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Social customer relationship management and organizational resilience of Brazilian microenterprises during the Covid-19 pandemic

Social customer relationship management e resiliência organizacional de microempresas brasileiras na pandemia de Covid-19

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Abstract

Purpose: To measure the impact of using social media as a management tool (social customer relationship management) on the organizational resilience of Brazilian microenterprises during the Covid-19 pandemic crisis.

Originality/value: Organizational resilience has been a widely investigated topic during the Covid-19 pandemic crisis. In this context, the relationship with the customer via social media was paramount. However, the elements that explain the different results obtained with social media use are still unclear, especially in Brazil, a gap that the present study seeks to decrease.

Design/methodology/approach: Quantitative research was carried out and operationalized by questionnaires made available through digital channels. The return of 100 respondents (non-probabilistic sample) was obtained. Data were analyzed using descriptive statistics tools, non-parametric means test, and structural equation modeling by partial least squares method.

Findings: The results corroborate the importance of developing organizational resilience in microenterprises in times of crisis. According to the hypothesis test, the model suggests that the mere use of social media is not enough to trigger positive developments in organizational resilience. However, when mediated by management tools, the relationship becomes significant. Therefore, an explanation is offered for the different results obtained by microenterprises using social media for strategic purposes.

Keywords: microenterprises, social media, structural equation modeling, client management, digital technologies

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Resumo

Objetivo: Mensurar o impacto do uso de mídias sociais como ferramenta de gestão (*social customer relationship management*) sobre a resiliência organizacional de microempresas brasileiras no período da crise pandêmica da Covid-19.

Originalidade/valor: A resiliência organizacional tem sido um tema amplamente investigado durante a crise pandêmica da Covid-19. Nesse contexto, o relacionamento com o cliente via mídia social foi primordial. Todavia, ainda não são claros os elementos que explicam os diferentes resultados obtidos com o uso de mídias sociais, especialmente no Brasil, lacuna que o presente estudo busca reduzir.

Design/metodologia/abordagem: Realizou-se uma pesquisa quantitativa, operacionalizada por questionários disponibilizados por canais digitais. Obteve-se o retorno de 100 respondentes (amostra não probabilística). Na análise dos dados, utilizaram-se ferramentas de estatística descritiva, testes de médias não paramétricos e modelagem de equações estruturais, pelo método dos mínimos quadrados parciais.

Resultados: Os resultados corroboraram a importância do desenvolvimento de resiliência organizacional em microempresas, em momentos de crise. De acordo com o teste das hipóteses, o modelo sugere que o mero uso de mídias sociais não é suficiente para engatilhar desdobramentos positivos sobre a resiliência organizacional. Todavia, quando mediada por ferramentas de gestão, a relação se torna significativa. Oferece-se, portanto, uma explicação aos diferentes resultados obtidos pelas microempresas com o uso de mídias sociais para fins estratégicos.

Palavras-chave: microempresas, mídias sociais, modelo de equações estruturais, gestão de clientes, tecnologias digitais

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INTRODUCTION

The Covid-19 pandemic crisis has generated profound changes in human activities and behavior, causing significant changes in social and economic relations on a global scale (Kamal, 2020). Within the organizational context, the impossibility of direct interaction with consumers compromised the level of revenue in several sectors, reducing the number of sales close to zero (Shetty et al., 2020). In order to get around this situation, adopting information technologies, especially social media, was a vital tool that enabled remote interaction with customers and potential consumers (Trawnih et al., 2021). Management control aimed at managing these relationships has also been modified, such as the diffusion of social customer relationship management (SCRM), which integrates classic customer relationship management (CRM) tools with social media, widely used in this context (Marolt et al., 2019; Chatterjee & Kar, 2020; Ngo et al., 2021).

In the presence of disruptive events, companies are compelled to adapt their practices to develop skills that increase the chances of continuity and survival of the organization (Reeves et al., 2020). In times of crisis, one of the most important skills is resilience, which is related to the ability to face and recover from adverse situations (Alliger et al., 2015).

It is identified that micro and small enterprises (MSEs) are more likely to develop these skills, mainly due to their greater versatility and learning abilities (Hong et al., 2012). However, some factors may make this category of organizations more vulnerable to disruptive events, such as their lack of resources and their fragility of management control (Guha et al., 2017). In the Brazilian context, investigating this phenomenon in MSEs is vital since they make up approximately 98.5% of the total volume of national organizations, playing an essential role in generating employment and economic development (Veiga & McCahery, 2019).

There are, in the literature, national and international studies that analyzed the impact of Covid-19 on MSEs, some of them investigating the development of organizational resilience (García-Contreras et al., 2021; Silva et al., 2021; Li et al., 2022). At the international level, García-Contreras et al. (2021) analyzed the impact of organizational resilience on the performance of Mexican and Chilean MSEs in the context of Covid-19. A positive correlation was observed between the constructs under these circumstances. Li et al. (2022), in turn, analyzed the mediation of innovation in management on organizational resilience in Chinese MSEs in the context of Covid-19. The findings indicated that, although the innovations promoted by MSEs

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were not enough to reverse the reduction in performance directly, they indirectly inhibited the worsening of adverse outcomes through organizational resilience. Within the national scope, Silva et al. (2021) conducted an exploratory study investigating the use of digital marketing by Brazilian MSEs during the Covid-19 pandemic crisis. The authors identified that social media were the most used communication channel to circumvent the adverse effects of the situation and that these practices needed to be developed and intensified, given that these tools were little used.

Although there is evidence of the relationship between organizational resilience and performance (García-Contreras et al., 2021) and the existence of factors that can mediate the relationship between the determinants of organizational resilience and resilience itself (Li et al., 2022), it is justified to investigate, empirically, whether the use of social media is capable of generating organizational resilience and whether the presence of managerial techniques is capable of mediating this relationship, in addition to explaining the different results obtained by MSEs with the use of these technologies, since they were the primary means of communication with customers during Covid-19 (Silva et al., 2021). In order to contribute to the reduction of this gap, the following research question was constructed:

- What is the impact of the use of social media as a management tool (SCRM) on the organizational resilience of Brazilian micro-enterprises during the period of the pandemic crisis of the Covid-19?

The main objective of this research is to measure the impact of using social media as a management tool (SCRM) on the organizational resilience of Brazilian microenterprises during the Covid-19 pandemic crisis. The specific objectives are: 1. to characterize the use of social media by micro and small Brazilian companies as a strategic tool and 2. to highlight the importance of developing organizational resilience in highly adverse environments.

Among the potential contributions of this research, the following stand out: 1. the theoretical advance, through the empirical test of theoretically based constructs and relationships that have not yet been investigated within the Brazilian reality in the relative context, which can contribute to a more accurate understanding of how Brazilian MSEs reacted to the effects of the pandemic crisis; and 2. informational subsidies about the use of social media by MSEs, mapping elements that go beyond their use or not, seeking to provide, therefore, an analysis that transcends the mere dichotomous classification, which has the potential to identify more clearly the main barriers that hinder the adoption of social media for strategic purposes.

