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MANAGERIAL ENTRENCHMENT: SCALE VALIDATION

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ABSTRACT

Objective: This work focused on the influence of managerial entrenchment on investment decisions. The objective was to understand the main characteristics of this variable in order to develop an instrument that could measure it..

Theoretical Framework: The decision-making process in finance is influenced by several factors related to the decision maker, such as their psychological and cognitive biases, their risk tolerance, and even their intentions to entrench themselves in the management of a company. Behavioral finance began to address the complexity of the decision-making process, starting from the complexity of the individual themself, displacing the idea of the pragmatic decision of *Homo economicus* that traditional theory represented

Method: A questionnaire was developed and applied to a sample of 154 managers. Then, the instrument was subjected to an exploratory factor analysis and a reliability test.

Results and Discussion: The findings of this research pointed to three components for measuring managerial entrenchment. These components were called "Managers' Decision Autonomy", "Power Hierarchies" and "Freedom of action" in the use of the organization's financial resources**.** As a result, the instrument was validated, which was found to be capable of measuring entrenchment with consistent reliability.

Research Implications: The practical and theoretical implications of this research are discussed, providing insights into how the results can be applied or measured management entrenchment practices in investment decision-making.

Originality/Value: Thus, this qualitative study contributes both to the finance literature by summarizing the main characteristics of managerial entrenchment and to behavioral finance studies by providing a validation instrument for one of its main subjects of study.

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ENTRINCHEIRAMENTO GERENCIAL: VALIDAÇÃO DE ESCALA

RESUMO

Objetivo: Este trabalho focou na influência do entrincheiramento gerencial nas decisões de investimento. O objetivo foi compreender as principais características dessa variável para desenvolver um instrumento que pudesse mensurá-la.

Referencial Teórico: O processo de tomada de decisão em finanças é influenciado por diversos fatores relacionados ao tomador de decisão, como seus vieses psicológicos e cognitivos, sua tolerância ao risco e até

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mesmo suas intenções de se firmar na gestão de uma empresa. As finanças comportamentais passaram a abordar a complexidade do processo de tomada de decisão, partindo da complexidade do próprio indivíduo, deslocando a ideia da decisão pragmática do Homo economicus que a teoria tradicional representava.
Método: Um questionário foi desenvolvido e aplicado a uma amostra de 154 gestores. Em seguida, o instrumento foi submetido a uma análise fatorial exploratória e a um teste de confiabilidade.
Resultados e Discussão: Os achados desta pesquisa apontaram três componentes para mensurar o enraizamento gerencial. Esses componentes foram denominados “Autonomia de decisão dos gestores”, “Hierarquias de poder” e “Liberdade de ação” na utilização dos recursos financeiros da organização. Como resultado, o instrumento foi validado e mostrou-se capaz de medir o entrincheiramento com confiabilidade consistente.
Implicações da Pesquisa: As implicações práticas e teóricas desta pesquisa são discutidas, fornecendo insights sobre como os resultados podem ser aplicados ou medidos práticas de gestão arraigadas na tomada de decisões de investimento.
Originalidade/Valor: Este estudo qualitative e contribui tanto para a literatura financeira, ao resumir as principais características do entrincheiramento gerencial, quanto para os estudos de finanças comportamentais, ao fornecer um instrumento de validação para um de seus principais temas de estudo.

Palavras-chave: Processo de Tomada de Decisão, Entrincheiramento Gerencial, Validação de Escala, Decisões de Investimento.

ATRINCHERAMIENTO GERENCIAL: VALIDACIÓN DE ESCALA

RESUMEN
Objetivo: Este trabajo se centró en la influencia del arraigo gerencial en las decisiones de inversión. El objetivo fue comprender las principales características de esta variable para desarrollar un instrumento que pueda medirla.
Marco Teórico: El proceso de toma de decisiones en finanzas está influenciado por varios factores relacionados con quien toma las decisiones, como sus sesgos psicológicos y cognitivos, su tolerancia al riesgo e incluso sus intenciones de atrincherarse en la gestión de una empresa. Las finanzas conductuales comenzaron a abordar la complejidad del proceso de toma de decisiones, partiendo de la complejidad del propio individuo, desplazando la idea de decisión pragmática del Homo economicus que representaba la teoría tradicional.
Método: Se desarrolló y aplicó un cuestionario a una muestra de 154 directivos. Luego, el instrumento fue sometido a un análisis factorial exploratorio y a una prueba de confiabilidad.
Resultados y Discusión: Los hallazgos de esta investigación apuntaron a tres componentes para medir el arraigo gerencial. Estos componentes fueron denominados “Autonomía de decisión de los directivos”, “Jerarquías de poder” y “Libertad de acción” en el uso de los recursos financieros de la organización. Como resultado, se validó el instrumento, que resultó ser capaz de medir el atrincheramiento con una confiabilidad constante.
Implicaciones de la Investigación: Se discuten las implicaciones prácticas y teóricas de esta investigación, proporcionando información sobre cómo se pueden aplicar o medir los resultados de las prácticas de afianzamiento de la gestión en la toma de decisiones de inversión.
Originalidad/Valor: Por lo tanto, este estudio cualitativo contribuye tanto a la literatura financiera al resumir las principales características del arraigo gerencial como a los estudios de finanzas conductuales al proporcionar un instrumento de validación para uno de sus principales temas de estudio.

