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**RESEARCH ARTICLE** 

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# DEGREE OF KNOWLEDGE AND ADOPTION OF WORKING CAPITAL MANAGEMENT PROCEDURES IN SMALL AND MEDIUM ENTERPRISES

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# **ABSTRACT**

The Micro and Small Enterprises (MSEs) are important are important contributors to the Brazilian economy, generating jobs and being an alternative to the informal job market. However, high mortality rates are an uncomfortable reality; in Brazil approximately 40% of MPEs end their activities before the second year of activity. A critical factor of MSEs is the working capital (WC) management, the generation of revenues and the payment of short-term financial commitments. In this article the objective is to analyze the extent to which a degree of knowledge WC management influences in the adoption of management procedures. We investigated 318 managers and owners of Brazilian MSEs through an electronically applied survey. We analyzed the data by modeling structural equations using the Partial Least Squares (PLS) method. The results indicate a positive relation between time of business activity and degree of knowledge of the manager, and between the degree of knowledge and the level of adoption of management procedures. We found evidence of low deficiencies in manager training over time, indicating a need for investments in this field.

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## **INTRODUCTION**

Amongst the many aspects of business management, managing the working capital (WC) is a dynamic activity that requires great attention from the managers, for it represents the capacity of an organization in honoring the short-term commitments possible management failures can compromise the liquidity capacity, or even restrict the company's chance of survival (Brunório, Cardozo, & Pasotti, 2017). Mathuva (2015) points out that CC management is a very sensitive area in the field of financial management, because what the author calls "current assets", that is, assets that turn into money in a short period of time. The main goal of the WC management is to manage accounts- active and passive - with a focus on the maintenance of the relative aspects with the liquidity and profitability, that is, the capacity of the company's maintenance in short term and generation of return on sales (De Almeida & Eid J, 2014).

According to Oliveira and Forte (2014), in micro and small enterprises this management is essential as a result of the capital limits that they have and the difficulties in accessing credit from financing sources. It is still worth noting that in small organizations factors related to profitability, size and age, can reflect different working capital managing styles (Carvalho & Schiozer, 2012). In this article, we tried to answer the following research question: does the degree of knowledge from managers on aspects related to working capital (WC) management influences in the adoption of managing systems in MSEs? For the realization of this study we applied a quiz digitally that was structured in questions relative to: the level of knowledge about WC management; level of adoption of basic WC management procedures; activity time of the organization; and its size, measured by means of annual revenue. A total of 318 Brazilian MSEs managers answered the quiz between the months of July and October of 2016, the

data analyzed by Structural equation modeling, with the method of Partial Least Squares (PLS), indicate the existence of a positive and significant relationship between the degree of knowledge and the adoption of WC management procedures. This work is structured in five sections, including this introduction. In the second section the theoretical reference is presented, in which the studies and foundations on which this work is based - MSEs and WC - are laid out. In the third section, the methodological aspects of research are presented. The fourth section presents the results and discussions. The fifth and last section contemplates the conclusions, including the contributions, limitations, and indications for future research.

MSEs Management and the economical context: In the last decades, there has been an accentuated discussion around the importance of Micro and Small Enterprises - MSEs for the economy, especially in developing countries. Part of this discussion is centered on the lack of a concept that is in consonance or consensus - with the thinking of scholars in relation to the capital structure of MSEs (Correia, 2003). Part of the attempts to define MSEs came with the intention of obtaining a differentiated treatment for this organizations, coming from the idea that they are a singular component for the development of a country (Filion, 1991). Even if its definition, classification and conceptualization are quite diverse, these organizations generally have informational capacity, an established relationship with its workforce, its suppliers and customers (Berger & Udell, 1998). One of the main classifications adopted for Micro and Small Enterprises is related to its size - level of annual financial revenue, however, it is not identified a definition that is accepted in an exclusive and universal way (Lima, 2001, Ribeiro, Roglio& Pécora-Junior, 2013). According to Lima (2001), many indicators can be analyzed with the purpose of ordering companies in categories such as micro and small, but these cannot be considered for every type and context, as completely appropriate or effective factors. For Petty et al (2011) there are at least three aspects found in MSEs that make them different: the management made by a single person or a small group; the financing of operations carried out with financial resources of the owners and obtained through savings and personal or family financial reserves, forming a large part of the capital used; and the decision making centralized on its owner or manager. In Brazil, the most accepted definition for MSEs is established in specific legislation, Complementary Law no. 139 from 2006 and Complementary Law 123 also from 2006, republished in the year of 2011. These define the revenue frontiers for MSEs, providing the option for simplified regime and taxation, the "National Simple". These laws define as: micro-enterprise - annual gross revenue equal to or less than R\$ 360,000.00 (three hundred and sixty thousand reais); small business - annual gross revenue exceeding R\$ 360,000.00 and equal to or less than R\$ 3,600,000.00.

