

MANAGEMENT PRACTICES OF MICRO AND SMALL FIRMS IN CIVIL CONSTRUCTION SECTOR

PRÁTICAS GERENCIAIS DE MICRO E PEQUENAS EMPRESAS NO RAMO DA CONSTRUÇÃO CIVIL

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Abstract: The survival of micro and small companies (MSE) is an important theme in the world economic scenario, representing only in Brazil 98.5% of all private companies (SEBRAE, 2018). This article will discuss aspects in common between these companies and which classification criteria are used in Brazil and other countries, in order to have a broad view of this theme. Therefore, 7 MSEs were interviewed in Braço do Norte, Brazil, applying the methodology of the GeneSys project developed by the MIT, analyzing the management practices employed, decision-making criteria and how they behaved during the COVID-19 crisis, making comparisons and setting standards between them. As a result, for the companies that showed interest during the interview, some points of improvement were indicated, such as a better use of available resources and use of new management tools, consequently increasing the company's survival.

Keywords: Management practices. Micro and small companies. Cash flow. Supply chain. Logistics.

Resumo: A sobrevivência de micro e pequenas empresas (MPE) é um tema importante no cenário econômico mundial, representando apenas no Brasil 98,5% de todas as empresas privadas (SEBRAE, 2018). Neste artigo serão abordados aspectos em comum entre essas empresas e quais critérios de classificação são utilizados no Brasil e em outros países, a fim de ter uma visão ampla dessa temática. Portanto, foram entrevistadas 7 MPE em Braço do Norte, Brasil, aplicando-se a metodologia do projeto GeneSys desenvolvida pelo MIT, analisando as práticas gerenciais empregadas, critérios de tomada de decisão e como se comportaram durante a crise do COVID-19, realizando comparativos e determinando padrões entre elas. Como resultado, para as empresas que demonstraram interesse durante a entrevista, foram indicados alguns pontos de melhoria, como melhor aproveitamento dos recursos disponíveis e uso de novas ferramentas de gerenciamento, consequentemente aumentando a sobrevivência da empresa.

Palavras-chave: Práticas gerenciais. Micro e pequenas empresas. Fluxo de caixa. Cadeia de suprimentos. Logística.

1 INTRODUCTION

1.1 Contextualization

Small and medium-sized enterprises (known by SMEs) have a huge presence in the world economic scenario, particularly in developing countries (World Bank, 2020). In Latin America and the Caribbean, these companies are responsible for more than 60 percent of jobs, nonetheless the majority of them do not survive in the first

years, due to several reasons mainly insufficiency access to financial support (OECD, 1997). In the OECD (Organisation for Economic Co-operation and Development) area, however, governments tend to have a range of views on how to unleash SME and entrepreneurs' potential but approaches to policy design and implementation vary significantly across countries (OECD, 2019).

Policy trends could be applied to improve capacity and build a supportive environment for SME. OECD governments have been linking multinationals with domestic SME to promote collaboration between them and increase SME integration into the supply chain. However, other developments also could contribute to this task, such as technology uptake, upskilling opportunities to employees, credit guarantees, reforms in taxation to reduce the burden on SME, e-government and online platforms for interactions with public administration (OECD, 2019).

In general, Brazil has registered in 2020 more than 19 million enterprises/organizations (RFB apud Sebrae, 2020) in diverse economic segments, majority represented by service and commerce sectors. In 2018, micro and small enterprises (MSE) played an important role in the national economy. They were responsible for 54% of total formal employments in Brazil, which represent 98,5% of total private enterprises, being responsible for 27% of GDP (SEBRAE, 2018).

Therefore, this study will approach data of MSE analyzing the supply chain management practices in small retail trades from the construction sector located in Braço do Norte, Brazil, as the entrepreneur's knowledge in matters of financial and inventory management in their firms. However, with these understandings, it is expected to spread ideas and management insights through entrepreneurs who do not have enough knowledge on business areas or any training to face eventual crisis in their business, since better communication within the company, with suppliers and consumers can improve the company's performance as well as negotiate with other companies in the industry, providing additional support for the efficiency of the supply chain (LAMBERT; POHLEN, 2001; MENTZER et al., 2001).

So, this paper is structured in 5 sections. Firstly, a brief introduction to SME scenario, approaching themes as behavior similarities on self-improvement and in front of their deficiencies as well. Secondly, 3 sub-sections detailed how those enterprises are defined internationally and in Brazil as well as compared to other developing countries. The next section approaches details of GeneSys Project (MIT) methodology used in this study. In section 4, thereby, it was discussed the adoption level of practices

on supply chain management in the construction sector in Braço do Norte, a southern city in Brazil with more than 30 thousand of habitants (IBGE, 2019). Finally, the final considerations about the study carried out will be presented.