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LITERATURE REVIEW

Use of social media for management purposes

The term "social media" refers to a group of applications based on Web 2.0 technology that, through the internet, enable broad interactivity among their users (Hajli, 2014; Chatterjee & Kar, 2020). In this context, social networks offer services via internet by creating "profiles" within a system, which are used to produce and spread content and interact with the profiles of other users (Boyd & Ellison, 2007). Among the most widespread platforms are Facebook, Instagram, and YouTube (Kim & Ko, 2012).

The development and popularity of social networks have impacted people's behavior, including their commercial activities, making them preferable to traditional communication channels (Aspasia & Ourania, 2014). It is estimated that the average daily expenditure of time on social networks is 330 minutes (Chatterjee & Kar, 2020).

This scenario gave rise to the strategic use of social networks by organizations, especially for MSEs, given the low cost of implementation and its potential coverage (Kim et al., 2013). Among the observed benefits are greater visibility at low cost (Taneja & Toombs, 2014), better communication channels with different agents and purposes (Gümüs & Kütahyali, 2017), and greater engagement and proximity to customers (Abdullah & Siraj, 2018). However, despite the varied benefits, data from social networks can be challenging to interpret, such as the number of likes, comments, and shares and the large volume of information (Bijmolt et al., 2010).

In this sense, management techniques were developed to process information from social media strategically and integrated, such as SCRM, which associates standard CRM practices through social media to stimulate and create relationships with customers to add and obtain value (Greenberg, 2010). With its development, it began to be conceptualized under different aspects, emphasizing its technological or strategic character, the latter being the most used (Marolt et al., 2019). The first approach defines SCRM as user-friendly standalone applications that help end users leverage social media by generating relevant internal and external data (Mohan et al., 2008). In the strategic approach, the concept of SCRM becomes associated with a business strategy that, combining precepts of CRM and social media, aims to manage the relationship with the customer (Marolt et al., 2019). Within the pandemic context, the global SCRM market was estimated at US$ 16.8 billion, expected to reach US$ 244.4 billion by 2027 (Global Industry Analysts, 2021).

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Marolt et al. (2018) highlight three dimensions of SCRM in sales processes using social media: 1. customer acquisition processes, consisting of practices such as generating advertisements, inviting customers, promoting the brand through bidirectional interaction and disclosing information about products and services; 2. customer retention processes, such as sharing past events and success stories, customer support, and offering implementation; and 3. customer expansion processes, consisting of actions such as suggesting additional purchases, obtaining evaluations and testimonials from customers, encouraging referral of the company to others and obtaining insights from customers (Marolt et al., 2018).

Studies such as those by Marolt et al. (2018, 2019) and Hassan et al. (2019) investigated the use of SCRM within MSEs. In general, there are positive effects of implementing SCRM practices in MSEs, whether on performance (Marolt et al., 2018, 2019), as well as on the efficiency of processes, such as customer service and marketing (Hassan et al., 2019).

Even so, there is a lack of studies investigating SCRM practices in times of crisis, such as Covid-19. This scarcity is even more intense in Brazilian studies. In addition, it appears that the SCRM adoption process in MSEs tends to be remarkably different when compared to large companies (Yasiukovich & Haddara, 2020), suggesting that the usual results and practices obtained by companies, in general, may not be valid and reproducible for MSEs.

Organizational resilience

"Resilience" is a term used to analyze phenomena in various areas of knowledge. It originated in bioscience, representing an agent's survival ability despite the weather and environmental pressures (Francis & Bekera, 2014). In the organizational context, the first works involving the theme were that of Weick (1993) and Weick and Roberts (1993), in which business actions were investigated in the face of disasters. Over time, a theoretical framework was developed, making it one of the most important features of modern organizations (Mallak & Yildiz, 2016).

The organizational literature addresses "resilience" from two different perspectives: a static capacity and a dynamic ability (Ma et al., 2018; Velu et al., 2019). The difference between the approaches lies in the nature of resilience. The perspective of static capacity assumes that resilience consists of an innate capacity. In contrast, the view of dynamic ability states that resilience can be learned and reinforced, mainly from contact with adverse events (Velu et al., 2019).

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This diversity is also observed in terms of ways of measuring organizational resilience. Ma et al. (2018) divide these forms into three categories, distinguished by how they recognize the organization. They are the systemic approach, the strategic perspective, and the organizational approach. In the systemic approach, resilience is related and measured with specific characteristics of a resilient system. From a strategic standpoint, the focus is on the degree of awareness of the organization regarding the situation it is facing and its planning. In the organizational approach, the capacities to deal with the uncertain environment are particular, depending on each organization and the situation met (Ma et al., 2018).

Within the systemic approach, the work of Kantur and Say (2015) stands out, which measures organizational resilience from three dimensions: robustness, agility, and integrity. Robustness refers to the organization's resilience in the face of bad weather, as well as its strength in maintaining its position; the agility, the degree of timeliness, speed, and ease with which the identified adaptations are implemented; and integrity, synergy and joint effort of workers (Kantur & Say, 2015).

The issue of resilience is vital to MSEs, given their vulnerability to environmental externalities (Arsovski et al., 2015). In the context of Covid-19, the development of resilience in MSEs was a matter of great concern in the international academic community (García-Contreras et al., 2021; Klein & Todesco, 2021; Purnomo et al., 2021; Rodrigues et al., 2021). Positive correlations were met between resilience and performance (García-Contreras et al., 2021): the dynamic capacity of resilience as an important factor in the learning and innovation process (Klein & Todesco, 2021; Purnomo et al., 2021), and the importance of resilience being associated with information technologies to face the adversities caused by the pandemic (Rodrigues et al., 2021).

Given this, the contemporary nature of the theme and its relevance within the context investigated in this work is observed, mainly because it is associated with digital tools (Rodrigues et al., 2021), a communication channel used to circumvent the limitations and restrictions experienced during the pandemic period.

Theoretical model: Association between social media use, SCRM, and organizational resilience

The theoretical model tested in this work has three latent variables: social media use (one dimension), SCRM level (three dimensions), and

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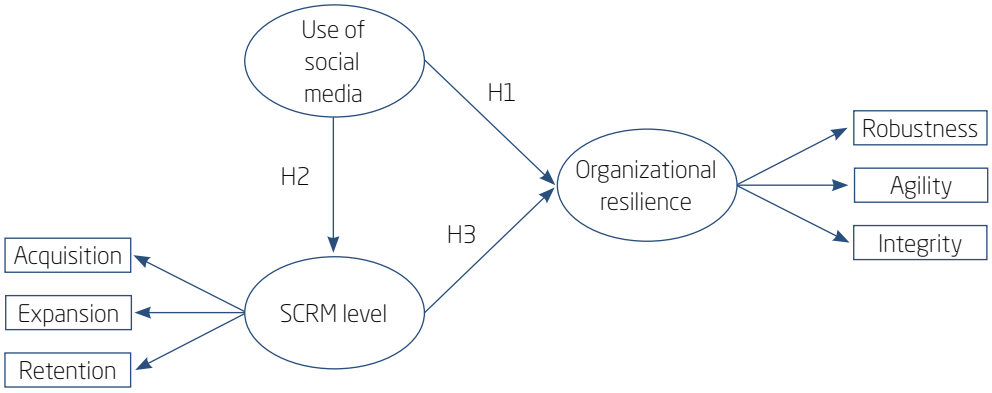
organizational resilience (three dimensions). The expression "SCRM level" symbolizes the attempt to capture the intensity in the use of the management control tool, transcending the dichotomy of use and non-use (Marolt et al., 2019), covering the main pillars of SCRM in the sales process: acquisition, retention, and expansion (Marolt et al., 2018). Figure 1 illustrates the model with the investigated relationships.