Other definitions are still used, such as the Brazilian Service for Support to Micro and Small Enterprises - SEBRAE, that has as a criterion of definition the number of employees. This way, the criterion considers: micro-enterprise - the ones that have up to 19 employees in the industrial area and up to 9 employees in the trade and service areas; and small enterprises - between 20 and 99 employees in the industrial area and between 10 and 49 employees in the trade and services area (Sebrae, 2010). The Southern Common Market - MERCOSUL, defined as from resolution 59 of 1998 as: micro-

enterprise - the ones that have from 1 to 10 employees in the industrial area or annual gross revenue of R\$ 1,000.00 up to R\$ 400,000.00, and from 1 to 5 employees in the trade and service area with annual gross revenue of R\$ 1,000.00 up to R\$ 200,000.00; and classified small enterprises - the ones that have from 11 to 40 employees in the industrial area with annual gross revenue of R\$ 400,001.00 up to R\$ \$ 3,500,000.00, and from 6 to 30 employees in the trade and service area with annual gross revenue of R\$ 200,001.00 up to R\$ 1,500,000.00 (Mercosul, 1998).According to Ottoboni and Pamplona (2010) and Crespo e Santos (2015), the Micro and Small Enterprises must be a target of special attention due to the social and economic role they play. The volume of financial capital generated by the Micro and Small Enterprises is not the most significative aspect of their role, but rather the capacity to generate jobs and the impact generated in the productive chain in various sectors (Ottoboni & Pamplona, 2010). Corroborating this discussion, Koteski (2004) points out that MSEs have emerged as fundamental elements to maintaining the economy of developing countries balanced. For the author, these aspects can be indicators of the potential of generating employment and income of these businesses, that keep growing.

Faced with the importance of the MSEs for the national economy, the financial-economic viability of these enterprises is fundamental. The small organizations have limited financial resources and capabilities - difficulty in lending and reduced cash flow. For the author, the professionals who work in administration and advisory have abilities, access and use of strategic information insufficient to carry out its activities. This way, beyond the limitation of resources, the capacities and attitudes of the leaders also present barriers in the process of financial management (Monteiro, 2015). For Cunha (2015) the Brazilian ecosystem, although challenging, has been increasingly favorable, increasingly fostering the emergence of new enterprises and increasingly innovative businesses, which has promoted the expansion of competition and the evolution of the economy in various sectors. Covin and Selvin (1989) found that the performance of small enterprises is related to the strategic business posture, competitive profile, long-term orientation, concern in predicting trends and short-term financial orientation. Deakinds (2009) emphasizes that, the small enterprises are essential to the process of economic growth, because they contribute to productivity and the use of a significant portion of the workforce, stimulating the development through the generation of jobs and income. Skaf (2006), points out that MSEs are vital in the economy, being responsible for most of the companies and jobs around the world, gradually occupying different niche markets in innovative ways. The Micro and Small Enterprises emphasize the cash control, and therefore, the most used financial sources, and most useful, are the short-term accounts monthly or quarterly management (Collis & Jarvis, 2002). Hillary (2002), affirms that these businesses tend to direct their attention to the attendance of a series of events that relate to the daily life, leaving little time for the projection of actions or the elaboration of plans that allow them to think strategically. This aspect draws attention to the working capital management as a relevant factor in the analysis of small businesses.

