory, which will later be used for future empirical statistical tests.

Empirical research was classified into empirical experimental research, case study, and empirical statistical research. Empirical experimental research seeks to examine and monitor the relationship between variables to determine their effect on certain dependent variables. This subcategory is known as 'field experiment'. Empirical case studies, as reviewed here, consist of in-depth research carried out within a limited number of organizations. This method uses data to develop a theory while the conceptual method uses deduction to develop theories. Empirical statistical research, as reviewed here, verifies theoretical relationships in large samples of real businesses with statistical analyses.

The results in Table 3 showed that empirical statistical research was the type of method highlighted, present in 66 articles (62.3%). The most used methods were analytical conceptual research, described in twenty articles (18.8%), and empirical case study, portrayed in sixteen articles (15.1%). The methods that had the least applicability were analytical statistical research (three articles) and empirical experimental research (one article), representing 2.8% and 0.9%, respectively. Empirical research totaled eighty-three articles (78.3%), and sixty-six of those used a statistical approach. Analytical research was present in twenty-three articles (21.6%), with twenty of those displaying a conceptual approach. No article used analytical mathematical research.

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
al	experimental													1									
empirical	case study											1		1		1	1	1		1	4	4	2
em]	statistical				1					2	1	1	4	5			5	9	8	8	9	11	2
lytical	statistical																	1	1			1	
lyti	mathematical																						
anal	conceptual	1		1			2					2	1	1		4			1	1	1	3	2

**Table 3.** The evolution of research on business mortality by type of research method.

Analytical conceptual research studies were dedicated to exploring new concepts and developing theories about entrepreneurship [42], characteristics and skills of the entrepreneur [5,8,43,44], company characteristics, management strategies [43,45], and the influence of the external environment on MSEs [8]. The use of technologies, such as the Internet of Things and e-business, was cited to improve processes [44,46,47]. Marketing practices [48], public policies [8,26], and innovation in products and processes [49] helped in the growth of MSEs.

Machado and Espinha [11] tried to better understand why MSEs fail and suggested three risk categories: entrepreneur, company, and external environment. Abor and Quartey [4] described the characteristics, contributions, and restrictions that exist for MSEs.

Recent research has presented the challenges and impact that were generated in MSEs during the COVID pandemic [26,50–53]. In his study, Nogueira [53] elaborated a proposal for emergency government assistance for the MSE segment, besides making a brief analysis of the measures adopted by the government. Akuoko et al. [26] discussed the need for regulations for informal MSEs. The final product also showed systematic review studies [40,54]. Chikweche and Bressan [40] addressed the implementation of organizational learning, which addressed the complexities and dynamism of the operating environment. Donner and Escobari [54] reviewed the use of mobile technology in MSE, detailing discoveries and changes in internal and external processes.

In the analytical statistical research, three studies were found that sought to integrate the mathematical and statistical models into a single and larger model. Khan and Shah [55] made a comparison between trained and untrained entrepreneurs to assess the effectiveness of an entrepreneurship development program and the effect on the entrepreneur's performance. Nosratabadi [56] analyzed the effect of a loan program to Iranian companies on unemployment between 2005 and 2010, based on two different methods of assessing the causal effects. Duda et al. [57] identified the existing barriers to innovation for Polish MSEs.

In the empirical case study, in-depth research was presented and developed in a small number of companies. Studies were developed on the factors that determined the decisions of German MSEs on the adoption of renewable sources [58], obstacles to accessing finance [59], management problems faced by small businesses in the Philippines [60], and the civil construction sector in the city of Jundiaí [61]. Ratnaningtyas et al. [62] evaluated the entrepreneurial capacity in the fish industry in Indonesia under three dimensions: entrepreneurial, technical, and management skills. Alshami et al. [63] verified what affects sustainability in companies managed by women. Alonso and Kok [18] examined how European MSE owners and managers perceive the success and future of their businesses through semi-structured interviews. Lukiyanto and Wijayaningtyas [64] analyzed the perception of sporting event owners regarding the difficulty of capital in the business, and Galvão et al. [65] mapped the process of time and resources to understand the constraints and bottlenecks of a microcompanie of PET brooms. Liberman-Yaconi et al. [13] investigated how Australian microcompanies in the IT field make strategic decisions, and Pozo et al. [66] analyzed innovation and applied technology in the context of a sustainable production chain of SME manufacturing metal frames. Rascón and Velázquez [6] investigated the factors that put the continuity of Mexican and Colombian microenterprises at risk. Bressan and Pedrini [67] examined sustainability-oriented innovation practices among MSEs operating in the tourism and hospitality sector.

Other investigations verified the performance of organizations during and after the pandemic. The study of Amankwah-Amoah [68] was conducted on two Asian airlines and proposed a four-stage approach to renewing underperforming organizations. Smart et al. [69] investigated two hotels in Oklahoma, and Bartik et al. [14] analyzed how small businesses faced major challenges during the pandemic.

Empirical experimental research was evidenced in the study by Mano et al. [70], who examined the performance of African MSE clusters. The randomized experimental study was carried out in Ghana and showed that external factors and limited commercial experience were barriers found in this segment.

Empirical statistical research was carried out on large samples using statistical techniques. The studies in this category were applied in private business and investigated the characteristics of companies and entrepreneurs [12,71–75], customer relations [76], success factors [27,77,78], determinants of business survival [9,23,77–79], factors that contributed to failure [15–17,80–82], and factors related to the performance of MSEs [19,24,83–86]. Organizational difficulties in management involving finance [21,87–92], environmental sector [93–95], quality systems [96], supply chain [97], innovation [3,98–107], and competitive strategies [7,20,22,95,108–115] were identified. Some studies verified measures of resilience and status of MSEs during the COVID pandemic [116,117].

The techniques for data analysis were: multiple linear regression [3,7,21,24,84,89,95–97,103], factor analysis [22,74,95,97,98,102,109,111,117,118], t test [19,77,97,101,102], correlation [24,89,97], analysis of main components [25], analysis of variance [97], descriptive statistics [15,89,104,107], SWOT Analysis [77], logistic regression [92,93,101], cluster analysis [98], structural equation modeling [86,102,109], and survival analysis [9,99].

## 3.2. Authors, Highlighted Publications, and Keywords

Authors who contributed scientifically to the area were from Australia, Ghana, India, and Indonesia (Table 4). The authors with the highest h-indexes were two researchers from Australia and one from India. They quantified the productivity and impact of scholars, based on the most cited articles. In this paper, the h-index from Scopus (update in November 2021) was used.

Of the total number of authors who published on the topic, eighty-seven authors had two publications and one hundred seventy-nine researchers had 1 publication.

Top 10	Author	TP	Country	h-Index
1	Alessandro Bressan	7	Australia	10
2	Ahmed Agyapong	5	Ghana	7
3	Matthijs Den Besten	4	France	8
4	Abel Duarte Alonso	3	Australia	21
5	Abhishek Tripathi	2	India	11
6	Acip Sutardi	2	Indonesia	2
7	Aleksandra Gasior	2	Poland	2
8	Alhassan Iddrisu	2	Ghana	2
9	Anton Mulyono Azis	2	Indonesia	2
10	Bhausaheb R. Londhe	2	India	3

**Table 4.** The ten main authors and the most published articles on the topic.

TP total number of publications.

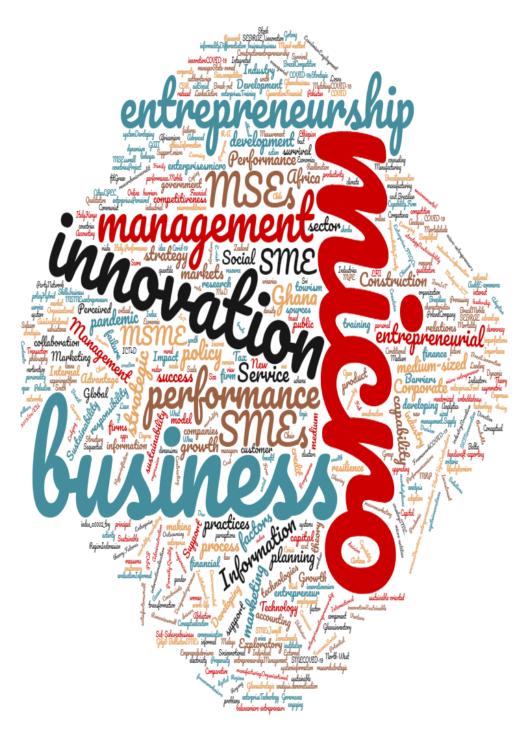
The top ten most-cited authors according to Scopus data in November/2021, the title of their publication, and the research method used are presented in Table 5. Of the ten most cited publications, four used the conceptual research method, and Abor and Quartey [4] and He and Harris [52] stood out for having the highest number of citations in the literature. Of the most cited authors, three published empirical statistical studies, two published empirical case studies, and one author published an empirical experimental article (Table 5).