2 LITERATURE REVIEW

2.1 Definition of micro and small enterprises

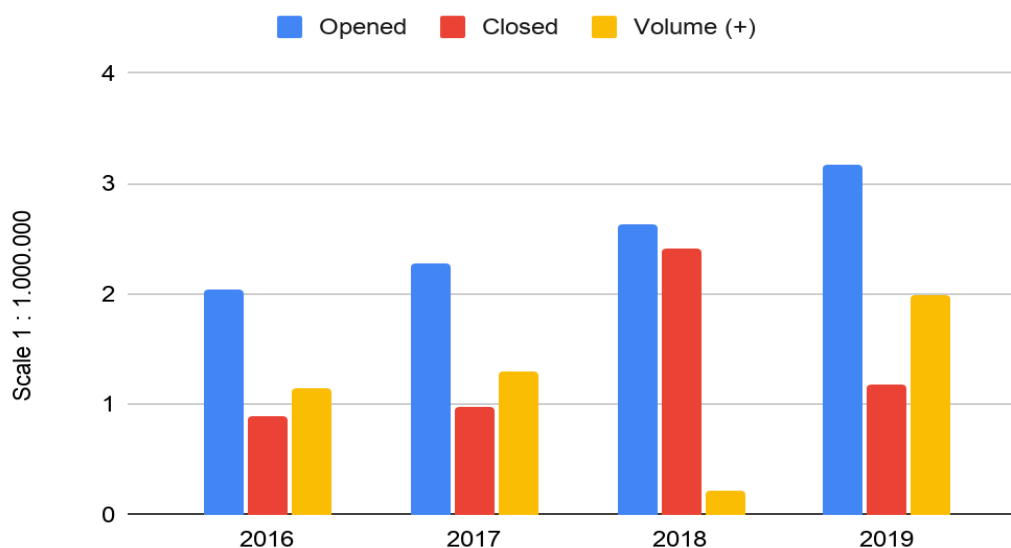
In Brazil, a micro firm is defined with annual billing up to US\$67.000 and a small firm with an amount between US\$67,000 and US\$889,000 (BNDES, 2020). However, in 2008 was created the MEI (Microempreendedor Individual - Individual Micro-Entrepreneur) for firms which do not involve a large flow of people (Brasil, 2008) with an annual income up to US\$15,000 (Brasil, 2016). The enterprises are also labeled according to numbers of employees. In general, for industry (including civil construction) is necessary up to 19 employees to be labeled as MEI or micro firm and between 20 and 99 employees to be classified as small firm; for commerce and service is required a maximum of 9 employees and between 10 and 49 employees, respectively (SEBRAE; DIEESE, 2013).

For these companies, the Brazilian government has created the Simples Nacional to support micro and small firms. It is an alternative tribute that unifies others 08 taxes to be paid for any company, then the Simples Nacional has lower tax burden for most activities when compared to other tax regimes (Brasil, 2006). According to firms that have elected this tribute, the main benefits are e.g. to know the firm has fulfilled its tax obligation (89%), to have lower tax burden (83%) and lower bureaucracy (82%) (SEBRAE, 2017).

2.2 Panorama of micro and small enterprises in Brazil

As reported by the Federal Government of Brazil, in 2019 Brazil has registered more companies opening than losses, estimating a volume of 2 million enterprises in the economy, as shown in Figure 1. However, this volume was only 214 thousand enterprises in 2018 (CNPJ apud Governo do Brasil, 2020) due to several reasons as Brazil's country risk, unemployment, dollar exchange rate, stock oscillation and fuel price's variation (G1, 2018), then micro and small enterprises are likely targets to be hard hit during an economic slowdown (OECD, 2019). Although the positive volume of new enterprises, the number of closed ones in Brazil are significant, representing more than 1/3 of losses if compared to enterprises created in 2019.

Figure 1 - Enterprises opened and closed by year



Source: the author, adapted CNPJ apud Governo do Brasil (2020).

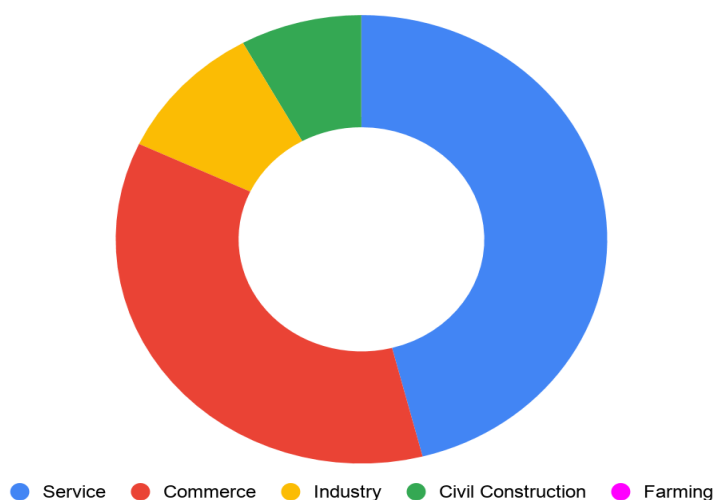
Overall a survival rate in businesses is compromised for external causes, as mentioned above, but also for internal reasons. According to study performed by SEBRAE (2016) with 2.006 firms opened between 2011 and 2012, the business planning is a key survival factor to prevent an incident and a growth factor. The closed firm's owners have exposed some aspects throughout the time, such as an average time of 08 months of planning to create a firm, while it takes 11 months for successful firms; a quantity of 65% strictly follow the firms' incomes and expenses and only 23% have negotiated new deadlines with suppliers or have obtained a bank loan (SEBRAE, 2016). Furthermore, the lack of improvement by managers and their shortage of knowledge on management's tools (Santos; Dorow; Beuren, 2016) have committed the micro and small firm's growth, provided that the management of these firms is often made intuitively. "MSEs are driving job growth, but need higher investment in skills, innovation and tech to boost wages and productivity" (OECD, 2019).

Another significant reason is the education level of MEI entrepreneurs, being 30% without high school, 39% with high school concluded and 31% have joined a college degree (SEBRAE, 2019). The majority (77%) never have done any training or course to have business management (SEBRAE, 2018). Then during an economic crisis, they are conducive to having poor knowledge and management insights, being directly affected.

In order to compare with the national scenario, the state of Santa Catarina has the second lowest illiteracy's level in Brazil (IBGE, 2018), then it is expected to have a better performance in entrepreneurship, once experts claims the education is an intervention area to increase conditions to undertake in Brazil (IBQP, 2019). However, according to a study realized in 2016 about 41 enterprises, ranging from micro (28), small (8) and medium (5) sizes, realized in Alto Vale do Itajaí, a region in the same state where the present research is being performed, an amount of 12 entrepreneurs (29,27%) have done a college education and only 6 entrepreneurs (14,63%) do business practices course frequently (SANTOS; DOROW; BEUREN, 2016). In other words, solving the education level is not the only key to help the micro and small firm's survival. Government policies, such as simplify and reduce taxation, and "research and development", like financial and technical support policies between firms and universities, as stated by these experts, are also essential measures to increase the national entrepreneurship (IBQP, 2019).