Management of working capital: The management of working capital (WC), also called floating capital, is made from accounts that are considered short-term, for the management is used as a determinant parameter of the

performance of available finances (assets) and liabilities (liabilities). As the management of CC is a dynamic activity, it requires great attention from financial managers (Braga, 1991). For the author, mistakes or flaws in this area can result in impairment of the company's liquidity capacity and consequently its ability to honor a short-term commitment. Nazir and Afza (2009) stress that the WC management is the way to ensure the organization's ability to finance the difference between short-term assets and short-term liabilities. this has become one of the most important issues in contemporary financial management. Sousa and Mendes (1997) highlight the concept of "working capital coverage", which is an amount that exceeds the stipulated limit for guarantee of liquidity, based on the management of revenue generating sources (sales and delivery deadlines) and the commitments (expenditure and payment periods). The main objective in WC management is the maintenance of the liquidity and profitability aspects, that is, the ability to maintain the company in short term and the generation of return on sales (Fleuriet et al., 2003). Vera-Colina, Melgarejo-Molina and Mora Riapira (2014) emphasize the importance of defining working capital in competitive environments in which priorities are defined for the liquidation of assets so that the company does not become financially insolvent. The enterprises can have a great WC level, that maximizes their value, or a low level that put them at risk (Deloof, 2003). The author emphasizes that high inventories and a generous credit policy generate higher sales, while higher inventories and higher credits, while stimulating sales, result in lower liquidity, as their turnover capacity is low. It is emphasized that there is a strong relationship between the cash conversion cycle and profitability, the three main components of the cash conversion cycle (accounts payable, accounts receivable and inventory) can be managed in different ways in order to maximize profitability or to increase the company's growth (Lazaridis & Tryfonidis, 2006). Even though the final goal of the enterprises is profit maximization, the preservation of liquidity is an equally important goal (Raheman & Nasr, 2007; Enqvist, Graham, & Nikkinen, 2014). The authors point to this dilemma, if the company does not seek profit it may not survive in the long run, however, if it does not generate liquidity, it will face short-term insolvency problems and affect profitability in the long run.

Management of working capital in MSEs: The financial management of an MSE is also essential for achieving the strategic objectives. According to Koh et al. (2014) for this management it is necessary to consider aspects related to obtaining resources, maintaining the value of the company and the necessary investments. There is convergence in the studies on the subject, which concerns the relationship between the financial structure of micro and small enterprises and the treatment granted in the administration of resources in the short term given by their managers. According to Monteiro (2015), the small enterprises have restricted capacity and resources, especially in terms of capital (difficult loans and reduced cash flow) and the training of those in management and advisory services, whose skills and information necessary for adequate strategic planning are often insufficient. In addition to the size of the company, the attitude of managers is a barrier to the process of financial management. The management of WC in small enterprises is something considered important due to the difficulty of access to credit from financing sources, which according to the authors demands care and attention in the generation and management

of cash (Oliveira & Forte, (2014). For Souza Neto and Sales (2009), the process of opening an MSE requires lot of care from the entrepreneur, since mistakes made in this phase of the new organization can have very high-risk consequences for the continuity of the business. Regarding the continuity of the business, it is noticed that there is a direct relationship between the sustainability of the business and the management of WC, which can influence the economic and financial performance generating profitability, that is, short-term capital management can heal problems, such as irregularities in the expenses and receivables, corroborating for their long-term subsistence (Garcia & Martinez, 2007; Trindade & Linhares, 2011). The MSEs are born and developed from the talent and will of their entrepreneurs that, even though have will and inspiration as their main business thrusters, also have difficulties in relation to the management and understanding of financial and accounting aspects (Dumer, 2014). In the process of setting up enterprises, there is an emphasis on: investment in structures and machines, human resources and the location chosen, but the WC needed for its operation and maintenance, resources essential for short-term survival are forgotten or neglected (Cerbasi & Paschoarelli, 2008). Machado et al (2006) in their study found that 79% of the companies that were analyzed presented a need for WC, indicating that the generation of short-term capital is lower than the value of the short-term commitments, that is, most of the analyzed companies can not to finance their operating activities with funds generated in their own operations.

Research hypotheses: Considering the importance of MSEs for the economy and that their performance is directly related to the strategic entrepreneurial posture and the competitive profile, that is, the competence of the management, as Covin and Slevin (1989) point out; the difficulties in management capacity, according to Santini et al. (2015); and considering that MSEs have a strong emphasis on cash control and therefore the most used and most useful financial sources are short-term accounts, as highlighted by Collis and Jarvis (2002); this article used as a basic assumption that the degree of management knowledge is directly related to the use of CC management procedures. From this perspective the following research hypotheses were formulated, as shown in Table 1.