Figure 1

Graphic representation of the investigated relationships



Source: Elaborated by the authors.

During Covid-19, social media was an important tool for MSEs, allowing them to contact customers and carry out their operations remotely (Trawnih et al., 2021). By making it possible to circumvent the limitations caused by the lockdown, the use of these technologies provided better chances of facing the pandemic crisis. Because of the above, the following hypothesis was formed:

- H1: Greater use of social media increases a company's organizational resilience.

The growing popularity of social media has given rise to companies' use of these tools for strategic purposes (Kim et al., 2013). Social media generate data that is difficult to interpret (Bijmolt et al., 2010), instilling the importance of using adapted management control techniques, such as SCRM, to effectively engage customers (Abdullah & Siraj, 2018). Therefore, the following hypothesis is obtained:

- H2: Greater use of social media raises an organization's SCRM level.

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Studies indicate varied benefits from the adoption of SCRM practices, such as greater visibility (Taneja & Toombs, 2014), more efficient communication channels (Gümüs & Kütahyali, 2017), and greater engagement with customers (Abdullah & Siraj, 2018). These advantages may explain the different results obtained by MSEs using social media (Silva et al., 2021), highlighting the relevance of the intense use of SCRM (Marolt et al., 2019). Thus, the following hypothesis is based:

- H3: A higher level of use of SCRM via social media increases a company's organizational resilience.

METHODOLOGICAL PROCEDURES

Due to the nature of its objectives and how it is operationalized, this research is classified as exploratory-descriptive, predictive, quantitative, applied, and deductive (Collis & Hussey, 2014). The collection instrument was divided into two parts, the first related to theoretical constructs (organizational resilience, SCRM level, and use of social media). In contrast, the second part was formed by questions related to the characteristics of the responding companies based on the collection instrument used by García-Contreras et al. (2021).

Questions related to the constructs of organizational resilience, SCRM, and the use of social media were constructed based on studies by Kantur and Say (2015), Marolt et al. (2018), and Matikiti et al. (2018), respectively. We chose to use the Kantur and Say (2015) construct due to the prior empirical validation of its items and its focus on attributes that promote organizational resilience, a point of interest in this research. Similarly, restricting the scope of SCRM to sales processes is justified, as this was the most impacted process due to the Covid-19 restrictions.

The items were measured on a five-point Likert scale, namely: "1 = totally disagree", "2 = partially disagree", "3 = neither agree nor disagree", "4 = partially agree", and "5 = agree totally". In order to improve and consolidate the collection instrument used, a pre-test was carried out with two micro-entrepreneurs through a video conference (Google Meet platform), where participants were asked to fill in the questionnaire, accompanied by screen sharing, to obtain feedback on the clarity of the terms used and the identification of any obstacles. From this, minor adjustments were made to the terms used in some questions (connectives and prepositions) to make

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them more knowledgeable. The first part of the questionnaire consisted of three constructs and 22 variables.

The magnitude of revenue was used to recognize the classification as an MPE. In this sense, according to Serviço Brasileiro de Apoio às Micro e Pequenas Empresas – Sebrae (2021), there are four categories of small businesses: individual microentrepreneur (annual revenue of up to R$ 81 thousand), microenterprise (annual revenue of up to R$ 360 thousand), small business (annual revenue between R$ 360,000 and R$ 4.8 million) and small rural producer (property with up to four fiscal modules or revenues of less than R$ 4.8 million) (Sebrae, 2021).

Data were collected during October and November 2022 from a previous listing on the Empresaqui® website. Data were collected using digital questionnaires, built using the Google Forms tool, and made available by invitation via email or WhatsApp. The sampling technique was non-probabilistic. A total of 112 responses were obtained, of which 100 were considered valid. Data were analyzed using descriptive statistics techniques and average tests, with the help of Microsoft Excel 2010 and IBM SPSS Statistics 21 software, as well as structural equation modeling, partial least squares method, using Smart PLS 4 software to increase the explanatory potential of the information, the sample was segmented into groups, according to the billing and operational state of the MSE after the crisis, according to the information in Table 1.

Table 1

Segmentation of the sample by quartiles - billing

Measurement	"Low-income" (quartile 1)	"Middle income – tier 1" (quartile 2)	"Middle income – tier 2" (quartile 3)	"High income" (quartile 4)
Sample	25	34	16	25
Mean	R$ 4,372.00	R$ 14,411.76	R$ 30,625.00	R$ 95,200.00
Median	R$ 5,000.00	R$ 15,000.00	R$ 30,000.00	R$ 69,000.00
Mode	R$ 5,000.00	R$ 20,000.00	R$ 25,000.00 R$ 30,000.00	R$ 50,000.00 R$ 60,000.00
Standard deviation	R$ 1,793.39	R$ 4,486.46	R$ 6,020.80	R$ 65,812.23
Minimum value	R$ 600.00	R$ 8,000.00	R$ 25,000.00	R$ 42,000.00
Maximum value	R$ 7,000.00	R$ 20,000.00	R$ 40,000.00	R$ 300,000.00

Source: Elaborated by the authors.

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In order to validate the internal consistency of the collection instrument, Cronbach's alpha and McDonald's omega were calculated for each of the theoretical constructs used. For Cronbach's alpha, values lower than 0.65 are unacceptable (Reidl-Martínez, 2013). Regarding McDonald's omega, values above 0.70 indicate good reliability parameters (Béland et al., 2017). All results reached the minimum necessary value according to Table 2.

Table 2

Internal consistency tests

Variable	Cronbach's alpha	McDonald's omega
Use of social media	0.701	0.754
SCRM level	0.931	0.9303
Organizational resilience	0.854	0.9225

Source: Elaborated by the authors.

In order to identify the most appropriate test of means for the data set, the Shapiro-Wilk test was performed to determine whether the data set of the analyzed variables contained a distribution similar to the normal distribution. The test results are shown in Table 3.

Table 3

Normality test of control variables and construct variables

Variable	Test value	P-value	Null hypothesis
Quantity of social media	0.926	0.000	Rejected
Manager motivation level	0.784	0.000	Rejected
Use of social media	0.965	0.009	Rejected
USO_1	0.876	0.000	Rejected
USO_2	0.898	0.000	Rejected
USO_3	0.885	0.000	Rejected
SCRM (acquisition)	0.933	0.000	Rejected
SCRM (expansion)	0.909	0.000	Rejected
SCRM (retention)	0.892	0.000	Rejected
Resilience (robustness)	0.926	0.000	Rejected

(continues)

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Table 3 (conclusion)

Normality test of control variables and construct variables

Variable	Test value	P-value	Null hypothesis
Resilience (agility)	0.889	0.000	Rejected
Resilience (integrity)	0.856	0.000	Rejected

Source: Elaborated by the authors.