In Brazil, the firms are distinguished in sectors of farming, civil construction, industry, commerce and service (Figure 2), an amount of 17 million in a total of 19 million enterprises in Brazil (RFB apud Sebrae, 2020), which typically pay employees around 20% less than large enterprises (OECD, 2019). They are majority registered in the state of São Paulo, where is located the largest industrial pole, being followed by Rio de Janeiro and Minas Gerais, respectively (SEBRAE; DIEESE, 2013).

Figure 2 - MEI, micro and small firms by sector in Brazil



Source: the author, adapted RFB (2020) apud Sebrae (2020).

These sectors embrace diversified micro and small size businesses. Hairdressers, manicurist and pedicurist are the most common in Service's sector; in Commerce sector retail business is the highlighted activity with sales of clothes and food above all; however, the garment production is the principal in the Industry sector, followed by manufacture of bakery products and wooden furniture; in Civil Construction sector, masonry building and electrical installation/maintenance. Services involving planting and harvesting are the main activity in the Farming sector, proceed from beef cattle breeding (RFB (2020) apud Sebrae (2020)), being present in others sectors as auxiliary agricultural services and through the transformation of the raw material, produced by farming, to the final product (SEBRAE, 2014). It is noteworthy that in the Construction Sector was noted a continuous participating growth of MSE in total of added value in its GDP, from 43% in 2014 to 55% in 2017 (SEBRAE; FGV (2020)).

2.3 Panorama of micro and small enterprises in other countries

Comparing Brazil to other countries, such as developing and developed ones, similarities and differences can be found. The reasons to elect these countries (Table 1) were their current situation on the economic scenario and their relationship with Brazil. Mexico is the second largest economy in Latin America (Silver, 2020) and it is a member of OECD. China and Russia are, respectively, the first largest economy in Asia and the fifth largest economy in Europe (Silver, 2020) and they are members of BRICS, an economic block of developing countries where Brazil also belongs.

Table 1 - GDP World Ranking

Country	China	Brazil	Russia	Mexico
GDP World Ranking	#2	#9	#11	#15

Source: the author, adapted by Silver (2020).

China has 73 million micro and small firms (Jianping, 2018) and these firms plus medium-ones employ 233 million of people (Xinhua, 2018), meaning 80% of total workforce and represent over 60% of national GDP (China Banking News, 2018). Russia employs 18 million people in their 4.5 million micro, small and medium firms, resulting in 25% of total workforce (Rosstat apud RCSME, 2018), although, these firms only contribute 20,2% to GDP (The Moscow Times, 2018).

In Latin America, the focus of investigation of the MIT GeneSys project, Brazil and Mexico represent its two largest economies. In Brazil, MSE represent 52% of formal jobs and contribute with 30% of GDP (SEBRAE; FGV, 2020). In Mexico, the

Pymes (how small and medium-sized firms are recognized) represent, according to a report published by Arana (2018) in Forbes Mexico, based on official data, 78% of employees and 42% of GDP.

David Arana, founder and CEO of an online lending platform for SME, claims that absence of available capital, difficulties to access financial loans, lack of improvement on technology and courses compromise the company growth and its strategic vision in Mexico. These challenges are also present in Brazil, as reported above in section 2.2.

3 METHODOLOGY

After a bibliographical review of micro and small enterprises (MSE) and understanding the goals of the GeneSys Project under developing by Massachusetts Institute of Technology (MIT), it was developed a survey with a printed questionnaire in order to investigate the MSE located in Braço do Norte/SC and address questions related to storage, cash flow and supply chain management, according to MIT methodology. However, with the current situation of COVID-19 pandemic, this research has adopted a different approach, also proposed by MIT, investigating the cash flow and e-commerce in those firms but also being part in a simpler way on previous questions in that questionnaire.

The questionnaire (appendix A) contains 57 questions and it was majority applied personally in order to observe the interviewee's workplace and behavior, for the purpose of shadowing the firm activities and reducing misunderstandings when asked those questions, however by being busy some of them have chosen to complete the questionnaire alone another day. The first section is started investigating the owner's profile, followed by the second section with questions about the firm's profile.

The third section, then, covered topics of the firm's storage and supply chain practices, to have a broad view of these themes, asking about stock control and payment terms. The fourth section has approached the firm's financial, analyzing also payment terms and gross profit in 2019, although a significant number of the firms interviewed preferred do not present all of such required data. Following those sections, the questionnaire investigates resources used in decision making and which systems are being used for those firms.

The seventh and eighth section, however, has the objective of understanding if the firms suffered any problem with COVID-19 pandemic, how much it was affected and what strategies have been adopted, following with questions about e-commerce, if the firm has used social media as a tool to survive and increase profit during this crisis.

4 ANALYSIS & RESULTS

To study MSE and their supply chain management methods, a survey was conducted with 6 firms, from the building branch. This survey consists in 7 sections, where each of them addresses a different topic about the firm investigated. In conclusion, it has drawn the profile of the firm and its owner, how inventory is managed and if the COVID-19 pandemic has impacted negatively or positively in their business. For the following table, demographic data about investigated companies are presented.

Table 3 - Firm Profile

Name	Line of Business	Nº of Employees	Family Business	Most Sold Products
BRA01	Retail trade	2	Yes	Bathroom counter; Plumbing
BRA02	Retail trade	5	Yes	Cement; Paint; Hardware; Pottery
BRA03	Retail trade	5	No	Paint and its complements
BRA04	Retail trade	6	Yes	Cement; Sand; Plumbing; Paint
BRA05	Retail trade	11	Yes	Sand; Gravel; Cement; Plumbing
BRA06	Retail trade	13	Yes	Building materials in general
BRA07	Retail trade	4	Yes	Paint and its complements

Source: the author (2020).

It is observed in Table 3 that the sample consists in 7 firms, being their line of business in retail trade. In general, most of these firms employ less than 9 laborers,

then they are classified as micro firms, and the ones which employ 10 or more laborers are classified as small firms. However, one firm claimed to have only 2 laborers, being considered the owner himself as one laborer, and the other one is his son who has worked in the family business in the last years, then it is named as MEI.