Table 1. Hypotheses

Hypotheses	Authors
<b>H1.</b> In MSEs the greater the time of activity	Assaf Neto e Silva (2002);
of the business the greater the degree of	Weston e Brigham (2000).
knowledge of the managers on the	
management of working capital.	
<b>H2.</b> In MSEs, the greater the size of the	Lopes Júnior (2002);
organization, the greater will be the level of	Carvalho, Ribeiro e
knowledge of managers on the management	Cunha (2015); Silva
of working capital.	(2002).
<b>H3.</b> In MSEs the greater the degree of	Carvalho, Cirani, Ribeiro
knowledge of the manager on the	e Cintra (2015);
management of working capital, the higher	Fernandes e Galvão
the level of adoption of management	(2016); Padachi (2006);
procedures.	Monteiro (2015).

Source: Research data (2018).

# **MATERIALS AND METHODS**

In order to verify if the degree of knowledge and recognition on the technical aspects related to the management of working capital influences the degree of adoption of working capital management procedures in Brazilian MSEs, a quantitative approach was adopted. Initially, for the data collection, an instrument was developed, composed of 10 objective questions structured in two blocks, the first related to the degree of knowledge and recognition of the aspects related to the management of working capital in a Likert scale of five points, being: (1) I do not fully know until (5) I fully know. This block of questions sought to form the independent variable of study - degree of management knowledge. The second block related to working capital management procedures was also structured on a Likert scale of 5 points, being: (1) never up to (5) always, the block was elaborated with the goal of forming the construct that represents the dependent variable - working capital management practice. The questions of both blocks can be seen in Table 2.

Brazilian states, these being: Acre, Alagoas, Amapá, Bahia, Ceará, Espírito Santo, Maranhão, Mato Groso do Sul, Minas Gerais, Paraná, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Santa Catarina, São Paulo and Sergipe. The data collection period went from the months of June to November of 2016. For the data analysis, the Analysis of Structural Equation Models (SEM) was used, with the Partial Least Squares (PLS) method, using the software Smart PLS v. 3. Initially, we tried to validate the constructs of dependent and independent variables (reliability, convergent validity and discriminant validity). Subsequently, the relationship between the two investigated constructs was verified.

Table 2. Instrument to identify the degree of knowledge and procedures used

Degree of management kn	nowledge
1 - Regarding the knowledg	ge of the meaning of "capital management"
2 - Regarding the important	ce of cash generation in the short term
3 - Regarding the risks and	benefits of "working capital management"
4 - Regarding the important	ce of "working capital management
Procedures for working ca	apital management
1 - I plan and scale all expe	enses based on revenue projections for the period
2 - I acquire stock or contra	act labor considering the available capital
3 - I establish my credit pol	licy considering cash generation in the short term
4 - I always execute my pur	rchases and/or contracting considering the operational need and the financial capacity (cash availability);
5 - When I have cash surplu	us I provide (retain/reserve) for future expenses
6 - I make provisions for ex	spenses known as: 13th salary, vacations and termination of employees

Source: Research data (2018).

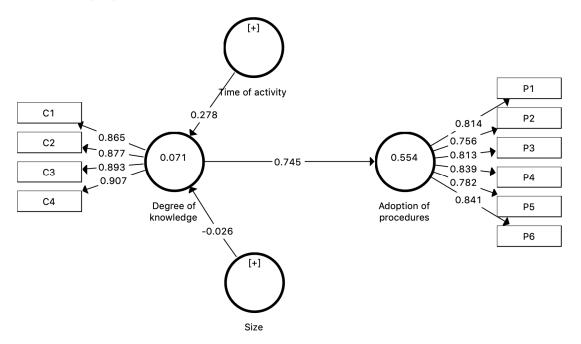


Figure 1. Final model

Prior to its application, the instrument underwent a pre-test with 15 MSEs managers from four Brazilian states: Bahia (4), Paraná (3), Maranhão (3), Alagoas (2) and Santa Catarina (3). After verifying that all the questions were well understood by the respondents, an electronic form - Google Forms - was sent to MSEs managers from several Brazilian states using the database of the Business Association from Concórdia (ACIC) from Concordia - SC; Sebrae of the State of Maranhão; Bahian Association of Startups (ABA) from Salvador - Bahia; Federal University of Maranhão - UFMA; University of Contestado - SC; State University of Alagoas - UNEAL; and State University of Western Paraná - UNIOESTE; besides the entrepreneurship networks: Rede + Bahia and Sergipe. The Survey resulted in 318 valid responses from managers from 18

The method was chosen because it does not require data that are normal and usable for analysis of ordinal variables (Hair, Hult, Ringle & Sarstedt, 2013).