According to the results shown in Table 3, all significance coefficients were less than 0.05, indicating that the listed variables do not have a normal distribution and, therefore, it is concluded that the use of parametric tests is inappropriate. As a result, the Mann-Whitney test and the Kruskal-Wallis test were used, tests similar to the T-test and ANOVA, respectively, but utilized for non-normalized data (McKnight & Najab, 2010; Cabral & Lucena, 2020).

The measurement of the impact of use of social media and the intensity of SCRM was performed using the structural equation modeling technique using the partial least squares method. The inverse square root method determined the minimum sample size with a statistical power of 80% and a significance level of 5%. Considering a model with a maximum of two arrows pointing to a construct and a minimum expected R^2 of 0.25, it is estimated that at least 52 observations are needed to detect the investigated relationships (Kock & Kadaya, 2018). Given that the sample obtained was relatively close to the minimum size required, the bootstrapping technique was used, simulating a subsample with 500 observations.

Regarding the results of the structural model, reliability tests (Cronbach's alpha and composite reliability) and validity (convergent validity and discriminant validity) were verified, as well as the model's fit indices (standardized root mean square residual – SRMR – and the normed-fit index – NFI) (Hu & Bentler, 1999).

RESULTS PRESENTATION AND DISCUSSION

Descriptive statistics

Descriptive statistical techniques were used to assess control variables. The impact of the pandemic on revenues was analyzed in general aspects

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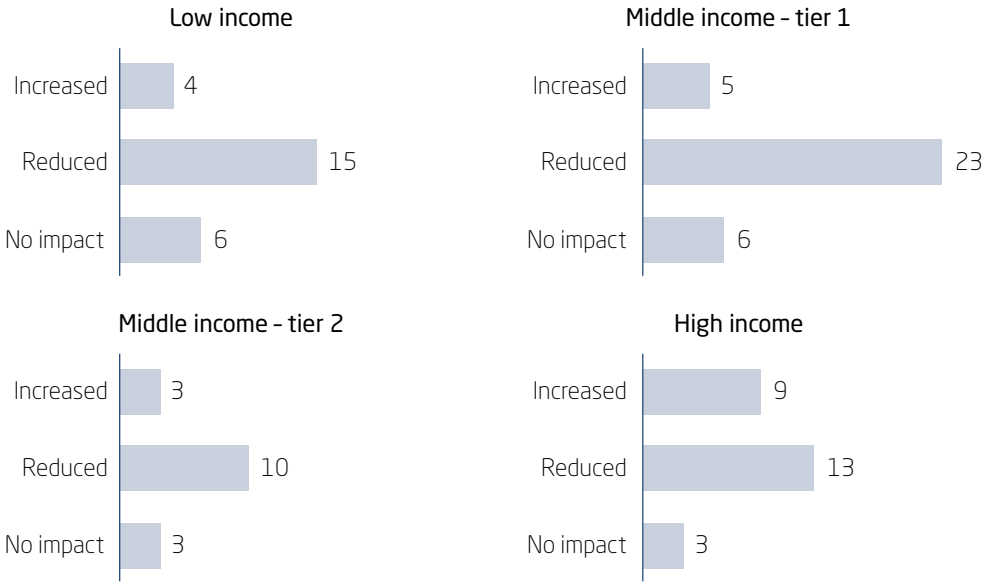
regarding social media, the operational state of the business, receipt of government assistance, the motivation of managers to continue the business, and the impact of the pandemic on the staff. Figure 2 shows the perception of the effects of the crisis on revenue, broken down according to the segmentation into quartiles detailed in Table 1.

Figure 2

Impact of Covid-19 on the billing of Brazilian MSEs



Source: Elaborated by the authors.

Considering the total sample, it appears that 61% of respondents reported a reduction in billing during the pandemic, 21% indicated an increase, and 18% did not notice any changes. It can be seen from Figure 2 that the perception of reduction was the most frequent, regardless of the group, being more intense in "middle income – tier 1", representing 67.65% (23 of the 34) of the observations. Among the total companies that suffered a reduction in revenue, 32.79% are in the field of professional services (accounting offices, custom furniture services, marketing companies, optical services, among others); 29.51% are from different branches (handicrafts, fast printing, parties and events, sewing repairs, among others); 22.95% are retail companies (distribution of sweets, men's and women's fashion, among others); while the rest are divided into the following categories: health sector (4.91%); entertainment and tourism sector (3.28%); restaurants and bars (3.28%);

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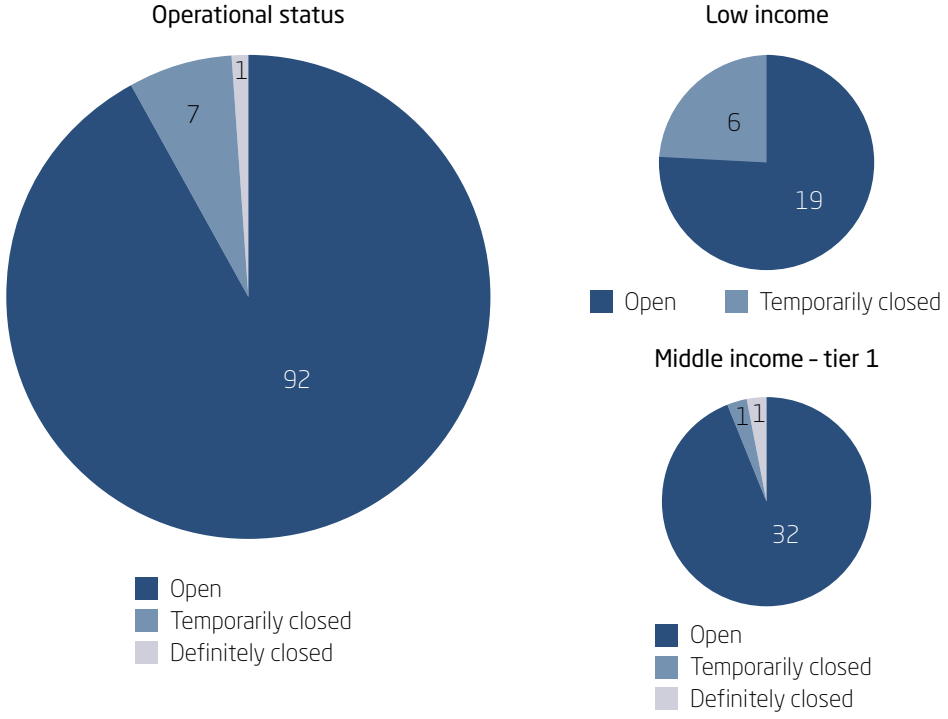
personal services (1.64%); and construction sector (1.64%). In addition, a greater concentration of companies reported an increase in revenue in the "high income" group, which contains 42.86% (9 out of 21) of the number of companies that registered some growth. Among the total companies that recorded an increase in revenue, 28.57% are retail companies (perfumeries, pet items, and evangelical bookstores); 28.57% are from the professional services sector (painting services, decorations, general maintenance services, aesthetics, among others); 23.81% are from different branches (aesthetics for motorcycles, education, distributor trade, among others); while the rest were evenly divided into the personal services, construction, restaurants, and health sectors. Figure 3 shows the operational state of these organizations after the pandemic crisis.