It stands out that 6 of 7 firms are family business and they have been in the market for over 10 years. Furthermore, 2 firms (BRA01 and BRA02) are managed individually by brothers and the know-how of this market was inherited by their father, one of the first to open a building store in the city. This also happened with 2 other respondents (BRA04 and BRA05), whose are son and daughter of the owner's firm where they work, considering that the know-how was certainly acquired in their living within the company since childhood.

Table 4 - Respondent Profile

Education level	Nº of respondents	%
Incomplete Elementary School	0	0%
Complete Elementary School	0	0%
Incomplete High School	1	14%
Complete High School	3	43%
Incomplete Undergraduate	0	0%
Complete Undergraduate	3	43%
Total	7	100%

Perform management courses	Nº of respondents	%
Frequently	1	14%
Infrequently	1	14%
Rarely	1	14%
Does not perform	4	57%
Total	7	100%

Source: the author (2020).

Although the other 3 respondents have concluded their undergraduate education, it can be noticed a lack of commitment to attend management courses. The two brothers mentioned previously, who work in their family business, have stated each one that one of their children has studied an undergraduate related to business, then they are able to provide insights and improvements in their father's firms. The BRA04 respondent, who completed an undergraduate in management, is also son of a firm owner that inherited the family business and now runs the entire company, even with

father's presence during working days in the firm. The BRA05 respondent, who completed an undergraduate in the architecture field, is daughter of the firm owner and inherited the family business.

However, it can be noted a pattern that older firm owners with more than 20-year-old business, even with lack of financial and management education, have learnt the know-how in their business area over the years and in the last years they are helped by their son who attended undergraduate education in management. One of the respondents (BRA06) who has completed the high school education will follow this pattern as well, once her daughter has finished the Civil Engineering undergraduate last year, then even not doing her education in management area, she will be able to improve her family business, once she already learnt the know-how over the years and the firm be related to her field of study.

However, the BRA07 firm will follow this pattern as well, once the owner's son is concluding his undergraduate in Architecture, looking to improve the family business reconciling it with his field of work, being able to sell products as paint and its complements to clients when doing projects for them.

Withal, it can be observed nowadays that most of the owner's firm and also their son, who work in the family business, do not perform any management course frequently, meaning they are subject to past knowledge that may become insufficient with modernization or current problems, as the COVID-19 pandemic that demand innovative solutions.

The procedures used in decision making (Table 5) are mainly related to entrepreneur's insights or financial reports provided by accounting. When there is a need for improvement in the management area, the entrepreneur's experience plays a big role. All of them claim that this experience is more important than accounting's reports for several reasons, as such the owner knows better than the company to do such improvements and also the accounting firm only provides numbers related to taxes and duties overall. It can be confirmed in the research published by Santos, Dorow and Beuren (2016) where its stated that the decision making is centralized in personal experience and the accounting, on the other hand, is not sought for discussions about the company's results, due to "a mistaken view of entrepreneurs that it only servers to meet legal, tax and labor requirements".

Table 5 - Main procedures used in decision making

Resources used	Nº of respondents	%
Entrepreneur experience	7	100%
Information provided by accounting	5	71%
Reports prepared by managers	0	0%
Intuition	4	57%
Others	0	0%
Total	7	100%

Who assists in decision making	Nº of respondents	%
Nobody, I take decisions alone	1	14%
Family	3	43%
Accountant	5	71%
Total	7	100%

Systems used	Nº of respondents	%
Manual (paper)	3	43%
Excel spreadsheet	4	57%
Others (e.g. accounting software)	2	29%
Total	7	100%

Source: the author (2020).

An interesting data collected is that the BR04 and BR05 are still using manual records nowadays, even with an expressive number of sales per month, meaning more than four times if compared to BRA01 and BRA02. The BRA04 sold, on average, 75.000 items per month and BRA05 did not inform the number of sales. However, the BRA05 has improved in recent years their financial and management records through Excel spreadsheet. In contrast, the owner of BRA07 wants to improve its management and records through his son when he starts to work in the firm, hoping that he brings new ideas and solutions to modernize it.

During the interviews, some common goals and values were perceived among the interviewees, such as “customer loyalty”, “differentiated products”, “improve customer service”, “keeping price low”, “maintain a loyal relationship with employees”, “manage financial control” and “survive to economic crisis”. It is noticed that these thoughts are common among small companies, which seek a better business organization and an increase in profitability, being also verified in the case study of a small firm in Brazil (Fontana; Pereira; Segundo, 2019), where the same objectives and values were presented.

Table 6 - Purchasing management

(continue)

Does the company group orders to take advantage of discounts on the purchase amount?	Nº of respondents	%
Yes	5	71%
No	2	29%
Total	7	100%

On average, how much is the discount when negotiating with your supplier for a lower price?	Nº of respondents	%
5%	7	100%
10%	1	14%
15%	0	0%
Other	0	0%
Total	7	100%

On average, what is the difference in price for the same product offered by different suppliers?	Nº of respondents	%
5%	5	71%
10%	3	43%
15%	1	14%
Other	0	0%
Total	7	100%

On average, how many days does it take for your suppliers to deliver the main products sold?	Nº of respondents	%
Same day	0	0%
1 working day	2	29%
2 working days	3	43%
1 week	2	29%
2 weeks	0	0%
Other	1	14%
Total	7	100%

For what reasons does the company work with product samples?	Nº of respondents	%
The company does not work	4	57%
Easy access to the product as the supplier is close	3	43%
Fast delivery	2	29%
High purchase cost	0	0%

High cost to keep in stock	0	0%
Other	0	0%
Total	7	100%

Source: the author (2020).

Poor management may explain why these firms can be overstocked. When asking if the firm group orders to take a discount on purchases, the majority said they do. However, it could be dangerous for its storage to have a larger number of the same product for several reasons, due to innovative products emerging on the market and also for the Bullwhip Effect, leaving the merchandise stored for a long time. In the building market, new technologies frequently change the current products and the applied techniques in the construction sector. Even if some products remain equal for a long time, the MSE's owner may not predict which items are going to change.