# **RESULTS**

The first analysis aimed to verify the measurement model, this occurred in two stages - verification of convergent validity and verification of discriminant validity. To verify the convergent validity, the values of Cronbach's Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE)were calculated, the adjusted final model is presented in Figure 1.As it can be seen, all ten questions that compose the constructs -

degree of knowledge and adoption of procedures - were usable in the model, all with factor loads above 0.70. The calculated Cronbach's alpha, which measures the internal consistency of the constructs also remained above 0.70, according to Byrne (2016). The values of AVE (Average Variation Explained) were also above 0.50, according to Cohen (1988). The values are shown in Table 3.

Table 3. Convergent validity

	Cronbach's Alpha	CR	AVE
Adoption of procedures	0,894	0,919	0,653
Degree of knowledge	0,908	0,936	0,784

The criterion of Byrne (2016) was used to verify the discriminant validity - a measure in which one of the variables of a given model represents a single construct at the same time that it differs from the other constructs that compose the model. The results demonstrated in Table 4 confirm the validity of the model, where it is observed that the square roots of the AVEs - in the main diagonal - as values superior to the correlations of each construct.

Table 4. Discriminant validity

	Adoption of procedures	Degree of knowledge
Adoption of procedures	0,808	
Degree of knowledge	0,745	0,886

To validate the structural model, we observed the R<sup>2</sup> values that indicate the proportion of the variance of the endogenous variables that can be explained by the model. Although not a consensus, Cohen (1988) points out that in the social sciences  $R^2 = 2\%$  is classified as a small effect,  $R^2 = 13\%$  as a medium effect and  $R^2 = 26\%$  as a large effect. Thus, the model has high explanatory power of the procedure adoption variable (55.4%). After that, the values of the predictive relevance (O) or Stone-Geisser indicator and the size of the effect (f) or Cohen's indicator were calculated. The first one has the function of evaluating the accuracy of the model, that is, how much the proposed model approached what it proposed. The values must be greater than zero and are calculated only for the dependent constructs (Hair et al., 2014). The size of the effect (communities) is calculated by means of the inclusion and subsequent exclusion of each construct from the model, which allows to evaluate how much each construct is suitable for the adjustment of the model. Values of 0.02, 0.15 and 0.35 are considered small, medium and large effects, respectively (Hair et al., 2014). The values observed were: (Q = 333 - f = 0.498), 0.589). Table 5 shows the test of the three hypotheses formulated.

Table 5. Hypotheses test

Hypotheses	Path Coefficients	t Statistics	p. value	Result
Time of activity ->	0,278	4,403	0,000	Confirmed
Degree of knowledge				
Size -> Degree of	-0,026	0,403	0,687	Not
knowledge				confirmed
Degree of knowledge	0,745	25,604	0,000	Confirmed
-> Adoption of				
procedures				

The first hypothesis was confirmed, H1 - In MSEs the greater the time of activity of the business the greater the degree of knowledge of the managers on the management of

working capital (Path = 0.278, p.value = 0.000). There was not a confirmation for the second hypothesis, H2 – In MSEs, the greater the size of the organization, the greater will be the level of knowledge of managers on the management of working capital (Path = -0.026, p.value = 0.687). The degree of entrepreneurs' knowledge about the management of working capital was positively related to the adoption of management procedures (Path = 0.745, p.value = 0.000), as the third and last hypothesis predicted.