Year	Author(s)	Publication Title	Research Method	Citations	
2010	Abor and Quartey	Issues in SME development in Ghana and South Af-	Analytical	326	
2010	Abor and Quartey	rica	Conceptual	320	
2020	He and Harris	The impact of COVID-19 pandemic on corporate so-	Analytical	213	
		cial responsibility and marketing philosophy	Conceptual	213	
		Does family employment enhance MSEs perfor-	Empirical		
2012	Cruz et al.	mance?: Integrating socioemotional wealth and family	Statistical	178	
		embeddedness perspectives	Statistical		
2020	Bartik et al.	The impact of COVID-19 on small business outcomes	<b>Empirical Case</b>	168	
2020	bartik et al.	and expectations		study	100
2011	Gunasekaran et al.	Resilience and competitiveness of small and medium-	Empirical	156	
2011	Gunasekalan et al.	size enterprises: an empirical research	Statistical	130	

**Table 5.** Highlighted publications and citations.

2010	Donner and	A review of evidence on mobile use by micro and	Analytical	108
2010	Escobari	small enterprises in developing countries	Conceptual	100
2012	Mano et al.	How can micro and small enterprises in Sub-Saharan Africa become more productive? The impacts of ex- perimental basic managerial training	Empirical Experimental	86
2015	Rahayu and Day	Determinant factors of e-commerce adoption by SMEs in developing country: evidence from Indonesia	Empirical Statistical	76
2010	Liberman-Yaconi et al.	Toward a model of understanding strategic decision- making in microfirms: exploring the Australian infor- mation technology sector	Empirical Case study	72
2000	Fielden et al.	Barriers encountered during micro and small business start-up in North-West England	Analytical Conceptual	47

Based on the keywords of the selected articles, a word cloud was created, which served to identify the direction of the studies that were published on the subject (Figure 4). Out of a total of 425 keywords, 115 elements were presented in at least two repetitions. The eight words that stood out were: 'micro', 'business', 'innovation', 'management', 'entrepreneurship', 'performance', 'MSEs', and 'SMEs'. 'MSEs' was the acronym used for micro and small businesses, and 'SMEs' was used for small and medium businesses. These were the most studied topics in this selection and the study period.



**Figure 4.** The keywords of the analyzed articles that stood out on the theme of business mortality in MSE.

# 3.3. Mortality Risk Factors in MSEs and the State of the Art on the Topic

The results showed 36 risk factors for mortality. These factors are presented in five categories: entrepreneur characteristics risks, business management risks, risks linked to lack of innovation in the business, risks associated with customers' difficulties, and risks due to the influence of external factors.

# 3.3.1. Entrepreneur Characteristics Risks

The risk factors in this category were related to the profile, technical knowledge, skills, abilities, and experiences of the entrepreneur (Table 6). The entrepreneur's characteristics correspond to determination, objectivity, commitment, creativity [15,16,25], and the entrepreneur's profile, includes age, education, income, gender, and so on [7,16,24,25]. Regarding the gender of the entrepreneur, there is evidence that there is a positive effect between performance and the female gender in MSEs [71,73,80,83]. Chirwa [71] reveals that women are increasingly participating as MSE entrepreneurs in developing countries. The author adds that although there are no significant differences in profit margins, women-owned MSEs grow faster in terms of employment compared to male-led companies. This is partly due to access to credit at microfinance institutions that target women entrepreneurs and due to the impact of education.

Risk Category	Definition	Risk Factors	Source
Entrepreneur char-	_	Profile	[7,8,16,24,25,27,42,71,73,79,83]
	_	Personal characteristics	[15,16,25,48,62,85]
	It refers to the entre-	Lack of capacity building and training	[6,17,24,55,61,70,74]
	nical knowledge, skills,	Lack of technical knowledge	[24–26,80,87]
	abilities, and experi- – ences.	Management skills and competences	[15–17,24–26,42,43,48,60–62,85]
	_	Lack of experience in business management	[5,15,16,23–25]

**Table 6.** Mortality risk factors related to the entrepreneur.

Some authors highlighted the importance of training [24,55,70,74], capacity building [61], and technical knowledge [24,26,55]. An increase in qualifications, both academic and professional, reduces the possibility of company bankruptcy, as well as being a resource that creates competitive advantages for MSEs [25,26,119].

The importance of the entrepreneur having previous experience in business management was also mentioned [5,23–25].

Another important factor was the development of managerial skills and abilities [15–17,43]. Indicators of entrepreneurial skills include persistence, proactivity, entrepreneurial behavior [24], ability to take risks, orientation to change, commitment, leadership, motivation [25], good communication, critical capacity, and perception of the internal and external environment [62].

Ratnaningtyas et al. [62] pointed out problems of communication. These problems involve the relationships between customers, suppliers, and employees [48,61,85].

#### 3.3.2. Business Management Risks

This category underscores a company's management problems in everyday actions (Table 7). Among the factors listed were the difficulties in economic and financial management, such as the lack of cash flow control, the lack of financial results analysis, the difficulty in separating the assets, rights, and obligations of the individuals and legal entities, high operating costs, and lack of investment [39,77,80]. The problems of working capital for operationalization [15,25], debts, and insufficient income [6,80,87] were also present.

Table 7. Mortality risk factors related to management.

Risk Category	Definition	Risk Factors	Source	
		Problems in economic and finan-	[4,6,8,12,15,17,25,39,40,49,61,64,75,80,8	
		cial management	4,87,91,120,121]	
		Problems in accounting management	[24,25,39,74,87]	
		Lack of legal guidance	[25]	
	•	Sales management issues	[8,17,27,61,73]	
		Inventory management problems	[61,86]	
		Problems in logistics management	[61]	
		Quality management problems	[3,13,39,60,82]	
		Problems in purchasing management	[61]	
	It represents the com-	Problems in strategic management	[3,13,39,61,115]	
Business manage- ment risks	pany's management problems in everyday	Operations management	[39,60]	
	actions.	Problems in personnel management	[3,39,61,85]	
			Problems in marketing management	[3,23,39,60,82]
		Lack of strategic planning	[3,16,25,27,62,65,108]	
		Difficulty in obtaining credit	[5,20,21,23–25,43,45,49,56,59,60,72,88–90,92,101]	
		High competition	[5,16]	
		Failures, underutilization, and lack of information	[24,44,60,84,97,110,114]	
		Lack of strategic alliances and co- operation networks	[5,18,19,23,77,100]	
		Lack of advertising	[49,61]	

The problems regarding the lack of accounting management [24,25,39] and lack of legal guidance [25] were cited. Problems with inventory management, which are related to the discrepancy between the real and theoretical [61] and the purchase of lots, optimize the gains resulting from the volumes purchased without causing an imbalance in the financial level [86]. In logistics, the problems of contracts with customers for deliveries were pointed out, followed by the definition of more economical routes and the difficulty of assuring the quality and balance of products during transport [61].

In purchasing management, the difficulty was related to minimum purchase lots, as large suppliers often impose this condition [61]. In strategic management, the volatility of the sector proved to be a difficulty due to economic changes [39]. It is important to pay attention to differentiation strategies, with an emphasis on management quality, innovation, business marketing, and cost leadership [3,82].

The problems with operations management proved to be a challenge regarding quality management [39,60], human resources [3,39,61], and marketing [3,39,82]. Anholon et al. [61] added the problems with sales, where difficulties are found in setting goals, managing and monitoring the activities of the sales teams, and achieving customer loyalty.

The absence of strategic planning and the existence of failures were incorporated into management problems as elements of mortality risk [3,16,108].

Another factor was the difficulty in accessing financial services for loans and financing [20,21,23,24]. Another problem encountered by Fielden et al. [49] was obtaining credit from suppliers.

The difficulty in obtaining credit, which occurs due to the lack of working capital for the development of operations, was also mentioned. Restrictions are the main barriers to accessing credit when considering the company owner and the characteristics of the company (lack of guarantees and arrears) [92]. Other obstacles were the financial cost of using these services, with high-interest rates in operations and bureaucracy that impact growth, job creation, and the development of MSEs [21,56,59]. In this regard, some countries have special credit lines for SMEs because they understand the importance of this sector for economic development. These credit lines have lower interest rates and fees, longer grace periods, and quick analysis, and can be used for investments or working capital.

Competition must be constantly observed by the entrepreneur [5,16]. Knowing the strengths and weaknesses of competitors is important for strategic planning [5].