In addition, the city where the research was conducted is well located. Several suppliers of raw materials and highly commercialized materials, like the ones shown in Table 3, are near to the firms interviewed. Large companies as Cerâmica Portinari, Eliane and Portobello are located a few hours to Braço do Norte city, mainly accessible by two highways (SC-108 and SC-370). If the goods ordered are from furthest places, as others states or countries, then it can be transported through BR-101, one of the main roads in the country, and also through the Porto de Imbituba, a port that is located just 85 km (or 53 miles) from Braço do Norte. However, with good logistic and transport facilities, the firms may choose to work with product samples (Table 6), i.e. does not store pottery products but few units of each one with distinct characteristics, resulting in a lower cost to keep them in the firm's storage as well as avoid losses due to consumption changes or its new types.

Table 7 - Financial analyses (continue)

How often is the company's financial performance analyzed?	Nº of respondents	%
Does not perform	0	0%
Daily	2	29%
Weekly	2	29%
Monthly	3	43%
Total	7	100%

On average, how many days do main customers take to pay for their purchases?	Nº of respondents	%
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30 days	4	57%
50 days	1	14%
60 days	2	29%
90 days	0	0%
Until 6 months	1	14%
Total	7	100%
How many days does it take to pay the main suppliers?	Nº of respondents	%
7 days	6	86%
14 days	5	71%
Each supplier has a different term, so it could also be 30 / 45 / 60 / 75 days	5	71%
Total	7	100%

Source: the author (2020).

If calculated the Cash Conversion Cycle (CCC) of these firms, it is obtained predominantly a higher positive value than expected when compared to better management indexes, being a negative value. Usually, for example, the firm gives one month to customers to pay their bills, as noted in four firms interviewed, meaning 30 days from when a product is sold until the firm receives the payment, however those firms often pay their bills within 7 days, but the payment term may vary depending on the product and supplier. Then, if consider an ordinary scenario, the best-selling products take 30 days to be fully sold, with a period of 30 days to customers pay to the firm and a short payment term of 7 days to pay the bill of those products, representing an index of 53 days, being a not ideal value of CCC when evaluate the efficiency of a firm's activities.

Table 8 - Company's value before COVID-19 (continue)

On average, what is the company's monthly gross profit?	Nº of respondents	%
Did not inform	3	43%
Up to US\$3.700	0	0%
US\$3.700 until US\$5.600	1	14%
US\$5.600 until US\$7.400	0	0%
US\$7.400 until US\$9.300	1	14%
More than US\$9.300	2	29%

Total	7	100%
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On average, what was the company's annual gross profit in 2019?	N° of respondents	%
Did not inform	3	43%
Up to US\$9.300	0	0%
US\$9.300 until US\$18.600	1	14%
US\$18.600 until US\$27.900	1	14%
US\$27.900 until US\$37.200	1	14%
More than US\$37.200	1	14%
Total	7	100%

What was the company's cash (checking account plus inventory) at the end of 2019?	N° of respondents	%
Did not inform	3	43%
Up to US\$18.600	0	0%
US\$18.600 until US\$37.200	2	29%
US\$37.200 until US\$65.100	1	14%
US\$65.100 until US\$93.000	0	0%
More than US\$93.000	1	14%
Total	7	100%

Source: the author (2020).

Despite having expressed an interest in answering the questionnaire, 43% of firms refused to provide more sensitive data, revealing that they are more concerned with the confidentiality of their data than with an external opinion to help possible weaknesses experienced by firms. It is assumed that the firms BRA01, BRA02, BRA04 and BRA07 have a medium profit between US\$18,600 up to US\$65,100, since the number of employees and expenses is estimated to be similar but with the profit slightly distinct.

However, it is estimated that the profit of BRA05 is lower than BRA06's profit (more than US\$9,300 per month and more than US\$37,200 per year) due to reasons such as a similar customer flow, number of employees, similar expenses with electricity and taxes. However, the BRA06 owns the workplace where it is located, while the BRA05 rents the workspace for a price evaluated by US\$1,000, representing a big role in the monthly profit that is estimated to be close to US\$9,300. Also the BRA07's profit is estimated to be lower than BRA03 for the same reasons as those mentioned in the

previous comparison, with differences that both pay for rent the workspace and it was observed that BRA03 has the highest customer flow between them.

It can be noted a difference between product offerings and sales made in the last years among these firms. They have an inventory with a good mix of products, however 3 firms (43% of those interviewed) do not have knowledge of how many products and which types of products they are selling in the firm, due to the lack of registration of new goods received or difficulty using the registration spreadsheets to find such information.

Table 9 - How pandemic is impacting the firms

Has the company been affected by the pandemic?	Nº of respondents	%
Yes, sales declined	5	71%
No, sales remain the same or higher than the same month in 2019	2	29%
Total	7	100%
How much did gross monthly profit reduce by?	Nº of respondents	%
Not reduced - 0%	1	14%
Reduced a little - 25%	3	43%
Reduced - 50%	2	29%
Greatly Reduced - 75%	1	14%
Total	7	100%
Business strategies adopted	Nº of respondents	%
None	7	100%
Increased payment term	2	29%
Increased contact via WhatsApp, both with customers and suppliers	1	14%
Increase delivery by purchasing a new truck	1	14%
Creation of customer credit without using bank or guarantor	1	14%
Total	7	100%

Source: the author (2020).

Majority the firms interviewed are affected by COVID-19 pandemic. However, according to the interviewees, during the quarantine people have started to seek more

comfort to their homes and also having time to fix some issues such as flaws in painting and possibilities for overall reform such as changing the floor of the house or even building something new.

It was noted a lack of feedback among the firms and their clients but also between the firms and their suppliers. During difficult times it is crucial the flow of information in a supply chain, helping the survival of involved firms. According to Almeida and Neumann (2013), information exchange can help the decisions and methods taken by suppliers, showing which products are most commercialized today and which products the manufacturer should reduce production.