Figure 3

Operating status of sampled companies



Source: Elaborated by the authors.

From Figure 3, it can be seen that all organizations that did not resist the pandemic crisis are in the groups whose average monthly revenue is less

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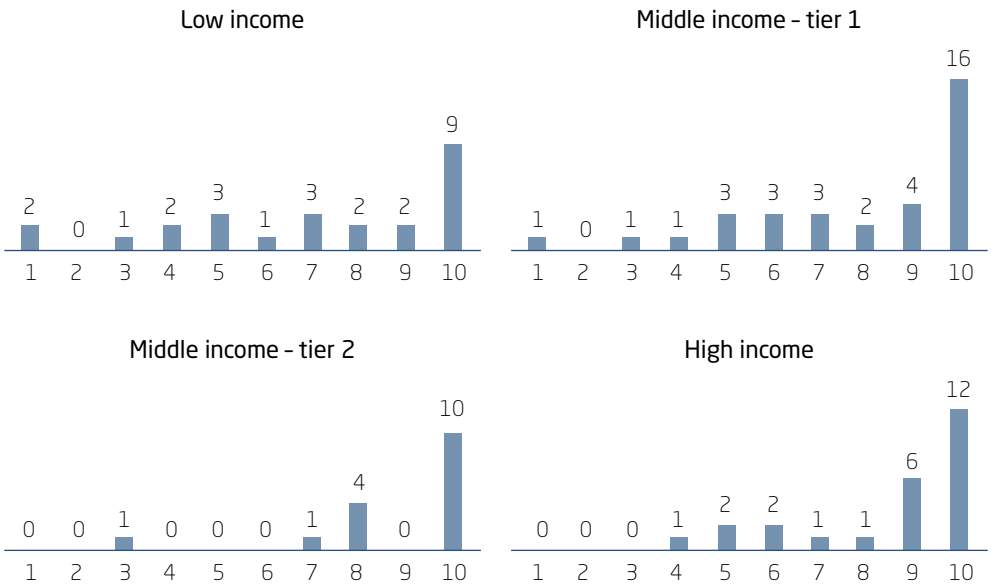
than R$ 20,000 ("low income" and "middle income – tier 1"). This is in line with the studies by García-Contreras et al. (2021) and Rodrigues et al. (2021), which identified that problems related to liquidity and financial capacity were one of the main difficulties that MPEs faced during the pandemic crisis. However, the motivational analysis of managers to continue their business suggests that psychological effects may also have contributed to the intensification of this process, as illustrated in Figure 4.

Figure 4

The motivation of managers after the pandemic crisis



Source: Elaborated by the authors.

The horizontal axis labels in Figure 4 symbolize the degree of motivation, ranging from "1 = not at all motivated", "5 = motivated", and "10 – extremely motivated", while the vertical bars represent the absolute frequency. It appears that the frequency of less motivated managers is found in the first two groups ("low income" and "middle income – tier 1"). Among the quartiles, the group "middle income – tier 2" had the highest average (8.87), followed by "high income" (8.60), "middle income – tier 1" (8.05); and "low income" (7.16). The results of the average test are shown in Table 4.

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Table 4

Test of means – motivation of managers

Quartile	Mean rank	P-value
Low income	41.54	0.183
Middle income – tier 1	50.15	
Middle income – tier 2	59.47	
High income	54.20	

Source: Elaborated by the authors.

The results of the Kruskal-Wallis test (Table 4) indicate that there is no difference between the respondent microentrepreneurs' level of motivation to continue their activities, regardless of the magnitude of the organization's revenue ($X^2(3) = 4.847$; $p = 0.183$). Given that the significance level was greater than 0.05, the null hypothesis is maintained, and, therefore, it is concluded that the medians of the groups are statistically equal. A theory that can explain the lower absolute value in the first two groups ("low income" and "middle income – tier 1") is the prospect theory and, specifically, the loss aversion bias (Tversky & Kahneman, 1992). According to the theory underlying this psychological phenomenon, humans are susceptible to loss aversion. This implies that losses tend to be registered with more intensity than gains, even if they are equal in magnitude (Tversky & Kahneman, 1992). Thus, given that the losses of companies in the "low-income" group were more significant in relative terms, the impact of the pandemic crisis may have been perceived more intensely, reflecting, therefore, on their motivational state, which may have contributed for these organizations to stop their activities.

Concerning the adoption of social media during Covid-19, data was collected on the number of media used and the most popular ones. Figure 5 shows the most used social media by quartiles.

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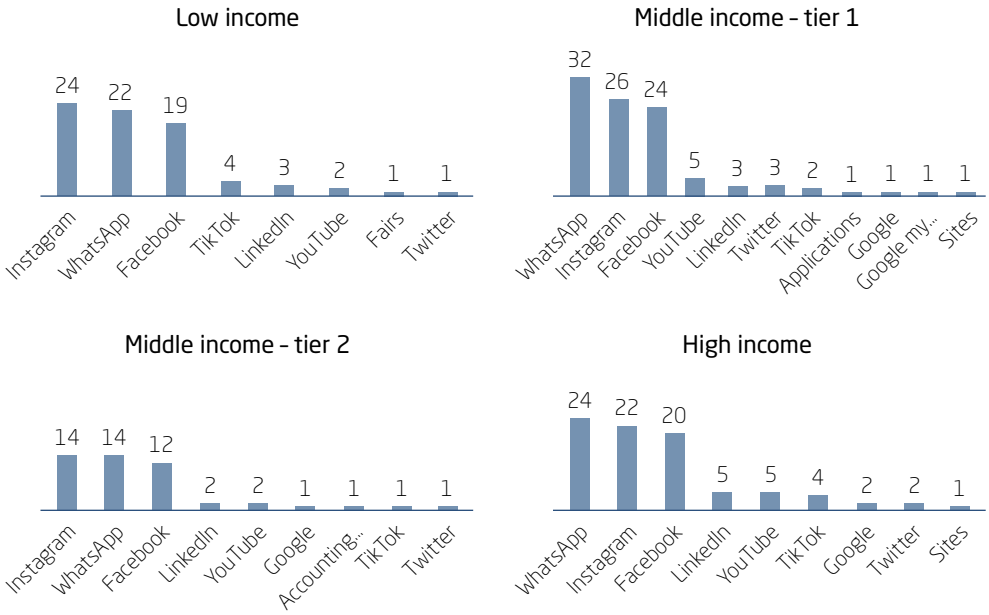
Figure 5

Most popular social media



Source: Elaborated by the authors.