Flaws and lack of information are other problems with informal and personal sources [24,60], while information based on the market is often ignored [110]. According to Vera [60], this results in structural and institutional barriers and demonstrates the limited ability of entrepreneurs to evaluate the environment and access specific information. Woida [114] adds that information is also underutilized, and many customers and external reports are not used to improve or innovate products, services, and processes. Besides, if companies had information on what, when, and to whom to sell their products/services, it would help not only in the survival of businesses but also in their performance [44,97].

It was identified that a lack of commercial networks between entrepreneurs, the government, financial institutions, and other business associations has a negative influence on the survival of companies [5,23]. Cooperation and the formation of strategic alliances are essential, becoming a determinant factor between success and failure [18,19,77]. Companies involved in inter-organizational cooperation present an exchange of knowledge between agents (suppliers, producers, consumers, industry associations, cooperatives, event organizers, festivals, fairs, and tourism), the community, and private information to expand learning [77,100].

Lack of understanding of advertising (when and how it should be undertaken) was also seen as a problem, and the unavailability of financial resources for this purpose affects business continuity [61].

It is common for entrepreneurs not to view advertising and advertising expenditures as an investment, and therefore to place it as a low priority. Anholon et al. [61] added that companies often have difficulties in defining the exact customer to be reached by the advertising.

#### 3.3.3. Risks Linked to Lack of Innovation in Business

The factors in this category were related to the lack of investment in innovation for the development of products, services, and processes in MSEs (Table 8).

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Risk Category	Definition	Risk Factors	Source
	It refers to the lack of in-	Lack of innovation in the develop- ment of products, services, and processes	[3,16,25,39,57,58,62,66,76,96,98,99,102 -104,107,113,118]
Risks linked to lack	vestment in innovation	Lack	[22,23,27,46–
of innovation in the	for the development of	of technologies	48,54,60,78,106,109,111,118]
business	products, services, and processes in companies.	Lack of sustainable environmental policies and practices	[63,67,93,94]
		Absence of corporate social responsibility	[112]

Table 8. Mortality risk factors related to innovation.

A lack of investment in innovation was considered a relevant factor in the risk of mortality in MSEs [3,16,25]. Pozo et al. [66] found that one of the requirements to obtain results was to optimize available resources, which would lead to more investments in innovation for the production of goods and provision of services. Productivity improvement comes from investment in technology, incorporated into the production structure and the employee training and education process [66].

Innovative organizations have a higher survival rate when they present a diversified portfolio [99,102,105]. De Paulla and Hamza [96] pointed out that any organization that seeks to innovate must be proactive, overcome market demands, and manage the quality of products and services. The company's ability to incorporate external and internal knowledge, tacit or explicit, is an asset for a successful strategy [57,103,104,107]. For Vorkapić et al. [113], sources of ideas for the development of new products and services can be competitors, customers, employees, participation in fairs, or exhibitions.

It was identified that the use of technology and e-commerce strategies was an advantage for MSEs [23,78]. For Corner et al. [47] the use of an electronic website and its resources, such as product information, company data, sales, payments, and online purchases, add value to products and services.

The use of telephony, mobile applications, and social networks, strongly influence the ability to seek new business opportunities, in addition to expanding the communication, marketing, and search processes for existing information [22,48,106]. Donner and Escobari [54] mentioned that MSEs become competitive to serve a society that is increasingly demanding and operating in different virtual channels, but for this to happen, the barriers of lack of knowledge, trust, and credibility must be broken by organizations.

Another point that had a positive relationship with an organization's survival was the investment in information technology (IT) [75,109]. Quelhas [111] added that a large number of micro and small entrepreneurs are not familiar with the potential of IT and therefore have doubts about how beneficial IT investments are for an enterprise.

Another important element was the lack of incentives for sustainable environmental policies and practices of MSEs. Due to the demands of the community and the market, the adoption of these practices, combined with innovation and applied in strategic actions, results in benefits for companies as they seek to minimize their socio-environmental impacts [67,93,94]. Alshami et al. [63] added that lack of product diversity and little flexibility in the implementation process are factors that affect the practice of sustainability.

With the adoption of environmental practices, companies revealed their commitment and corporate social responsibility (CSR) to society, causing a positive impact in the field of their activity [112].

In the study by Skypalová et al. [112], it was found that there is a correlation between company size, awareness, commitment, and CSR activities. With this, it was verified that MSEs have little knowledge, and consequently less involvement in the three pillars of CSR (social, economic, and environmental). The social pillar refers to activities carried out in

regard to ethics and organizational culture, health, safety, training, qualification and education of employees, diversity in the workplace, and equal opportunities. The economic pillar concerns the non-acceptance of corruption, fraud, and unfair competition, good relationships within the supply chain, loyalty to the company, and transparency in the company's activities and results. In the environmental pillar, there are the activities of recycling, reduction, use and management of waste, and reduction in the use of materials, energy, and water [112].

The adoption of CSR practices reveals a commitment to society and the company's employees, causing a positive impact on its field of activity [112]. Porter and Kramer [119] evaluate CSR and add the concept of 'Created Share Value' (CSV). The authors reveal that shared value is fundamental for the innovation and growth of organizations. This creates social benefits and a connection between the company's success and the community.

#### 3.3.4. Risks Associated with Customer Difficulties

Difficulties in attracting and retaining customers were found in the literature [15,16,49,61] (Table 9).

Customers are the key to the success of any business. Every enterprise, before opening, should know its target audience and discover their needs, preferences, and perceptions. Furthermore, retaining existing customers is as important as winning new customers. This retention is linked to knowing the competition's values and exceeding customers' expectations with regard to the quality of products and services offered [61].

Risk Category	Definition	Risk Factors	Source
		Difficulty in	[15 16]
Risks associated	It represents the diffi-	winning customers	[15,16]
	culty for MSEs in win-	Difficulties in retaining customers	[16,49,61]
with customer	ning new customers and	Inadequate location	[15,24,61,92]
difficulties	retaining existing ones.	Lack of adequacy and accessibility in the	[24,81,92]

Table 9. Mortality risk factors related to customers.

Another element was the location of the company, which must be accessible for the flow of customers [15,24,92]. Anholon et al. [61] highlighted two points that must be observed before defining the location of a business: the target audience, which consists of potential consumers and their preferences, and the competition, who may indicate what can be improved or updated. The adequacy and accessibility of infrastructure at the commercial point of the establishment are of paramount importance [24,81,92].

#### 3.3.5. Risks Due to the Influence of External Factors

External aspects are the problems that the entrepreneur has no control over (Table 10), such as the economic and financial crises of a country, the high tax burden, the lack of public policies to support specific sectors, and disruptive forces.

<b>Table 10.</b> Mortality risk	factors related to external factors.
49 4.4	

Risk Category	Definition	Risk Factors	Source
Diales des to the	It refers to externalities, _	Economic and financial crises	[9,15,17,27,61,80,84]
Risks due to the influence of ex-	that is problems over	High tax burden	[15,17,61,80,84]
ternal factors	which the entrepreneur	Lack of public policies	[5,8,27]
terriar ractors	has no control.	Disruptive forces	[14,26,50–53,68,69,116,117]

The effect of disruptive forces refer to recessions, wars, disasters, and epidemics, such as World War I (1914–1918), World War II (1939–1945), the Great Depression (1929–1939), the Global Financial Crisis (2007–2009), and the COVID pandemic (starting in December 2019), which had major impacts on organizations [69]. The COVID pandemic was the most prominent external factor in recent times and it is a new situation with an unknown time duration [52]. It appeared in December 2019 and, as a result of this scenario, some countries had to close their borders and many companies were forced to suspend their activities. This context resulted in a worldwide economic crisis, and consequently, individuals and organizations were affected, mainly micro and small entrepreneurs.

According to Smart et al. [69], the disruptive effect of the pandemic has gained the attention of researchers to investigate the types of changes in demand and strategies to face the pandemic crisis in all aspects. It is added that the crisis also had an impact on financial markets, and one of the problems faced by companies was the lack of capital to modify or adapt their business model [50]. Small businesses are financially fragile, and many of these ventures had little money available when the pandemic started. Thus, it was necessary to cut expenses, contract other debts, or close down activities [14]. Alon et al. [51] mention that humanity is currently facing a humanitarian crisis, fear and uncertainty about the future, and a financial and economic crisis, with problems in both supply and demand. The other challenging crisis is the lack of world leaders to deal with the invisible problems [51].

With the emergence of this crisis, it became difficult to make plans due to the uncertainties and concerns that arose both in health and the economy [122]. However, depending on the type of sector, this crisis represents a business opportunity [51,69]. Amankwah-Amoah et al. [68] point out that companies should use COVID as inspiration for innovation. These authors developed the 'CoviNovation', which highlights organizations' expected and unexpected innovations that originated during, or were accelerated by, the pandemic.