Palabras clave: Proceso de Toma de Decisiones, Atrincheramiento Gerencial, Validación de Escala, Decisiones de Inversión.

1 INTRODUCTION

The decision-making process has been the subject of research in economics and finance since the first theories were developed in this area. The decision-making process is considered as a pragmatic process in which the decision maker always has perfect information and the full ability to calculate the least risky way to maximize their results. In this sense, the decision-

making process was initially directly associated with a rational actor, better known in finance as *Homo economicus*, who always has appropriate circumstances, including an efficient market.

The complexity not only of the decision maker but also of market dynamics has led traditional theory to give way to a more realistic approach, now called behavioral finance theory. This theory understands people by also taking into account their psychological, cognitive, and emotional aspects, so that the decision maker is no longer seen as a purely wealth maximizing being, but rather their beliefs, perceptions, and values are taken into account in decision making.

The market dynamics that spread around the world after the Industrial Revolution, bringing with them new variables that required and generated different responses in management, also contributed to the evolution of financial theories. In this new context, the decision-making process is complex for two reasons: i) it is carried out by complex actors and ii) it takes place in a complex environment with critical factors such as risk and expected return. Nevertheless, management itself has been increasingly constituted separately from the owners of the company. As a consequence of this separation of owners and management, conflicts of interest, so-called agency problems, may arise.

Agency problems occur when managers pursue goals different from those of the organization's owners, aiming at their own career and acting on their own power, even if this does not contribute to the growth of the organization, which is the goal of the owners. By pursuing goals that differ from those of the owners, managers deviate from the control exercised by the owners to ensure that their own interests are satisfied; and in this context, managerial entrenchment can occur.

Berger et al. (1997) defined managerial entrenchment as the extent to which a company's manager is not influenced by corporate governance and control mechanisms. By not experimenting with the discipline of control, the manager, interested in maximizing his own function, begins to develop strategies to entrench themself, i.e., to ensure that he benefits from investment and financing decisions, even if they do not guarantee the company's benefit. For this reason, the power acquired through entrenchment strategies is necessarily illegitimate, and the means by which this power manifests itself is configured as one of the subjects of this study, which examined the main characteristics of entrenchment through a literature review and developed and applied an instrument to measure it.

In order to entrench themselves and take advantage of the lack of control, the manager begins to make strategic decisions in favor of his own function, especially with regard to the

financial resources of the company. The use of debt is one of the characteristics of the high degree of entrenchment, as is the accumulation of functions among the controlling bodies. Other factors such as long tenure, information asymmetry, and freedom and autonomy in decision making also indicate high levels of entrenchment. On the other hand, the literature shows that organizational characteristics such as clearly defined power hierarchies, independence of control bodies, transparency and, in general, the application of good corporate governance practices indicate low levels of entrenchment.

In this sense, it is important to identify managerial entrenchment in organizations to find out whether it occurs in high or low levels. Therefore, the objective of this study was to validate a scale for managerial entrenchment. To achieve this goal, a review of the literature on this topic was first conducted. Once the main characteristics of the entrenchment levels reported in the literature had been identified and collected, a questionnaire based on the Likert scale model was administered to 154 managers of companies from different sectors and industries. The answers given by the participants formed the basis for the validation of the questionnaire. Shortly after, an exploratory factor analysis was conducted and the reliability of the results was determined.

2 MANAGERIAL ENTRENCHMENT

The decision-making process can be considered complex for two main reasons: i) the inherent complexity of having multiple investment opportunities with different risks and expected returns, which must be analyzed taking into account several critical factors; and ii) the influence of psychological and cognitive factors of the decision maker, from the proposal of the investment project to its evaluation, implementation and monitoring. Giunipero, Dawley, and Anthony (1999) suggest that decision makers use a combination of rational and tacit knowledge. The first refers to expertise, the foundations of which are facts, data, procedures, and formulas. Tacit knowledge, on the other hand, refers to practical knowledge that results from experiences and experiences that influence the cognition - perceptions, beliefs, etc. - of the individual, even subconsciously, and reflected in the perspective of the external world.