Through Figure 5, it can be seen that there is a wide variety of social media used by Brazilian MSEs, with particular emphasis on the group "middle income – tier 1". However, the existence of highly consolidated and traditional platforms is observed. Namely: WhatsApp (92 observations), Instagram (86 observations), and Facebook (75 observations). Figure 6 illustrates the number of social media used by the sampled companies, separated by quartiles.

The data in Figure 6 shows that the sampled companies use from one to five media in their operations, except for one respondent from the "high income" group, which uses seven. Among the quartiles, the "high income" group contains the highest average (3.40), followed by "low income" (3.04), "middle income – tier 2" (3.00), and "middle income – tier 1" (2.91). Table 5 contains the results of the test of averages.

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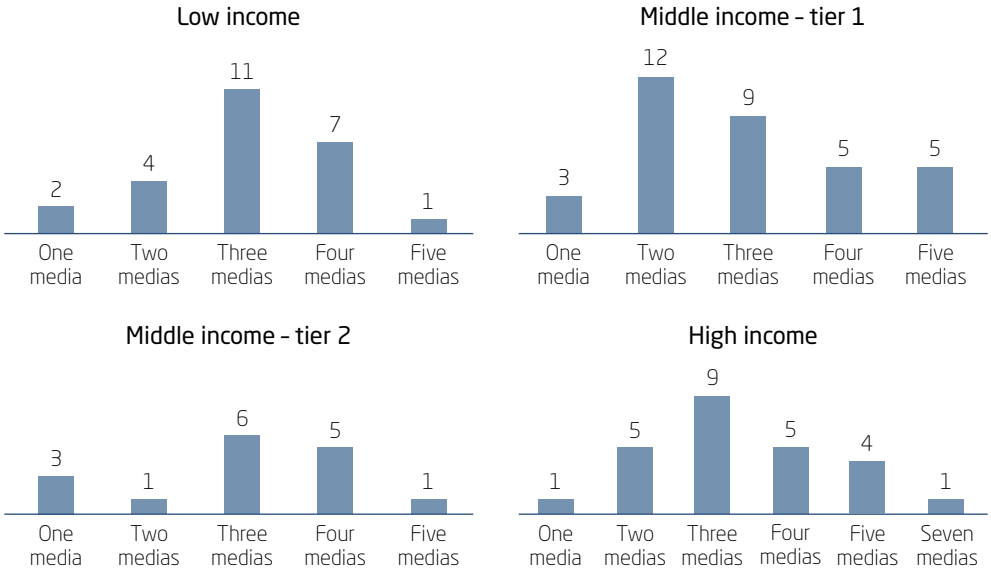
Figure 6

Amount of social media used by the organization



Source: Elaborated by the authors.

Table 5

Test of averages – number of media used

Quartile	Mean rank	P-value
Low income	50.70	0.558
Middle income – tier 1	45.87	
Middle income – tier 2	50.69	
High income	56.48	

Source: Elaborated by the authors.

According to the results of the Kruskal-Wallis test ($X^2(3) = 2.068$; $p = 0.558$), it is observed that the significance coefficient was greater than 0.05, and, therefore, the null hypothesis is not rejected. Thus, it is possible to state that, on average, the sampled MSEs use the same number of social media in their operations, regardless of the magnitude of their revenues. These results converge with the theoretical dictates, highlighting the preponderance of the efficient use of social media to obtain its benefits (Marolt et al., 2019). Another element that reinforces this premise is comparing the data in figures 2 and 5 relatives to the "middle income – tier 1" group.

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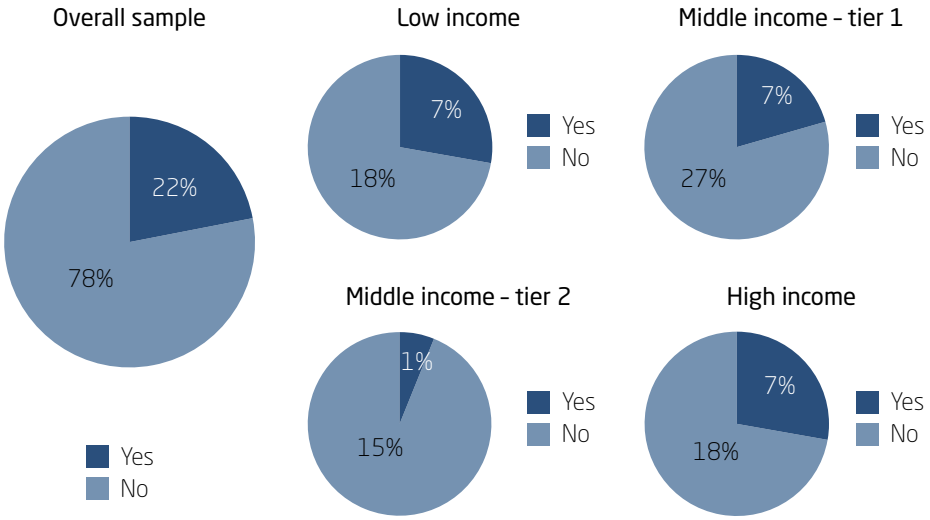
Although this group has a greater variety in the social media used, it was still the group with the highest relative frequency of companies that reduced their revenues due to the pandemic.

Concerning the topic of financial fragility, data were collected regarding the receipt of government assistance and changes in the staff during the pandemic. Figure 7 contains information regarding receiving aid from the state, whether direct or indirect.

Figure 7

Receiptment of government aid (direct and indirect)



Source: Elaborated by the authors.

The data in Figure 7 indicate that approximately a quarter of the sampled organizations received government assistance. Furthermore, there is a lower relative frequency of beneficiaries in the groups "middle income – tier 1" and "middle income – tier 2". The distribution of beneficiaries among the groups suggests that the magnitude of the revenue was not the main parameter for its concession. However, it is noteworthy that 4.5% (1 of 22) of the companies that received aid closed after the pandemic crisis, suggesting the social importance of State support in adverse conditions. However, as the national survey by Sebrae (2020) pointed out, a possible problem may be the lack of access to information. According to that study, 61% of those interviewed only "heard about" the measures announced by the government, while 15% did not even know about them (Sebrae, 2020). Figure 8 illustrates the change in MSE headcount during the pandemic crisis.

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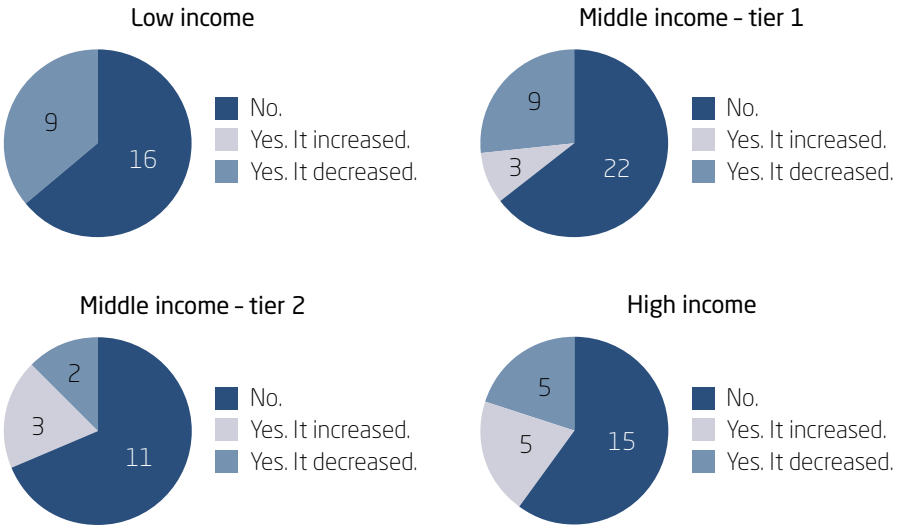
Figure 8

Change in the workforce



Source: Elaborated by the authors.