Regarding urgent governmental measures to combat the pandemic crisis, emergency funds were mentioned, which were established to serve small businesses, such as longer grace periods and reduced interest rates to help companies preserve jobs, supporting families against income reductions [123]. It was found that MSEs are seeking strategic actions to contain the risk of mortality through training, innovation, the development of new products or services, and the implementation of new technologies. Strategic positioning was important in this period for a company to continue competing in the market and benefiting its customers.

#### 4. Discussion

The main objective of this research was to analyze the factors that contribute to the risk of mortality in MSE. In summary, it was found that studies on business mortality expanded from 2016 onwards (Figure 3). The published articles explore the themes of survival, failure, performance, and growth of MSEs. In the years 2019 and 2020, the number of publications grew. This is explained by the fact that entrepreneurship is a global trend, a driver of economic growth [1,4,39,40,121], and a contributor to job creation and innovation [2]. Thus, the management of MSEs gained importance at the social, governmental, business, and academic levels [6]. The increase in 2020 is also explained by the impact that the COVID pandemic had on MSEs, and thus, most of the works developed in the period were based on the effect that this crisis had on this segment. The disruptive effect of the pandemic has become the focus of many researchers, which examine the types of changes in demand and strategies for coping with the crisis [69].

In publications by type of research, evolution was observed over the last few years in empirical statistical research (Table 3). For the development of these surveys, questionnaires and statistical techniques were applied. The most frequently used techniques were linear regression and factor analysis. Păunescu and Mátyus [117] explain that the use of factor analysis allows the identification of factors that explain the correlation within a set

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of observed mortality risk factors, while linear regression determines which variable has the greatest impact on mortality risk.

The case study methodology was evaluated in private companies (Table 3). The studies analyzed barriers and challenges in different industries and business sectors. Works were also carried out investigating the survival and success of these companies.

Analytical conceptual studies continue to progress in publications (Table 3). Discussions about the importance of MSEs for economic development where it operates were highlighted, and brought reflections on what contributes to the non-closure of these organizations. Roratto et al. [28] added the need to develop instruments that can reduce corporate mortality and create programs that incorporate accumulated theoretical and empirical knowledge. The results regarding the relationship between the dimensions and subdimensions that contribute to the mortality risk of MSEs were discussed in detail in the next sections.

The articles analyzed in this review included a total of 425 keywords. With this, a word cloud was created, and 8 words stood out as the most cited: 'micro', 'business', 'innovation', 'management', 'entrepreneurship', 'performance', 'MSEs', and 'SMEs'. It was found that the words 'innovation' and 'management', refer to two dimensions presented in this study, and stood out as representing the risk factors that had the highest total frequency (Appendix B). The word 'entrepreneurship' was also highlighted, confirming the direction of studies on this topic. Entrepreneurship is a global trend and, in this scenario, as MSEs represent most of the world's companies, this type of business emerges [6]. With this, it was verified that the risk factors related to innovation and business management deserve greater attention in the face of risks linked to the entrepreneur, customers and external factors. It should be noted that when innovation and management problems occur in MSEs, there is a tendency for business performance to be altered and impaired.

In the analyzed studies, 36 risk factors were identified, and the factor that stood out the most was that of problems in economic–financial management (Appendix B). Lack of working capital represents a financial problem for companies, which makes many companies seek financial institutions to obtain credit. Such problems influence the activities of all sectors, such as the development of innovative products, services, processes, and investment in technology. Findings in the existing literature show that there is still much to be explored about mortality in MSE, and Gupta and Tripathi [24] add that this topic has potential for future studies, as there are many factors that should be analyzed to improve the performance of MSEs and help the local economy, generating sufficient income.

In the literature, factors that increase the risk of mortality and those that reduce the risk can be found. Jamak et al. [5] investigated the factors that contribute to minimizing risks to business survival, and the factors that cause failures that can lead to mortality in MSEs. It was identified that education is one of the factors that reduces the risk. Entrepreneurship education maximizes growth rates in addition to increasing opportunities for developing new businesses, self-employment, creating new products, and being updated on market trends and management tools [5]. The authors add that business management training plays an important role in entrepreneurial effectiveness. Other important points that reduce the risk are: the use of marketing, which is a tool that helps in the investigation of consumer needs and desires and evaluates the competition, and financial literacy, which will provide information on how to negotiate lines of credit, manage payments and making financial decisions [5]. The literature also points out that the key to minimizing business failures includes training in technical assistance, good communication and the formulation of objectives and goals to be achieved [5]. The implementation of information technology is another factor that reduces risk, as it enables the growth of MSEs. The important thing in this investment is to think about how operations will be impacted, optimizing processes and activities [118].

On the other hand, the factors that increase mortality rates, according to the literature, are: competition, which develops innovative products and often targets consumers in terms of price and promotions; lack of networking between companies, employees,

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government, customers, and financial institutions, among others, to gain visibility and achieve competitiveness, and lack of managerial skills to develop business plans, obtain and use resources efficiently, balance finances, and maintain follow-up and control of daily operations [5]. The external factors that have impacted and increased MSE mortality since the 1990s are: limited access to finance, corruption, precarious public services, high taxes, and government bureaucracy [84].

#### 5. Relationship between Dimensions and Subdimensions of Mortality Risks in MSEs

The first dimension emphasized the risks linked to the entrepreneur, presented in Section 3.3.1. In this category, it was evidenced that training and increasing qualifications must be constant, as they allow the entrepreneur to be updated in their area of expertise, implementing new techniques in the company's operations to solve problems and make internal processes efficient. Training leads to technical knowledge, which helps the entrepreneur in decision-making based on knowledge and not on intuition. Entrepreneurship involves many challenges; thus, knowledge helps entrepreneurs face daily difficulties and perform their tasks with quality and efficiency.

Managerial practices are linked to experience in business management, which allows the entrepreneur to know and have control over what happens in the company, making it possible to detect bottlenecks, failures, and opportunities for improvement. The skills and abilities of the entrepreneur must be improved and expanded. These skills involve your characteristics attitudes, strengths and weaknesses, which can interfere with the company's performance. Skill development allows entrepreneurs to reach their goals and finish their projects in an expert manner.

The second dimension was associated with managing risks in the company, presented in Section 3.3.2. Many articles focused on identifying and analyzing problems related to the company's day-to-day activities, and therefore, every entrepreneur, before opening a company, should research the market, the target audience, and the competition in order to make good decisions. It is important to prepare a business plan for the company to develop and succeed. The business plan identifies the strengths, weaknesses, opportunities, and threats of a company, in addition to presenting and achieving its previous activities, objectives, and goals. Management covers all areas of the company and seeks to analyze and solve problems, organize finances, motivate employees, and control the internal environment. Many entrepreneurs are forced to close their establishments because they manage their companies based on the excitement of having a business, without knowing the environment in which they operate or being familiar with the requirements of management, marketing, sales, strategy, operations, and so on.

Another important point is the difficulty in obtaining credit, which occurs due to the lack of working capital that MSEs have for the development of operations. This results in a search for credit with financial institutions that charge high interest and fees. In obtaining credit, the business may face eligibility barriers, as the process is bureaucratic and often results in denial of credit due to the restrictions of the system (insufficient income, debt in arrears, lack of documents and guarantees, personal and business documents with restrictions, etc.). Some countries have special credit lines for MSEs because they understand the importance of this sector for economic development. These credit lines have lower interest rates and fees, longer grace periods, and quicker analysis, and can be used for investments or working capital.

The third dimension was innovation, presented in Section 3.3.3. Innovation, in many cases, is not applied in the organization due to a lack of tools for its implementation. Innovation adds value to the company's products/services, making them a competitive advantage. The use of technology results in benefits for the company and the customer. The companies that do not change in the face of technological advances will not be able to continue their activities. Environmental practices improve the company's image, in addition to minimizing the business's impact on the environment.

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The fourth dimension was the customer, shown in Section 3.3.4. Findings show that in a globalized and competitive market, it is important that companies know their consumers in order to create bonds, interact and satisfy their needs. Competition is presented not only by physical establishments, but also by virtual ones, which is why it is essential to please the customer with differentiated products and/or services that fit their wishes. The customer is the bedrock to a company's growth. A dissatisfied customer can propagate negative comments about the company that are disseminated on social networks, by the media, and by direct contact, harming the company's image. To win and retain customers it is important to exceed their expectations, announcing a better price than the competition, offering innovative and quality products and/or services, providing good service, offering training for sales staff to better know their customers, products, and/or the services that are being commercialized, and it is also important to solve customer problems quickly and value old customers via discounts, loyalty programs, bonuses, etc.