If comparing the firms that are using management systems and those firms affected by pandemic, then is concluded a lower reduction in sales according to how well-organized those firms are in the management area. Thus, resulting in 2 firms not affected by pandemic, that are using accounting software and the others less affected are using Excel spreadsheets at least. However, to respond to reduction of clients visiting the firm daily, the owners have increased communication via social media as WhatsApp and Instagram to advertise products and to negotiate with clients in general, but others strategies are also adopted, being increased payment term the second most popular, as shown in Table 9.

Also, a software was developed to record daily sales, as shown in Figure 3, generating a PDF file with sales records to assist the entrepreneur, who relies only on manual paper registration, to have a better business organization. However, it is necessary to expand it to become an accounting software and develop a graphical interface to become more intuitive.

Figure 3 - The software developed

Registro de Vendas

02/10/2020 17:24

Foi realizada a venda de Parafuso para o cliente A.

Quantidade: 2

02/10/2020 17:34

Foi realizada a venda de Encanamento para o cliente B.

Quantidade: 10

12/11/2020 18:13

Foi realizada a venda de Cimento para o cliente Cliente C.

Quantidade: 3

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Qual opção você deseja realizar?
1 - Lista de Produto
2 - Informar venda de produto
3 - Gerar PDF
4 - Sair
2
Qual produto você vendeu hoje?
1 - Cimento
2 - Porcelanato
3 - Tinta
4 - Encanamento
5 - Parafuso
6 - Ferramenta
7 - Outros
1
Quantidade vendida: 3
Nome do cliente: Cliente C
Qual opção você deseja realizar?
1 - Lista de Produto
2 - Informar venda de produto
3 - Gerar PDF
4 - Sair
3
Relatório de Vendas foi gerado com sucesso!
```

Source: the author (2020).

5 CONCLUSIONS

Micro and small firms (MSE) have a huge presence in the economic scenario and face daily challenges in their operations. In Latin America, the MSE constitutes the main type of firm and has a beneficial importance for the economy, contributing mainly to employment. With the study of articles and reports, published by students, organizations, and journals, it was conducted an analysis in this report to explore different key insights in the world economic and people education that could influence the thinking of those MSE's owners.

In Brazil it was perceived that most micro and small entrepreneurs only have until the high school education, meaning difficulty to managing a firm in diverse areas, such as to elaborate financial reports or to calculate how the firm should do a new product purchase, and knowing how to deal with crisis as COVID-19 pandemic. Besides that, the research has shown a low demand for specialization courses, even for those entrepreneurs who have graduated in a Business area, resulting in a lack of knowledge.

Furthermore, in Braço do Norte (Brazil), the research has concluded that the majority of entrepreneurs has completed their high school education and after decade working at the company, nowadays they receive help from their children, whose have

concluded or still studying an undergraduate degree related to the family business, not necessarily in the business or management area, with the purpose of starting the leadership of the firm and also bringing new insights to their enterprise.

It is possible to conclude with this study that MSE need assistance for the management of the company, since they continue to use paper records as a form of inventory and financial control, and those entrepreneurs who use Excel spreadsheets or accounting software have difficulty using it, having an employee in the company responsible for interpreting the data, usually being an old employee or a child who is working in the firm, since most of them do not like to share such data between employees or with the external public, as it could observe in the refusal by some entrepreneurs to answers some questions of the survey.

Many entrepreneurs are also confused by the amount of goods they need to buy, disregarding the time spent in stock, the waste of money in old products, since some products are modified by new technologies, the cost to keep it in stock and the estimated sales of each type of merchandise. Then, approaching these issues is critical to understand the efficiency of the cash conversion cycle, where usual practices such as storing large quantities of products with low sales percentage can define the future of MSE, since it holds the money that could be used as working capital or to improve owner's management knowledge.

For future research, it is advisable to use the questionnaire in order to identify new key points that threaten the survival of MSE, for the purpose of expanding the questions aiming to cover new unknown areas within a firm, concerning to expand the mapping proposed by this methodology.

REFERENCES

ALMEIDA, Vinícius Bittencourt de; NEUMANN, Carla Simone Ruppenthal. Programa de avaliação de fornecedores: desenvolvimento em uma empresa do setor siderúrgico. **Revista Produção Online**, v. 13, n. 4, 2013.

ARANA, David. Pymes mexicanas, un panorama para 2018. 2018. Available from: <https://www.forbes.com.mx/pymes-mexicanas-un-panorama-para-2018/>. Accessed: 05 jul. 2020.

BANCO NACIONAL DO DESENVOLVIMENTO ECONÔMICO E SOCIAL. **Porte de Empresa**: Classificação de porte dos clientes. Available in:

<https://www.bndes.gov.br/wps/portal/site/home/financiamento/guia/porte-de-empresa>. Accessed: 12 jun. 2020.

BRASIL. Lei Complementar nº 123, de 14 de dezembro de 2006. **Institui o Estatuto Nacional da Microempresa e da Empresa de Pequeno Porte; altera dispositivos das Leis no 8.212 e 8.213, ambas de 24 de julho de 1991, da Consolidação das Leis do Trabalho - CLT, aprovada pelo Decreto-Lei no 5.452, de 1º de maio de 1943, da Lei no 10.189, de 14 de fevereiro de 2001, da Lei Complementar no 63, de 11 de janeiro de 1990; e revoga as Leis no 9.317, de 5 de dezembro de 1996, e 9.841, de 5 de outubro de 1999.** Casa Civil, Available in:

http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp123.htm. Accessed: 25 jun. 2020.

BRASIL. Lei Complementar nº 128, de 19 de dezembro de 2008. **Altera a Lei Complementar no 123, de 14 de dezembro de 2006, altera as Leis nos 8.212, de 24 de julho de 1991, 8.213, de 24 de julho de 1991, 10.406, de 10 de janeiro de 2002 – Código Civil, 8.029, de 12 de abril de 1990, e dá outras providências.**

Casa Civil, Available in: http://www.planalto.gov.br/ccivil_03/leis/LCP/Lcp128.htm.

Accessed: 25 jun. 2020.

BRASIL. Lei Complementar nº 155, de 27 de outubro de 2016. **Altera a Lei Complementar no 123, de 14 de dezembro de 2006, para reorganizar e simplificar a metodologia de apuração do imposto devido por optantes pelo Simples Nacional; altera as Leis nos 9.613, de 3 de março de 1998, 12.512, de 14 de outubro de 2011, e 7.998, de 11 de janeiro de 1990; e revoga dispositivo da Lei no 8.212, de 24 de julho de 1991.** Casa Civil, Available in:

http://www.planalto.gov.br/ccivil_03/leis/LCP/Lcp155.htm. Acesso em: 25 jun. 2020.

CALEB SILVER. **The Top 20 Economies in the World.** 2020. Available from: <https://www.investopedia.com/insights/worlds-top-economies/>. Accessed: 05 jul. 2020.

CBNEDITOR. **SME's Account for over 60% of China's GDP, Beijing Mulls Inclusion of Loans as MLF Collateral.** 2018. Available in:

<http://www.chinabankingnews.com/2018/06/22/smes-account-60-chinas-gdp-beijing-umlls-inclusion-loans-mlf-collateral/>. Accessed: 02 jul. 2020.

FONTANA, Marcele Elisa; PEREIRA, Fernanda Raquel Roberto; SEGUNDO, Dallas Walber Ferraz. Analysis of supply chain strategies: a case study in a small sized enterprise. **Revista Produção Online**, v. 19, n. 4, 2019.

G1. **Retrospectiva 2018: a economia brasileira em 6 gráficos.** 2018. Available in: <https://g1.globo.com/retrospectiva/2018/noticia/2018/12/21/retrospectiva-2018-a-economia-brasileira-em-6-graficos.ghtml>. Accessed: 19 jun. 2020.

HARVARD BUSINESS PUBLISHING. **Management Strategies for Small Companies:** by Herbert N. Woodward. Available in:

<https://hbr.org/1976/01/management-strategies-for-small-companies>. Accessed: 10 nov. 2020.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. **As Micro e Pequenas Empresas Comerciais e de Serviços no Brasil**. Rio de Janeiro. 2001. Available in: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv1898.pdf>. Accessed: 30 jun. 2020.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. **Panorama**. 2019. Available in: <https://cidades.ibge.gov.br/brasil/sc/braco-do-norte/panorama>. Accessed: 12 jun. 2020.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. **Educação 2018**. 2019. Available in: https://agenciadenoticias.ibge.gov.br/media/com_mediaibge/arquivos/00e02a8bb67cdedc4fb22601ed264c00.pdf. Accessed: 28 jun. 2020.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA. **Empreendedorismo no Brasil**: relatório executivo. Relatório executivo. 2019. Available in: <http://ibgp.org.br/PDF%20GEM/Relatório%20Executivo%20Empreendedorismo%20no%20Brasil%202019.pdf>. Accessed: 28 jun. 2020.

LAMBERT, D. M.; POHLEN, T. L. Supply chain metrics. **The International Journal of Logistics Management**, v. 12, n. 1, p. 1-19, 2001.

LEE, H. L.; PADMANABHAN, Venkata; WHANG, Seungjin. Information distortion in a supply chain: The bullwhip effect. **Management science**, v. 43, n. 4, p. 546-558, 1997.

NUNES, Rafaela Pereira; PAULINO, Ramón. **The \$100 question**: Supply chain priorities for small firms. 2018. Available in: https://dspace.mit.edu/bitstream/handle/1721.1/117630/Nunes_Paulino_2018_Capst_one.pdf. Accessed: 09 jul. 2020.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **Small business, job creation and growth**: Facts, obstacles and best practices. Paris: Author, 1997. Available in: <https://www.oecd.org/cfe/smes/2090740.pdf>. Accessed: 28 jun. 2020.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. **OECD SME and Entrepreneurship Outlook 2019**. 2019. Available in: https://www.oecd.org/industry/smes/Policy_highlights_SME_Final.pdf. Accessed: 28 jun. 2020.

PING, Shi Jian. **China MSME Finance Report 2018**. 2018. Available in: <https://www.smefinanceforum.org/sites/default/files/blogs/China%20MSME%20Finance%20Report%202018.pdf>. Accessed: 02 jul. 2020.

RUSSIAN SME RESOURCE CENTRE. **SME Statistics 2010-2014**: Key Performance Indicators of SMEs in Russia. 2015. Available in: <https://rcsme.ru/index.php/en/statistics2015>. Accessed: 03 jul. 2020.

SANTOS, V. DOS; DOROW, D. R.; BEUREN, I. M. Práticas gerenciais de micro e pequenas empresas. **Revista Ambiente Contábil - Universidade Federal do Rio Grande do Norte**, v. 8, n. 1, p. 153-186, 2016.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Faturamento mensal das MPE no Brasil**. Brasil, 2016. 2 p. Available in: <https://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/faturamento-mensal-mpe-maio2016.pdf>. Accessed: 24 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Painel de empresas**. 2020. Available in: <https://datasebrae.com.br/totaldeempresas/>. Accessed: 14 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Perfil das Microempresas e Empresas de Pequeno Porte**. Brasília: Sebrae, 2018. 28 p. Available in: <https://m.sebrae.com.br/Sebrae/Portal%20Sebrae/UFs/RO/Anexos/Perfil%20das%20OME%20e%20EPP%20-%2004%202018.pdf>. Accessed: 19 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Perfil do MEI**. Available in: <https://datasebrae.com.br/perfil-do-microempreendedor-individual/>. Accessed: 14 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Simples Nacional**: Informações sobre número de optantes, impacto e avaliação do Simples Nacional. 2017. Available in: <https://datasebrae.com.br/simples-nacional/>. Accessed: 21 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Sobrevivência das empresas no Brasil**. Brasília. 2016. Available in: <https://sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/sobrevivencia-das-empresas-no-brasil-102016.pdf>. Accessed: 12 jun. 2020.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PEQUENAS EMPRESAS. **Anuário do Trabalho na Micro e Pequena Empresa**. 2013. Available in: https://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/Anuario%20do%20Trabalho%20Na%20Micro%20e%20Pequena%20Empresa_2013.pdf. Accessed: 30 jun. 2020.