In addition, decision making, which is not a simple and objective process, can also be affected by possible conflicts of interest within the organization. These conflicts, also referred to as agency problems, arise from the separation between owners and management. Fama and Jensen (1983) explain that in organizations where this separation exists, management is

responsible for decision making, initiating and implementing projects to use the company's resources, while owners monitor decisions, ratify management's proposals, and control performance. In this sense, all decisions made by managers, also called agents, must aim to maximize the wealth of the owners of the company, also called principals. Thus, the conflict of interest arises when the manager has the goal of maximizing their own role, power, and career. Out of this motivation, these managers strive to undermine the control mechanisms (Rodrigues & António, 2010).

From these attempts to undermine control emerges the concept of managerial entrenchment, which is related to how free the manager is from the control of the owners to determine and set financial policy. Berger et al. (1997) define entrenchment as the extent to which management is not influenced by corporate governance and control mechanisms. And in this sense, Rodrigues and António (2010) argue that entrenchment strategies lead to an excess of illegitimate power, since when the manager contributes to the growth of the company, they are empowered by the owners themselves, without the need for strategies that deviate from control. The authors also explain that the reasons that lead managers to act on the basis of their own career and power rather than on the basis of maximizing the wealth of the owners include market pressures and mandate uncertainties, in addition to the failure of the control mechanisms.

Berger et al. (1997) also concluded that entrenchment is related to the level of debt and leverage. According to the authors, entrenched managers tend to avoid debt; this is done in an attempt to minimize the risks to the company and to their own careers. For example, those managers who do not suffer from the control pressures and incentives of measures and rewards prefer short-term debt, which represents less uncertainty and lower leverage (Ghosh, Giambona, Harding, & Sirmans, 2011). On the other hand, debt is one of the tools with which the manager can entrench themselves, because it makes the company dependent on their management of certain investments and their more expensive replacement (Rodrigues & António, 2010).

For Ellili (2012), entrenchment does not always have a negative effect on shareholder value creation. However, other authors have shown the opposite (Brandão, 2019; Canassa, 2018). In this sense, the proposed solutions essentially refer to the adoption of good corporate governance practices, such as rewarding managers for good results so that their wealth increases as the wealth of the owners increases, and the establishment of financial councils and audit committees. According to Silveira (2002), corporate governance aims to harmonize the

relationship between shareholders and managers through mechanisms that provide security to the two actors involved. Outside the company, these incentives and controls arise almost by themselves, because there is a competitive labor market and the possibility of turnover (replacement of the chief executive officer [CEO] due to low performance), and in the case of listed companies, there is also the constant monitoring of accounting reports by financial market actors in the case of publicly traded companies. Internally, the main instrument of corporate governance is the establishment of a board of directors, a disciplinary body that mediates the relationship between owners and management and supervises the latter (Santos & Aragaki, 2015).

The characteristics of entrenchment have become the subject of study of behavioral finance, which seeks to explain and identify this phenomenon. Research in this sense points to several factors that configure the high or low degree of entrenchment, such as duality, which refers to the accumulation of functions of the manager with the control bodies, indicating a highly entrenched management. In addition to the board of directors, organizations may establish other control bodies, such as audit committees and financial councils. In this sense, duality is present when the manager participates in the bodies that are supposed to supervise them, thus influencing the decisions regarding their own performance (Canassa, 2018). Apart from the inconvenience that this circumstance entails, Vieira and Martins (2018) emphasize that the replacement of poorly performing managers in these cases is very costly for the company, since it involves the replacement of two positions: one in management and the other in the control body.

Canassa (2018) also points to a relationship between entrenchment and tenure, showing that longer tenure strengthens the manager's influence in controlling their performance. Sprenger, Kronbauer, Costa, and Pereira (2020) reinforce this idea, emphasizing that there is a relationship between CEO tenure and the likelihood that the board of directors will be formed by their nominees. This could lead to condescension in the control that the board exercises over the manager. When the manager has the power to appoint or nominate board members, the likelihood that there will be board members who accommodate their interests increases, providing a safeguard against control that can manifest itself in biased corporate governance practices, such as commissioning convenient partial audits and lacking independence.

Sprenger et al. (2020), in turn, believe that the CEO's stock ownership can give them control over the board of directors, which should monitor them as a manager, so that they have influence over their own compensation. Regarding shareholder control, Vieira and Martins (2018)conclude that the presence of a majority shareholder, i.e., a shareholder with the majority

of voting shares, reduces the chances of replacing a low-performing manager. According to the authors, these shareholders can use their rights to harm the interests of minority shareholders through more efficient management. Brandão (2019) confirmed in his research that the existence of a majority shareholder favors the expropriation of minority shareholders' wealth, increases the likelihood of agency conflicts, and reduces the acceptance of corporate governance practices.