The fifth dimension was external factors, presented in Section 3.3.5. Findings show that external factors influence the operations of the company. These factors demand changes in processes and quick and intelligent decision-making to minimize the effects of a crisis. External elements that interfere are high-interest rates, which can make it difficult to repay loans and financing, inflation, which increases the value of production inputs, and unemployment, which affects consumer demand for products and services. The importance of public policies to support small businesses and support the creation of ventures for socioeconomic development is highlighted.

The disruptive effects of the COVID pandemic revealed an unexpected and unknown situation, creating difficulties for future planning due to the uncertainties that arose. However, these uncertainties and threats must be considered by managers in order to take advantage of business opportunities, and for that, strategic positioning is necessary, both for micro and small businesses, as well as for medium and large enterprises. In sum, the classification of these dimensions allowed the development of a conceptual model aimed at assessing the risk of mortality in MSEs. The model consolidated the results obtained and allowed for an understanding of the interdependence between the factors.

#### Main Dimensions and Subdimensions

**External Factors** 

**External Factors** 

The dimensions that stood out for their number of subdimensions (risk factors) were: management, entrepreneur, and innovation (Appendix B).

In the entrepreneur dimension, the subdimension with the highest frequency of citations was 'management skills and abilities', and in management it was 'problems in economic and financial management'. In innovation, 'the lack of innovation in the development of products, services, and processes' was most cited, while in customers, 'inadequate location' appeared most frequently, and finally, in external factors, the 'disruptive forces' were the most cited risk factor (Table 11).

5.0%

3.1%

Dimensions	Dimensions Subdimensions	
Entrepreneur	Management skills and competences	5.4%
Entrepreneur	Profile	5.0%
Management	Problems in economic and financial management	8.6%
Management	Difficulty in obtaining credit	8.2%
Innovation	Lack of innovation in the development of products, services, and processes	8.2%
Innovation	Lack of technologies	5.9%
Customers	Inadequate location	1.8%
Customers	Difficulties in retaining customers	1.3%
Customers	Lack of adequacy and accessibility in the infrastructure	1.3%

Disruptive forces

Economic and financial crises

**Table 11.** Classification and citation frequency of mortality risk factors in MSE.

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It was found that MSE managers should consider all identified subdimensions, but it is essential to pay attention to the subdimensions classified in the entrepreneur, management, and innovation dimensions (Table 11). In the entrepreneurial dimension, the importance of improving skills and competencies was observed, which reflects on the company's productivity. In the management dimension, the entrepreneur must know all the necessary and available tools for good business performance. In innovation, it was found that many companies do not innovate in technology, products, services, and processes, due to a lack of knowledge about the available tools and also because they are not open to change.

The subdimensions that appeared most frequently, in general, were: 'problems in economic-financial management', 'difficulty in obtaining credit', and 'lack of innovation in the development of products, services and, processes' (Table 11). These factors fall into two categories that stand out, namely: innovation and management.

The high percentage in the subdimension associated with innovation showed that entrepreneurs should invest in their business, in tools that help them to implement technologies and create new products, services, and organizational processes that add value. Innovation is a differential against the competition, and as a result, MSEs increase revenues, profits, conquer new markets, and reduce production costs.

The management-related subdimensions confirmed the lack of public policy incentives and support for MSEs, making the process of obtaining credit for working capital difficult. Entrepreneurs should better control their financial operations using mechanisms that help them in decision-making, such as financial planning, spreadsheets to monitor daily expenses, cash flow monitoring, cost and expense control, separation of the person's expenses on individual (entrepreneur) and legal entities (company), advising an accountant to solve economic–financial and accounting doubts, analysis of accounting reports, and so on.

# 6. Conceptual Model of Mortality Risk in MSE

Findings from thematic areas found in the literature review allowed the elaboration of a conceptual model for mortality risk analysis in MSEs (Figure 5). The functions of the model are a) to contribute as a qualitative synthesis of the results obtained in the last 20 years of research on mortality risk in MSEs, and b) to help entrepreneurs, governments, and educational institutions to develop support and development strategies. It is noteworthy that the model presented was not adopted or adapted from other authors, because a conceptual model for this purpose was not found in the literature review. The model was presented in its dimensions, subdimensions, and interrelationships.

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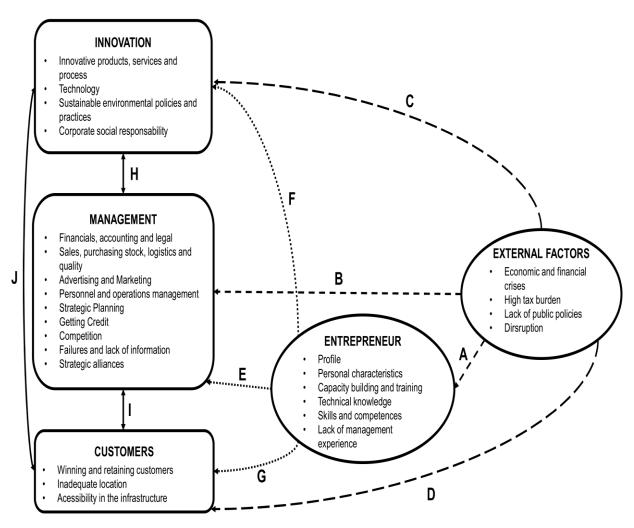


Figure 5. Conceptual model of mortality risk in MSE.

The determining relationships were classified into five dimensions: external factors, entrepreneur, management, innovation, and customers (Figure 5). The dashed lines (A-D) show the relationship between external factors and the other dimensions. The dotted line (E-G) shows the relationship between the entrepreneur and the other dimensions. The continuous line (H-J) shows the relationships between the customers, management and innovation dimensions (Figure 5). The analysis of these relationships between dimensions and their determinants allowed for in-depth knowledge about the mechanisms that contribute to the risk of mortality in MSEs. The model pointed out the direction of influence between dimensions. The direction of the arrows represented unidirectional (one way) or multidirectional (multiple directions) relationships. It was identified that external factors have a unidirectional causal relationship with the other dimensions (A, B, C, D) due to their impact on the activities and sectors of MSEs. External factors represent those risks that the entrepreneur has no control over, that are related to the external environment and that may occur unexpectedly, impacting the entrepreneur's actions, company management, customers' demand and behavior, and investments in innovation. Entrepreneurs are influenced by external factors that affect their decisions in all company activities. Thus, the entrepreneur has a unidirectional relationship with management (E), innovative actions (F), and customers (G).

Considering the perspectives of management, innovation, and customers, a multidirectional relationship was found. This means that these dimensions are connected and the

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impact on the company's management will affect innovation processes and the relationship with the customer and vice versa. In-depth discussions of the model are presented in the next section.

#### 6.1. Multidimensional Relationship

The conceptual model presented the interrelationships between the five main dimensions. A change in one dimension may impact other dimensions. Presenting these relationships, it is expected that researchers, students, industry professionals, and entrepreneurs can have a broader understanding of the risk of mortality in MSEs. First, there is the dimension of external forces that affect the entrepreneur in his actions and decisions in such companies (A). Business management is influenced by external factors in its daily operations and organizational processes (B). In this case, economic and financial crises, changes in public policies related to the sector, and the disruptive effects of wars, pandemics, and epidemics impact the entrepreneur and decision-making in the company's operations.

In the relationship of external factors with innovation, it was found that to invest in innovative products and/or services, the company must have available resources [66], and for that, government support is essential (C). For this, public policies to support the sector are necessary, so MSEs can continue to compete in the market. There are other types of investments that need resources, such as technology, acquisition of machinery and equipment, and modernization of the company [23,46,47,60,78]. The government supports small enterprises through lines of credit from financial institutions, offering reduced interest rates and a grace period for payment. Therefore, micro and small entrepreneurs need to know the sources of fundraising and existing economic subsidy projects. Public policies to support the sector and emergency measures in times of crisis help in the creation and development of projects.

The relationship of external factors with customers occurs when their purchasing power is affected. For example, unemployment and inflation cause a reduction in demand for products and services (D). With the decreased demand, companies reduce sales and profit, and consequently, are affected in their performance.

Secondly comes the entrepreneurial dimension, which is related to the dimensions of management, innovation, and customers. Entrepreneurs are responsible for the company and all their decisions are based on their entrepreneurial characteristics [6], skills, and abilities (E). The MSE depends on the entrepreneur's performance, which in turn influences execution, survival, or mortality [16]. Among the necessary skills, the following stand out: persistence, proactivity [24], leadership, motivation, communication, critical capacity, perception [25,62], resilience, and flexibility. Developing skills and competencies means discovering qualities and potential that will help achieve the planned goals. The entrepreneur needs to be aware of changes in the market to identify business opportunities [51]. The development of strategic planning, process mapping, cost and expense control, resources, and working capital optimization can combine to reduce failures and improve management [3,16,25,62,65,108,120,121]. A lack of entrepreneurial characteristics, management experience, and technical knowledge in the entrepreneur [124] end up negatively affecting the management of MSEs.