Figure 8 indicates that 64% of the sampled MSEs did not change the number of employees, while 25% reduced and 11% increased. This panorama corroborates the information on the increase in unemployment during the pandemic (Sebrae, 2020). It should be noted that most staff reductions occurred in the "low-income" and "middle-income – tier 1" groups, suggesting that this was one of the primary practices to overcome the adversities faced. On the other hand, a greater concentration of companies increased the number of employees in the "middle income – tier 2" and "high income" groups. In general, the distribution of frequencies points to a scenario similar to the national survey by Sebrae (2020), where 18% of respondents indicated a reduction in the headcount in the initial period of the crisis (Sebrae, 2020).

Characterization of the intensity of use of social media and organizational resilience of the sampled companies

SCRM level

The SCRM level variable contains three dimensions: acquisition, retention, and expansion. Table 6 includes the average scores obtained in each dimension, separated according to the operational status of the business and the result of the average test.

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Table 6

The intensity of SCRM use

	Open		Closed		P-value
	Mean	Mean rank	Mean	Mean rank	
SCRM (acquisition)	3.4266	50.61	3.3750	49.19	0.893
SCRM (expansion)	3.4384	49.98	3.7917	56.50	0.538
SCRM (retention)	3.1775	50.34	3.2917	52.31	0.853

Source: Elaborated by the authors.

According to the information in Table 6, the sampled MSEs use, on average, the same level of SCRM in their organizational practices, regardless of the operational state of the business after Covid-19. Regarding the average scores observed between the two groups, higher values were identified in the dimensions "acquisition" and "expansion" in the companies that closed, suggesting that the managers of this group recognized the use of these practices more. However, it is observed that the means of the three dimensions, in both groups, were between three ("3 = neither agree nor disagree") and four ("4 = partially agree"), indicating a certain lack of clarity due to part of the managers regarding the recognition of the effective use of these practices in their organizations. These results converge with theoretical studies on SCRM, which predict that the implementation of these practices is a complex process (Marolt et al., 2018) and highlight the interference of external and internal factors, such as technological infrastructure, environmental pressures, and competitive, which tend to hinder the effective insertion of SCRM (Ngo et al., 2021).

Use of social media

The social media use variable has a single dimension, measured using three items. Table 7 contains the average scores obtained by the dimension as a whole and by item, separated according to the operational state of the business and the result of the average test.

According to the data in Table 7, no coefficient of the Mann-Whitney test was less than 0.05. Therefore, it can be stated that, on average, there were no differences in the use of social media between the two groups. Considering the variable as a whole, it is observed that the average scores were between three ("3 = neither agree nor disagree") and four ("4 = partially

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agree"), with more excellent proximity to the lower unit, indicating opportunities and possibilities to improve the use of social media for organizational purposes. Considering the item scores separately, it is noteworthy that the mean USO_3 (elaboration of specific marketing planning for social media) was the most inconsistent average among all the others, suggesting that the use of social media by this group has been in a similar way: "improvised" form.

Table 7

Use of social media

	Open		Closed		P-value
	Mean	Mean rank	Mean	Mean rank	
Use of social media	3.2572	50.67	3.2083	48.56	0.843
USO_1	3.304	50.16	3.500	54.38	0.685
USO_2	3.391	49.96	3.625	56.69	0.518
USO_3	3.076	51.45	2.500	39.56	0.254

Source: Elaborated by the authors.

Organizational resilience

The organizational resilience variable has three dimensions: robustness, agility, and integrity. Table 8 contains the average scores obtained in each dimension, separated according to the operational status of the business, as well as the average test results.

Table 8

Organizational resilience

	Open		Closed		P-value
	Mean	Mean rank	Mean	Mean rank	
Resilience (robustness)	4.2228	52.65	3.5938	25.75	0.011
Resilience (agility)	4.1630	51.91	3.3750	28.25	0.022
Resilience (integrity)	4.038	51.31	3.563	41.19	0.332

Source: Elaborated by the authors.

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The data in Table 8 show that the companies that resisted the pandemic crisis recorded the highest averages in the three dimensions of the organizational resilience variable, an indication of the adequacy of the theory. The result of the Mann-Whitney test, in turn, presented two coefficients smaller than 0.05, indicating the statistical difference of the averages found in the dimensions "robustness" and "agility." In this way, it is possible to state that, on average, the companies that resisted the Covid-19 crisis were more robust and agile than the organizations that perished. The prominence of the highlighted dimensions converges with the results of García-Contreras et al. (2021), who found similar results for Chilean MSEs.

Structural model analysis

Before evaluating the structural model and testing the hypotheses, the results of the reliability and validity tests were obtained, as well as the verification of the existence of convergent validity. Table 9 summarizes the results obtained.

Table 9

Validity and reliability tests

Construct	Item	Factorial loading	Cronbach's alpha	Composite reliability	Average variance extracted
Use of social media	USO_1	0.445	-	-	1.000
	USO_2	0.762			
	USO_3	0.790			
SCRM level	SCRM_AQ_1	0.658	0.914	0.916	0.854
	SCRM_AQ_2	0.641			
	SCRM_AQ_3	0.680			
	SCRM_AQ_4	0.783			
	SCRM_RET_1	0.795			
	SCRM_RET_2	0.745			
	SCRM_RET_3	0.799			
	SCRM_EXP_1	0.843			
	SCRM_EXP_2	0.829			
	SCRM_EXP_3	0.742			

(continues)

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Table 9 (conclusion)

Validity and reliability tests

Construct	Item	Factorial loading	Cronbach's alpha	Composite reliability	Average variance extracted
Organizational resilience	RES_R1	0.691	0.778	0.811	0.694
	RES_R2	0.769			
	RES_R3	0.544			
	RES_R4	0.379			
	RES_A1	0.716			
	RES_A2	0.793			
	RES_I1	0.586			
	RES_I2	0.528			

Source: Elaborated by the authors.

It is verified that all constructs are reliable since all values of Cronbach's Alpha and composite reliability are greater than 0.7 (Hair et al., 2009). The validity of the "use of social media" construct was not obtained, as it has only one dimension. However, previous tests showed internal consistency (Table 2). The requirements for verifying the convergent validity were also satisfied, given that all the average variance values extracted were greater than 0.5 (Henseler et al., 2009). The criteria of Fornell and Larcker were used to verify the discriminant validity. According to the results of Table 10, the values of the main diagonal are superior to the correlations of the construct, and therefore, there is discriminant validity (Fornell & Larcker, 1981).