THE MOSCOW TIMES. **Russia's Small Businesses Contribute Just 20% of Economy**. 2020. Available in: <https://www.themoscowtimes.com/2020/01/28/russias->

[small-businesses-contribute-20-percent-russia-economy-a69063](#). Accessed: 03 jul. 2020.

THE WORLD BANK GROUP. **Small and medium enterprises (SMES) finance**. 2020. Available in: <https://www.worldbank.org/en/topic/smefinance>. Accessed: 02 jul. 2020.

THOMPSON, Trevor Nathan; HERNÁNDEZ, Analiz Cabrera. **Improving the Cash Availability of Small Firms in Latin America via Better Inventory Management**. 2020. Available in: <https://dspace.mit.edu/handle/1721.1/126451>. Accessed: 06 ago. 2020.

XINHUA. **China's small, medium enterprises important contributors to economy**: report. 2019. Available in: http://www.xinhuanet.com/english/2019-12/28/c_138663819.htm. Accessed: 02 jul. 2020.



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APPENDIX A - Business Research



1) Manager Profile

a) Manager name:

_____.

b) Company name:

_____.

c) Gender: () Male () Female

d) Age:

() Less than 25 years

() 40 - 45 years

() 25 - 30 years

() 45 - 50 years

() 30 - 35 years

() More than 50 years

() 35 - 40 years

e) Education level:

() Incomplete Elementary School

() Incomplete Undergraduate

() Complete Elementary School

() Complete Undergraduate

() Incomplete High School

() Complete High School

f) If completed undergraduate, what is the area of study?

_____.

g) If you are a graduate student, what is your area of expertise?

_____.

h) What is your position within the company?

_____.

i) How long have you been at the company?

_____.

j) How many hours a week do you dedicate to the company?

_____.

k) Which of the following functions are you responsible for?

() Management and finance

() Human resources

() Operations

() Support

Sales and marketing

l) How often do you perform management courses?

Frequently

Rarely

Infrequently

Does not perform

m) Do you agree that the company name is mentioned in the research / article publication? *

Yes, I agree.

No, I prefer anonymity.

2) Company profile before COVID-19

a) Is the company a family business?

Yes No

b) How do you classify the branch of the company you work for?

Retail trade

Wholesale trade

Industry

Services

Other.

c) Number of employees: _____.

d) Opening hours:

_____.

e) What are the main products the company sells or supplies?

1. _____.

3. _____.

2. _____.

4. _____.

3) Inventory

a) Does the company group orders to take advantage of discounts on the amount of purchases?

Yes No

b) On average, what discount does the company get when negotiating with its suppliers for a lower price?

5% Other. How much? _____.

10% Does not know

15%

c) On average, what is the difference in price for the same product offered by different suppliers?

5% Other. How much? _____.

10% Does not know

15%

d) Do you know what prices competitors are charging? Could you tell the average percentage of difference regarding your price?

No Yes. _____.

e) On average, how long does it take for your suppliers to deliver the main products sold by the company?

On the same day 1 week

1 working day 2 weeks

2 working days Other. How many days? _____.

f) Are there products that the company works with only samples?

No Yes

g) If so, for what reasons?

Easy access to the product, since the supplier is located in the region.

Fast delivery.

High cost of purchase.

High cost to keep in stock.

Other.

4) Financial position before COVID-19

- a) How often did you analyze the company's financial performance?
- () Daily () Semiannually
 () Weekly () Annually
 () Monthly () Does not perform
 () Quarterly
- b) On average, how many days do your main customers take to pay for your products?
 _____.
- c) How do your customers make payments?
- () In cash
 () Installment
- d) How do you pay your main suppliers?
- () In cash () Installment () Exchange payment
 () In advance () Other.
 _____.
- e) If credit, how many days does it take to pay your main suppliers? _____.
- f) On average, what is the company's monthly gross profit in 2019?
- () less than R\$5.000,00 () R\$20.000,00 - R\$30.000,00
 () R\$5.000,00 - R\$10.000,00 () R\$30.000,00 - R\$40.000,00
 () R\$10.000,00 - R\$15.000,00 () R\$40.000,00 - R\$50.000,00
 () R\$15.000,00 - R\$20.000,00 () more than R\$50.000,00
- g) What was the company's gross profit in 2019?
- () less than R\$50.000,00 () R\$200.000,00 - R\$250.000,00
 () R\$50.000,00 - R\$100.000,00 () R\$250.000,00 - R\$300.000,00
 () R\$100.000,00 - R\$150.000,00 () R\$300.000,00 -
 R\$350.000,00
 () R\$150.000,00 - R\$200.000,00 () more than R\$350.000,00
- h) What was the company's cash, in current account and inventory, at the end of last year?
- () less than R\$10.000,00 () R\$100.000,00 - R\$200.000,00
 () R\$10.000,00 - 50.000,00 () R\$200.000,00 - R\$350.000,00
 () R\$30.000,00 à 50.000,00 () R\$350.000,00 - R\$500.000,00
 () R\$50.000,00 - R\$100.000,00 () more than R\$500.000,00

7) Digitalization / Online sales / E-commerce

a) Does the company sell products over the internet?

No Yes

b) Does the company have online communication channels (instagram, facebook, etc.)?

No Yes

c) What is the main channel for online sales?

The company's website Facebook

Whatsapp Third party website, such as Mercado Livre

Instagram Other.

d) Do online sales impact the company's financial?

No Yes

e) How much do you invest with e-commerce, whether in maintaining websites, social networks, etc? _____.