The entrepreneur's actions regarding innovation are essential for the company to be able to position itself in the market (F). Investing in innovative products, services and technology creates a competitive advantage [23,46,47,54,60,78]. Many entrepreneurs do not innovate because they do not know the existing tools and they fear change. Therefore, the entrepreneur needs to be up to date in his field of activity, participating in qualifications and training that will result in technical knowledge. The existing dynamic relationship of the entrepreneur with customers, on the other hand, concerns the development of strategies to attract and retain consumers (G) [15,16,49,61]. The entrepreneur must know his consumer, seeking to meet their needs and satisfy their desires. The tools used to conquer this target audience include training with sales personnel so that salespeople get to

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know the company's product, excellence in customer service, dissemination of products and services over the internet and through applications, social networks and advertising campaigns, adequate planning to achieve goals and objectives, a good relationship with the supplier so that there is no shortage of products in stock, the launch of quality products, and attractive prices and payment terms.

In third place are the interrelated dimensions, which are: innovation, management, and customers. Innovation is interrelated with management, as innovation in products, services, and processes is the result of a set of strategic actions by managers to improve competitiveness (H). Innovation interrelates with customers, as it represents a differential when choosing a product (J). Customers are more demanding in the quality of products and/or services, in quick solutions, and the use of digital tools, such as websites, applications, internet sales, and social networks. In the interrelationship of management with customers, the important thing is to seek information about customer needs in order to retain them, as well as to win new customers (I) [61]. It is essential to invest in points of sale that are used by consumers and that are bringing revenue to the company. The satisfied customer discloses this information and this results in new consumers.

#### 6.2. Relationship between Subdimensions and Risk of Mortality in MSEs

After understanding the relationships between the mortality risk dimensions (Figure 5), this section presents the relationships between the factors (subdimensions) and business mortality risk. The model was developed by the authors based on the articles mentioned in this review. Thus, it was possible to verify how the occurrence of factors linked to the entrepreneur, management, innovation, customers, and external factors dimensions lead MSEs to the risk of mortality (Figure 6). Arrows represent unidirectional (one direction) or multidirectional (multiple directions) relationships, showing a cause-and-effect relationship.

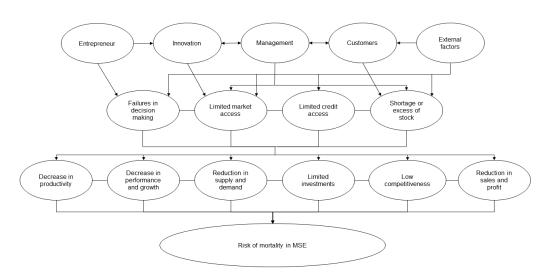


Figure 6. Relationship between factors and risk of mortality in MSE.

The factors linked to the entrepreneur influence decision making, which must be based on technical knowledge and experience—not intuition. The entrepreneur's level of education, business experience, skills, and competencies have a positive relationship with the profitability of the business [5,124]. On the other hand, the lack of these elements negatively impacts the company's profitability and productivity. The personal characteristics, skills, competencies, and profile of the entrepreneur can impact the company's daily operations. If an error is made in the decision-making process, personal and organizational damage may occur. This leads the company to face problems and reduction in demand, increasing the MSE's risk of mortality.

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In management, risk factors generate limitations in market access, access to credit, and shortages or excesses of stock. Management problems cause the company difficulties in positioning itself in the market, in obtaining loans from financial institutions, and in the lack or excess of products in stock. When MSEs face obstacles that limit their investments and that limit their access to capital, their performance is poor [84].

In innovation, the emergence of risk factors in this dimension leads MSEs to diminished market access. The entrepreneur who is not prepared to adapt to changes in a competitive market will not survive. A lack of investment in the development of innovative products, services and processes, and in technology will limit the SME. In a globalized world, technology and product innovation are essential for a company to minimize its risk of mortality. The use of technological tools provides a competitive advantage in the market when compared to organizations that do not have them [118].

Risk factors associated with the customer cause the company to have limited access to the market; that is, if the focus is not on satisfying needs, desires and problem solving, the company will have difficulties retaining and winning new customers. Problems with customers have also been found to cause shortages or excess inventory. The stock must keep up with the demands of the customers. If there is no turnover, it means that sales are reduced and that the operating profit will be lower. Another problem is a lack of products in stock. When one has fewer products in stock, one takes the risk of not having what the customer needs. Therefore, one loses customers and stops winning new consumers, increasing the chances of mortality. With market competitiveness, customers are demanding and have increased awareness, thus seeking diversity, speed, quality, fair prices, and innovative products and services [42].

In the risks related to external factors, we underscore that MSEs that do not receive support and incentives from the government for the development and creation of new ventures will find limitations in market access, access to credit, and shortage or excess of products. Government assistance appears in the elaboration of public policies that reduce the tax burden and interest rates for access to credit with financial institutions, for example. High taxes limit the performance and growth of MSEs, as they reduce their sources of financing, discouraging business expansion [84]. The tax system needs to be restructured to encourage growth in MSEs [84]. The external environment also interferes with the entrepreneur's decisions, because, depending on the economic–financial situation and the disruptive effects, the entrepreneur may need to prepare for a crisis.

All risk factors, when they occur, result in a reduction in productivity [5], performance, growth [84], demand, sales, profit, investments [118], and competitiveness [118], leading MSEs to mortality risk.

# 6.3. Model Validation

The conceptual model can be validated by quantitative studies that were used to test and validate hypotheses about the relationships between the dimensions and their respective subdimensions (Figure 5). Marques et al. [118] carried out an empirical research in MSEs located in the northeast region of Mexico to verify the critical factors that influence the implementation of technological tools, with a focus on IT. Thus, with the application of the factor analysis technique, it was verified that the adoption of technological tools helps in the management of MSEs, allowing an increase in productivity and a strategy for facing risks. The quantitative study by Tunes and Monteiro [74] also used the technique of exploratory factor analysis and correlation to understand whether technical knowledge in management, from the perspective of the entrepreneur, generates an impact on business performance. The management knowledge bases considered were finance and accounting, innovation in processes and design, marketing and sales, human resources, legislation and taxes, and logistics. The results showed that management knowledge constitutes a competitive advantage for MSEs and a positive impact on the organization's performance was confirmed.

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Severo et al. [51,102] surveyed 226 companies in the industrial, trade, and services sectors to analyze the relationships between project management, product and process innovation, and sustainability in companies in southern Brazil. The hypotheses were tested through structural equation modeling, confirmatory factor analysis, and hypothesis testing. The study showed that MSEs have proactive behaviors, as they present innovative actions for permanence and competitiveness in the market. Cassells and Lewis [93], in their quantitative research, explored the attitudes and experiences that prove the relationship of sustainability with associated training. The study was conducted with owner-managers of MSEs in New Zealand's manufacturing sector. For this, the techniques of Binary Logistic Regression and non-parametric tests were used. The results showed that there is an influence on the environmental awareness of companies involved in environmental training.

## 7. Future Research Agenda

The research gaps mentioned in the analyzed studies were organized into themes and subthemes, with research questions that need further investigation in the area. Thus, the agenda is dynamic and offers suggestions for future work (Table 12).