Table 10

Discriminant validity – Fornell and Larcker criterion

	Organizational resilience	SCRM level	Use of social media
Organizational resilience	0.833		
SCRM level	0.456	0.924	
Use of social media	0.419	0.762	1.000

Source: Elaborated by the authors.

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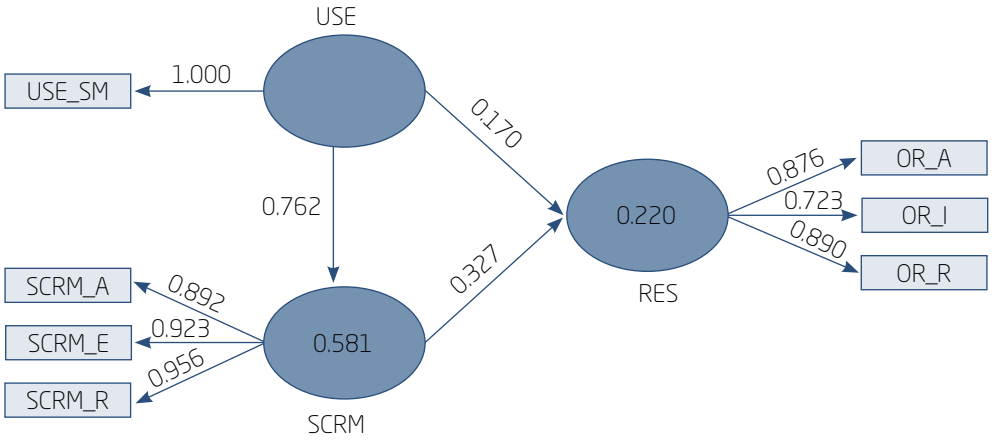
Once the reliability and validity of the constructs were attested, the structural model was estimated. The SRMR and NFI were 0.068 and 0.874, respectively. The relationships between the variables are shown in Figure 9.

Figure 9

Structural equation model – partial least squares



Source: Elaborated by the authors.

Figure 9 contains the main information regarding the estimation of the structural model. The ellipses represent the latent variables (constructs), while the rectangles symbolize the dimensions of each latent variable. The arrows denote the dependency relationship, while the numbers on them have their respective magnitude. The coefficient highlighted inside the ellipse indicates the coefficient of determination (R^2), which shows the proportion of variance explained by the model. In order to verify and validate these coefficients, bootstrapping was performed with 500 observations and the T-test to determine the statistical significance between the parameters. The results are listed in Table 11.

Table 11

Testing the model hypotheses

Hypotheses	T value	P value	Situation
H1	1.000	0.318	Rejected
H2	19.181	0.000	Not rejected
H3	2.060	0.040	Not rejected

Source: Elaborated by the authors.

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From the results found in Table 11, there is statistical evidence that supports hypotheses H2 and H3. Thus, it is possible to state that a greater use of social media tends to increase the SCRM level of an organization and that a greater level of use of SCRM via social media increases the organizational resilience of a company. Still, a greater use of social media does not tend to generate direct positive consequences on organizational resilience. Thus, the model suggests the existence of a mediating effect of the SCRM level variable, reinforcing the thesis of the importance of using managerial control techniques in the development of dynamic skills and their usefulness in helping to understand and use data from the media for strategic purposes (Bijmolt et al., 2010).

The empirical results found converge with the theoretical predictions of other studies, such as that of Marolt et al. (2019), which emphasize that the benefits arising from SCRM transcend the use/non-use dichotomy, but in the intensity of its use; and that of Marolt et al. (2018), who revealed that more intense use of SCRM is associated with better performance.

Regarding the rejected hypothesis (H1), a possible explanation is obtained for the different social media results, as in the exploratory study by Silva et al. (2021). This thesis is reinforced by the findings of the average test of the number of social media used (Table 5) and by the association between social media diversity (Figure 5) and the financial impact on revenue (Figure 2), which suggest that the mere quantity and diversity of social media used is not the most critical factor to explain performance in adverse circumstances.

FINAL CONSIDERATIONS

This study aimed to measure the impact of using social media as a management tool (social customer relationship management) on the organizational resilience of Brazilian microenterprises during the Covid-19 pandemic crisis. A quantitative study was carried out to reach the proposed objective, with primary data collected through questionnaires and analyzed using descriptive statistics techniques, non-parametric means test, and structural equation modeling using the least squares partial method.

Regarding the use of social media by MSEs, it was observed that the diversity and quantity of implemented media was not a relevant variable to explain the results that Brazilian MSEs obtained during the crisis, either in relation to the revenue volume or with the state business operations. These

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results converge with theoretical dictates, which indicate that the mere adoption of social media is not a sufficient condition to generate its effects fully, thus reinforcing the importance of the intensity and efficient use of media based on planning and managerial control.

Concerning the use of management practices involving customer management through social media, the identification of possibilities for improvement, and the use of these technologies for organizational purposes in all dimensions, which denotes, therefore, a scarcity of managers' experience regarding the use of these technologies in the organization's operational sales activities. Since the process of implementing SCRM practices is complex and extremely valuable during the pandemic crisis, the relevance of the manager's technical improvement regarding using these tools is evident since they are indispensable in times of crisis with high restrictions.

The statistical difference in organizational resilience averages between companies that resisted the Covid-19 crisis with those that perished reinforces the importance of developing organizational resilience, especially in MSEs, which are generally more vulnerable to the effects of adverse events. Furthermore, in addition to finding evidence of an association between low revenues and a higher degree of mortality, this study suggests that psychological effects, such as loss aversion, can intensify this process, compromising the resilience of these organizations.

The identification of the mediating effect of the SCRM level between the use of social media and organizational resilience reinforces the importance of institutional and political efforts to encourage the adoption of management control tools in MSEs, since the mere technological adoption, in many cases, is not enough to optimize processes.

From a theoretical perspective, this study combined existing theoretical constructs in the literature. It tested them empirically, achieving advances in the determinants of organizational resilience and the customer relationship processes associated with the sales process that triggers this process.

From a practical perspective, this study brought an overview of the impact of Covid-19 on Brazilian MSEs, segregating them according to the turnover volume and the operational state of the business and providing information about the use of social media in this period. Once consolidated, social media can offer benefits to MSEs at a low cost; lack of experience or technological resistance can delay its adoption. Thus, it justifies elaborating policies that provide and encourage technical improvement and that favor using these technologies to give organizations more tools to overcome the challenges of turbulent events.

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Regarding the limitations of this research, we point out the sample size and the explanatory power of the statistical techniques used. As a recommendation for future research, we suggest investigating the effect of behavioral biases on managers' motivation and its reflection on organizational resilience, especially in MSEs, due to the manager's concentration of power and proximity in the decision-making process. Furthermore, since the Covid-19 pandemic prompted significant changes in how people carried out their activities, it identifies the importance of investigating these changes and whether they were perpetuated after the pandemic crisis and their implications.

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