### **DISCUSSION**

According to the results we verified that, in MSEs the greater the activity time of the business the greater the degree of knowledge of the managers on the management of working capital. It was verified that the level of WC available in a company has a direct influence on liquidity and profitability (Assaf Neto & Silva, 1995). Weston and Brigham (2000) also emphasize that, the administration of WC has four factors considered fundamental: the time dedicated to their management; the volume of investments in current assets; the relationship between sales (revenue growth) and current assets (cash, banks, investments and inventories); and the importance or attention given by managers to this management. We did not verify a relationship between size and the degree of knowledge of the managers on the management of working capital in the researched MSEs. Even knowing that part of the difficulties observed in the management of MSEs are mainly due to the lack of financial capacity to hire qualified personnel (Santini et al., 2015); it is possible that, in this context of MSEs, their size is not a factor that generates a greater capacity to hire qualified individuals and to carry out personnel training programs. Still discussing this position, Carvalho, Ribeiro and Cunha (2015) point out that one of the main conditions for the maintenance of small businesses in the market is the management capacity. The authors emphasize that the lack of knowledge about the administrative and financial management of the company is one of the central points in the decline of these organizations. This way, knowledge about WC is essential, as it represents the resources used by the company to finance its operational needs, from the acquisition of raw materials or merchandise to receipt of sales revenues (Silva, 2002). For Santini et al., (2015) the difficulties of the management of MSEs begin in the lack of capacity to hire qualified personnel for the management of the business, which results in the accumulation of functions by the owner in the performance of managerial activities. For the author, besides the accumulation, the lack of managerial preparation of the owners or managers are decisive factors for the success of the organization.

In our results we observed that the degree of knowledge of the manager on the management of working capital is positively associated with the adoption of management procedures. This converges with the study of Carvalho, Cirani, Ribeiro and Cintra (2015), which points out that companies are created from capital reserves of other companies, from financial reserves of individuals or from funds raised from financial institutions. For the authors, it is important for a model of financial management to be elaborated by the MSE so that there is an analysis of the financial balance and the degree of liquidity required. Fernandes and Galvão (2016) argue that most MSEs are managed instinctively when it comes to financial management, due to the low level of technical knowledge of managers. There is a greater concern with the profit margins or the daily cash inflows and outflows, without

#### **Conclusions**

The objective of this article was to analyze to what extent, the degree of knowledge in working capital (WC) management influences the adoption of management procedures in the daily practices of Brazilian managers. From the data obtained with a survey of 318 managers of MSEs, three research hypotheses were tested. It was proposed that: the higher the activity time the greater is the degree of knowledge about WC management; the greater the size of the business, the greater the degree of knowledge about WC management; and the greater the degree of knowledge about WC management, the greater the level of adoption of financial management procedures. The obtained results confirmed the first hypothesis, the higher the activity time the greater is the degree of knowledge about WC management; it was also confirmed that the WC level directly influences liquidity and profitability, as Assaf Neto and Silva point out (2002). Regarding the size, the survey did not identify a relationship with the degree of managers' knowledge about the WC management, indicating that there is a low investment in hiring and training managers over time. The result is in line with the previous study by Santini et al. (2015), which points out that part of the management deficiency of MSEs is generated by the lack of financial capacity to hire qualified personnel and to train them adequately. The existence of a positive relation between the degree of knowledge of the manager about the WC management and the adoption of management procedures also reinforces the results of Carvalho, Cirani, Ribeiro and Cintra (2015). These authors emphasize that it is necessary for a MSE to elaborate and follow a financial management model, while analyzing and maintaining the financial balance and liquidity necessary. For this, it is necessary that the managers possess technical knowledge and management capacity. Thus, intuitive management is not sufficient, with a focus on obtaining higher profit margins or just recording cash inflows and outflows, which requires careful control and analysis of financial information, as Fernandes and Galvão (2016) point out. Some contributions can be highlighted, as they test and validate a model that correlates management knowledge and practice, even with the discrete set of variables analyzed and a limited sample, the results point a way for intensifying actions aimed

at the expansion and strengthening of the level of knowledge of managers of MSEs and, consequently, to improve the efficiency of the management of MSEs. We conclude that the expansion of management efficiency, the growth and strengthening of MSEs and the reduction of mortality levels of these organizations are directly related to the levels of investment in selection, hiring and training of managers. Considering the importance of MSEs for the economies of the countries, attention to investment and the qualification of the management of these organizations becomes essential.

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<sup>i</sup>When analyzed in the bibliographic references used in this article, it is noted that 6 (9.84%) were published between 1989 and 2000, 28 (45.90%) between 2000 and 2010, 5 (8.20%) published between 2011 and 2013 and 22 (36.07%) published between 2014 and 2017. This composition demonstrates that the topic "management of working capital" in Micro and Small Businesses " It has been a subject researched no only in contemporary studies more also on the last three decades. In spite of considering references as more recent publication as more important for the discussion of a specific topic, it is not considered appropriate to disregard the references that were published at the more time, in virtue of the importance of previous work, its conclusions and the theoretical foundations that was established and used as reference in contemporary research.

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