**Table 12.** Agenda and suggestions for future research on the risk of mortality in MSE.

Topic	Subtopic	Relevant Future Research Questions		
Entrepreneur Profile	Entrepreneur profile and continuity of MSEs	- How the profile of the entrepreneur can affect the continuity o MSEs? [6]		
	Challenges of women micro- entrepreneurs	What are the critical factors that impede and consolidate the sustainability of MSEs led by women entrepreneurs? [63]		
Sustainability	Sustainable business models	What are the appropriate and viable methods for designing sustainable business models in MSE? [50]		
·	MSE performance	How is the performance of MSEs located in developed countries and MSEs located in developing countries presented, and what are the existing gaps for business survival? [24]		
	Implementation of new technologies	How do the sectors in which MSEs operate in the implementation of new technologies? [50]		
	Innovation and geographic location	What are the factors that determine innovation in MSE based on geographic location? [104]		
Innovation	Barriers to innovation in MSEs	What are the crucial impediments to innovation in MSEs belonging to developing countries, concerning the bureaucratic barriers of Doruk and Söylemezoglu (2014)? [105]		
	Benefits of information technology for MSEs	How do MSEs behave before and after IT investments, from the point of view of evolution in organizational performance? [111]		
	Impact of the pandemic on informal MSEs	-What is the impact of the pandemic on informal MSEs and government plans for support during the crisis period? [26]		
Disruptive forces COVID Pandemic	CRS in the post-coronavirus period	What are the opportunities and challenges for corporate social responsibility (CSR) in the long term post-coronavirus? [52]		
	Employees' perspectives in facing the crisis	What are the perspectives of employees at MSEs, concerning operations and strategies to face the Coronavirus crisis? [69]		

The first theme was related to the entrepreneur, in which it was suggested to analyze how the entrepreneur's profile can affect the continuity of the company. The profile consists of the entrepreneur's characteristics, such as gender, age, education, marital status, among others. The second theme was linked to sustainability, which recommended a study with women entrepreneurs to explore the critical factors that impede the sustainability of MSEs. Entrepreneurship activities have been recognized as a channel to unite

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gender, showing a gap for inequality [63]. Another study mentioned focused on the redefinition of sustainable business models. With the impact of the pandemic, it is essential to develop skills, improve professionals, seek business opportunities, and implement technologies within business models [50]. The other proposal was to verify the performance of MSEs inserted in developed and developing countries. The idea was to compare the MSEs in the two scenarios and find gaps that could be used to avoid business mortality.

The third theme was about innovation. Walter et al. [104] visualized the need to identify the factors that determine innovation, taking into account the geographic location of MSEs. The purpose was to verify whether there are differences in factors when considering local innovation systems. Another study investigated the bureaucratic side of innovative policies (costs and startup procedures) as the main impediments to innovation [105]. Bureaucratic barriers were proposed of restrictions on innovation in developing countries. Another recommendation was to evaluate the performance of MSEs before and after IT investments, verifying the benefits of IT in avoiding the risk of business mortality.

The fourth theme was linked to the pandemic to gain a better understanding of the effects of this crisis on formal and informal companies. Informal workers refer, for example, to street vendors and traders in open spaces, which were some of the most affected occupations in the informal sector [26]. The concern of investigating not only the entrepreneur's vision for facing the pandemic, but also employees' perspectives, was verified. Employees have a lot to contribute in terms of operations and strategies, as they are on the front lines, in contact with the customers. CSR represents the cooperation of companies for sustainable development, so it is important to identify the challenges and opportunities in the long term after the pandemic.

The most urgent research questions were related to this crisis. The theme is current and contributes to the literature on coping strategies, where business survival is fundamental. The topic involving informal MSEs was proposed by Akuoko et al. [26] in the argument that 'informality is an integral part of urban life and, therefore, the informal economic sector needs to be integrated and managed to reduce the socioeconomic impact of the pandemic'. For the authors, the pandemic showed the abandonment of the informal economy by the public sector. If these workers were in formal jobs, they would have social security and would resist social distancing and lockdowns. Another highlighted future study was proposed by Smart et al. [69] to include in the discussion of strategies to fight the pandemic, not only senior management but also employees and intermediate management, thus offering a comprehensive view of operations.

# 8. Conclusions

This study aimed to analyze the factors that determine the risk of mortality in MSEs, and to verify the state of the art on the topic of business mortality. From a systematic literature review, a list of determinants of mortality risk was made, and a conceptual model was drawn up showing the relationships between the dimensions of risk and its critical determinants. One hundred and six published articles were analyzed, and the results showed 36 risk factors for mortality. The identified risk dimensions were: entrepreneur, management, innovation, customers, and external factors. In the entrepreneur dimension, the most frequently cited factor was 'management skills and abilities'; in management, 'problems in economic and financial management'; in innovation, 'the lack of innovation in the development of products, services, and processes'; in customers, 'inadequate location' and in external factors, the 'the disruptive forces'.

The dimensions that stood out the most for the number of risk determinants were: management, entrepreneur, and innovation. In 'entrepreneur', we highlight the importance of improving skills and competencies that will reflect on the organization's productivity. In management, the entrepreneur must know all the necessary and available

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tools for good business performance and minimization of failures while improving management. Through innovation, products and services are created to serve consumers, and organizational processes are streamlined to improve business productivity.

The disruptive force of the pandemic was the most frequently mentioned external factor and represents an unexpected situation with an unknown duration for businesses. However, these uncertainties and threats must be considered by the managers as opportunities to take advantage of new business opportunities, and, for that, strategic positioning is necessary, both for micro and small businesses as well as for medium and large enterprises.

This research helps entrepreneurs to identify their weaknesses and look for mechanisms to help in the elaboration of strategic actions and in directing investments for the company. Furthermore, our findings can guide government officials in the elaboration of public policies that support MSEs in innovative projects, in facilitating access to credit for working capital and investments, in reducing informality, and in providing support in creating new ventures. At the academic level, this investigation helps in the formation of entrepreneurs, identifying their difficulties, thus offering assistance for personal and business training. It is also academically relevant in the development of scientific research in specific segments using methodologies that bring answers to the sector.

Finally, it stands out that successful entrepreneurs are those who have their skills developed and who make their decisions based on knowledge and not intuition, and who are always attentive to the operations of the internal environment and the trends and changes in the external environment, seeking to detect and transform problems into possible business opportunities.

# Management Implications

This study identified the determinants of mortality risk in MSEs, as well as alternatives for minimizing risk in these businesses.

For entrepreneurs, we recommend investing in education through qualifications and training. Learning leads to decision-making based on technical knowledge. Moreover, it helps the entrepreneur to learn about new technological, management, and innovation tools that can be applied in businesses. The acquired knowledge impacts entrepreneurial capacity—knowing how to do it—which, in turn, impacts entrepreneurial competencies, know-how, and knowing how to act [42]. It is added that technical knowledge helps in organizational activities, making them more effective for the success of MSEs. Topics such as financial education and digital technologies are suggested as training for entrepreneurs.

In business management, the importance of cooperation networks (networking) is highlighted, in order to establish partnerships (formal and informal) in all aspects between stakeholders. Networks become an alternative for the survival of MSEs and can help them to become competitive and sustainable [5]. Smart et al. [69] suggest the development of a cooperation plan to be used in the face of success and crisis.

In innovation, investment in technological tools is suggested, which provides a competitive advantage in any sector and business activity. The use of digital technologies positively affects the performance of the company, also impacting the satisfaction of employees and customers and facilitating tasks. The costs of acquisition and, frequently, of adaptation in the company's structure can be high, but the entrepreneur must think about the cost-benefit and the return that he will have in the medium and long term. An absence of technology limits the development of MSEs, besides reducing their competitiveness in the market [118].

As for customers, it appears that they are increasingly demanding and aware due to competition in the market [42]. Therefore, it is proposed that MSEs offer customers innovative and high-quality products and/or services at a fair price. For this, the company must know its target audience to identify their consumption needs and desires. This in-

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formation can be collected through market research involving consumers, suppliers, employees, and even competitors. It is important for companies to adapt to their customers, and for that it is necessary to know their limitations and habits. Complaints, customer losses, and comments on social media should also be considered.

Regarding external factors, particularly in the case of the pandemic, companies must develop a strategic plan to survive unexpected crises, including safety standards in operations, employee health, and alternatives for dealing with similar crises. Therefore, MSEs must learn from their previous experiences, analyze strengths, weaknesses, and threats in their market segment, and assess their resilience in the face of crisis [69] It is worth noting the importance of identifying companies that grew during the crisis, in order to better know the management practices that brought positive results, so that they can be adapted to MSEs.

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#### Appendix A

**Table A1.** Works Selected for Systematic Review.

ID	Journal	Source
1	Africa Journal of Management	Acquaah and Agyapong (2015)
2	African Development Review	Ishengoma and Kappel (2011)
3	African Journal of Business Management	Fatoki and Garwe (2010)
4	African Journal of Business Management	Simeyo et al. (2011)
5	African Journal of Information Systems	Perekwa et al. (2016)
6	Applied Economics	Laguir and Den Besten (2016)
7	Asian Economic Policy Review	Kurosaki (2019)
8	Brazilian Journal of Operations and Production Management	Anholon et al. (2015)
9	Brazilian Journal of Operations and Production Management	Braga (2018)
10	Brazilian Journal of Public Administration	Nogueira et al. (2020)
11	Cogent Business and Management	Agyapong et al. (2017)
12	Cogent Business and Management	Atnafu and Balda (2018)
13	Cogent Business and Management	Pozo et al. (2019)
14	Cuadernos de Administración	Marques et al. (2019)
15	Development Southern Africa	Chirwa (2008)
16	Economia	Conceição et al. (2018)
17	Economic Journal of Emerging Markets	Sulistya and Darwanto (2016)
18	Economics Bulletin	Laguir et al. (2017)
19	Engineering, Construction and Architectural Management	Mahamid (2012)
20	European Business Review	Alonso and Kok (2020)
21	Evaluation and Program Planning	Cardoso et al. (2020)

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22	FIIB Business Review	Alon et al. (2020)
23	Gestão e Desenvolvimento	De Paulla and Hamza (2015)
24	Gestão e Produção	Ferreira et al. (2012).
25	Global Business Review	Kazungu (2020)
26	Heliyon	Lukiyanto and Wijayaningtyas (2020)
27	Holos	Walter et al. (2019)
28	IEEE Latin America Transactions	Walter et al. (2019) Willerding et al. (2012)
29	Independent Journal of Management and Production—IJM&P	Galvão et al. (2020)
30	•	Malaquias and Hwang (2016)
31	Information Development Information Technology for Development	Moyi (2003)
	· · · · · · · · · · · · · · · · · · ·	
32	Information Technology for Development	Owoseni and Twinomurinzi (2020)
35	Innovation and Development	Quiroz-Rojas and Teruel (2020)
33	Innovation and Management Review	Berne et al. (2019)
34	Innovation and Management Review	Vasconcelo and Oliveira (2018)
36	International Business Review	Pezderka and Sinkovic (2011)
37	International Business Review	Amankwah-Amoah et al.(2021)
38	International Journal of Business and Society	Ya'kob and Jusoh (2016)
39	International Journal of Engineering and Technology	Ratnaningtyas et al. (2018)
40	International Journal of Entrepreneurial Behavior and Research	Atiase et al. (2019)
41	International Journal of Hospitality Management	Smart et al. (2021)
42	International Journal of Innovation	Alvarenga (2016)
43	International Journal of Innovative Technology and Exploring Engineering	Ramgir (2019)
44	International Journal of Production Research	Gunasekaran et al. (2011)
45	International Journal of Recent Technology and Engineering	Alshami et al. (2019)
46	International Journal of Scientific and Technology Research	Hadiyati and Lukiyanto (2019)
47	International Journal of Technology and Human Interaction	Chege et al. (2020)
48	International Journal of Wine Business Research	Alonso and Bressan (2016)
49	International Research Journal of Finance and Economics	Abor and Quartey (2010)
50	International Review of Applied Economics	Aga and Reilly (2011)
51	Journal of African Business	Agyapong et al. (2019)
52	Journal of Business Management Studies	Gupta and Tripathi (2020)
53	Journal of Business Research	He and Harris (2020)
54	Journal of Business Research	Xu et al. (2020)
55	Journal of Business Venturing	Cruz et al. (2012)
56	Journal of Cleaner Production	Rahbauer et al. (2016)
57	Journal of Education and Work	McGrath (2005)
58	Journal of International Development	Donner and Escobari (2010)
59	Journal of Macromarketing	Blankson et al. (2018)
60	Journal of Management and Technology.	Quelhas (2019)
61	Journal of Small Business and Enterprise Development	Cassells and Lewis (2017)
62	Journal of Small Business and Enterprise Development	Fielden et al. (2000)
63	Journal of Small Business and Enterprise Development	Shibia and Barako (2017)
64	Journal of Small Business and Enterprise Development  Journal of Small Business and Enterprise Development	Agyapong et al. (2020)
65	Journal of Small Business and Entrepreneurship	Alonso and Bressan (2017)
66	Journal of Small Business and Entrepreneurship	Chikweche and Bressan (2017)
67	Journal of Small Business Management	Liberman-Yaconi et al. (2010)
68	·	
00	Management and Marketing	Gavurova et al. (2021)

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69	Management and Marketing	Păunescu and Mátyus (2020)
70	Organizations and Markets in Emerging Economies	Rascón and Velazquez (2019)
71	Pacific Business Review International	Khan and Shah (2016)
72	Pertanika Journal of Social Science and Humanities	Manor and Desiana (2018)
73	Prague Economic Papers	Skýpalová et al. (2016)
74	Procedia – Social and Behavioral Sciences	Jamak et al. (2014)
75	Procedia – Social and Behavioral Sciences	Mahzan and Yan (2014)
76	Procedia – Social and Behavioral Sciences	Rahayu and Day (2015)
77	Procedia – Social and Behavioral Sciences	Zaridis and Mousiolis (2014)
78	Procedia Economics and Finance	Bhattacharya and Londheb (2014)
79	Procedia Economics and Finance	Gicã and Balinta (2012)
80	Procedia Economics and Finance	Irjayanti and Azis (2012)
81	Procedia Economics and Finance	Rupeika-Apoga (2014)
82	Procedia Economics and Finance	Stacho et al. (2015)
83	Procedia Economics and Finance	Vera (2012)
84	Procedia Economics and Finance	Zager et al. (2016)
0.5	Proceedings of the National Academy of Sciences of the United	P (1 + 1 (2022)
85	States of America	Bartik et al. (2020)
86	Production Planning and Control	Severo et al. (2019)
87	Quality	Walter et al. (2019)
88	Revista Brasileira de Marketing	Tunes and Monteiro (2017)
89	Revista Capital Científico	Machado and Espinha (2005)
90	Revista de Gestão	Leoneti et al. (2016)
91	Revista de Gestão e Tecnologia	Bohn et al. (2018)
92	Revista de Sistemas de Información Y Documentación	Woida (2019)
93	Revista Eletrônica de Estratégia e Negócios	Santini et al. (2015)
94	Revista Eletrônica de Estratégia e Negócios	Tavares and Mario (2018)
95	Small Enterprise Research	Corner et al. (2002)
96	Small Enterprise Research	Nosratabadi (2020)
97	Social Sciences and Humanities Open	Akuoko et al. (2021)
98	Sustainability	Baig et al. (2020)
99	Sustainability	Gregurec et al. (2021)
100	Technical Gazette	Vorkapić et al. (2017)
101	Tourism Planning and Development	Bressan and Pedrini (2019)
102	Transformations in Business and Economics	Duda et al. (2017)
103	World Academy of Science, Engineering and Technology	Arslan and Kivrak (2008)
104	World Development	Mano et al. (2012)
105	World Development	Shiferaw (2009)
106	World Development	Nordhagen et al. (2021)
	- T	0( . /

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# Appendix B

 Table A2. Frequency of Mortality Risk Dimensions and Subdimensions in the Analyzed Articles.

Dimensions	Subdimensions	Absolute Frequency	Relative Frequency in the Dimension (%)	Relative Frequency in Total (%)
	Management skills and competences	12	25	5.4
	Profile	11	22.9	5.0
	Lack of capacity building and training	07	14.6	3.1
Entrepreneur	Lack of experience in business manage- ment	06	12.5	2.7
	Personal characteristics	06	12.5	2.7
	Lack of technical knowledge	06	12.5	2.7
	Subtotal	48	100	21.9
	Problems in economic and financial management	19	19.5	8.6
	Difficulty in obtaining credit	18	18.5	8.2
	Lack of strategic planning	07	7.2	3.1
	Failures, underutilization, and lack of information	07	7.2	3.1
	Lack of strategic alliances and cooperation networks	06	6.1	2.7
	Problems in accounting management	05	5.1	2.2
	Quality management problems	05	5.1	2.2
	Problems in Strategic Management	05	5.1	2.2
Management	Sales management issues	05	5.1	2.2
	Problems in marketing management	05	5.1	2.2
	Problems in personnel management	04	4.1	1.8
	Operations management problems	02	2	0.9
	Inventory management problems	02	2	0.9
	High competition	02	2	0.9
	Lack of advertising	02	2	0.9
	Lack of legal guidance	01	1	0.4
	Problems in logistics management	01	1	0.4
	Problems in purchasing management	01	1	0.4
	Subtotal	97	100	44.2
	Lack of innovation in the development of products, services, and processes	18	51	8.2
	Lack of Technologies	13	29.7	5.9
Innovation	Lack of sustainable environmental policies and practices	04	10.6	1.8
	Absence of corporate social responsibility	01	8.5	0.4
	Subtotal	36	100	18.3
	Inadequate location	04	33.3	1.8
	Difficulties in retaining customers	03	25	1.3
Customers	Lack of adequacy and accessibility in the infrastructure	03	25	1.3
	Difficulties in winning customers	02	16.6	0.8
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	Subtotal	12	100	5.4
	Disruptive forces	11	42.3	5.0
Entre and	Economic and financial crises	07	26.9	3.1
External Factors	High tax burden	05	19.2	2.1
ractors	Lack of public policies	03	11.5	1.3
	Subtotal	26	100	11.8
	Total	219		100

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