Another feature of the high level of entrenchment is the expression of the manager's power through freedom and autonomy to make decisions about the use of the company's debt. Weaknesses in the mechanisms of corporate governance can lead to decisions about the owners' wealth not maximizing it, but actually harming it. Managers who use entrenchment strategies evaluate investments according to the benefits they can obtain, rather than the wealth generated for the company (Rodrigues & António, 2010). In this sense, the use of debt to make certain investments that make the company dependent on management becomes an instrument of entrenchment (Shleifer & Vishny, 1989). Moreover, by using the debt in a way that is favorable to their own interests, managers can remove the company from the possibility of a takeover (acquisition of the company by another investor) and guarantee their retention in management, while increasing the financial costs of the company.

It is worth noting that the use of debt does not necessarily refer to the manager's freedom and autonomy in the decision-making process, but presupposes them. In this sense, it refers to the way in which the manager uses the freedom and decision autonomy given to them to make certain investments and build a capital structure for their own position and not for the maximization of the company. In this way, the manager can make decisions regarding debt that happen to maximize the company's earnings. However, their goal in making these decisions has nothing to do with this point, but with the benefits they can gain from it, and one of them is entrenchment. Once the freedom and decision-making autonomy are used to entrench, the manager, who is not supervised, can make targeted investments aimed at making the company dependent on their performance, even if this does not mean organizational growth. The manager thus uses debt to entrench themselves.

All these factors, together with the information asymmetry that gives management access to privileged data to the detriment of shareholders, indicate a high level of entrenchment that, on the other hand, turns out to be low when there are hierarchies with clearly defined and respected powers, independence of control bodies, planning rigor, transparency, and so on. In

other words, the application of good corporate governance practices plays a fundamental role in mitigating conflicts of interest and the acquisition of illegitimate powers.

Information asymmetry that results in the agent having privileged information to the detriment of the principal may alienate the latter from the implications of a financial decision. A poorly informed board of directors accepts managers' business decisions without doubting their effectiveness (Shleifer & Vishny, 1989). In this sense, the practice of a basic principle of corporate governance, transparency, indicates a low level of entrenchment. This principle states that all interested parties must have clear and transparent access to all information (Santos & Aragaki, 2015). When all the information about the use of financial resources and its justification is available, the monitoring of the control bodies can be carried out efficiently.

Shleifer e Vishny (1989) also suggest capital rationing as a means of combating entrenchment, since corporate debt can be used to obtain illegitimate power. Although this practice may constrain managerial decisions and cause good projects to be put on hold, maintaining rigidity in planning makes entrenchment more difficult because decisions requiring more capital become dependent on the judgment of owners and leave no room for opportunistic investments and without the expectation of creating value for the company.

However, all the characteristics of a low level of entrenchment are based on the independence of the control bodies, since adequate monitoring is only possible when there is no influence of the object evaluated on this monitoring. Silveira (2002) characterized governance as "the measure by which the board of directors succeeds in being active and independent, representing the interests of shareholders, including minority shareholders" (p. 69). The author concluded that effective separation between management and control has a positive relationship with the market value of the company.

Given the influence that entrenchment exerts on managers' financial decisions, this paper aims to identify and validate a scale to measure entrenchment, i.e., the power that the agent has over the organization in making decisions about financing and investment policies, through the identification of its determinants and its characteristics and through a survey.

3 METHOD

In order to identify a scale for measuring entrenchment, field research was conducted using a questionnaire designed for and addressed to managers of companies from different market segments. 162 managers answered the questionnaire, which was made available for a

period of 2 months, including financial directors, commercial directors and operational directors, but also general managers and controllers. This is therefore a qualitative study with a theoretical-empirical approach.

The questionnaire was prepared in the Likert scale format, an instrument that can measure certain factors based on the respondents' agreement with a series of statements. Thus, a series of statements were elaborated aimed at understanding general aspects about the participants, such as questions related to the position and the company managed, as well as aspects related to the actual research question, i.e., entrenchment.

For the elaboration of the statements, a literature review of the studies investigating entrenchment was carried out in order to capture the main characteristics highlighted in the literature. Table 1 was prepared on this basis, and the characteristics, called subcategories, are divided into high and low levels of entrenchment.

Table 1

Entrenchment categories and subcategories

Category	High level of entrenchment	Low level of entrenchment
Subcategories	Duality	Power hierarchies
	Longer tenures	Monitoring and pressure from upper spheres
	Protection from control	Independence of control bodies
	Shareholding	Rigidity of planning
	Presence of a controlling shareholder	Transparency
	Power of the manager - autonomy, freedom of decision, use of debt	Adoption of corporate governance practices -APGV
	Information asymmetry, privileged relationships, or implicit contracts	information asymmetry

To verify the presence of the subcategories highlighted in the literature, 21 statements and 1 item were elaborated, which together formed the questionnaire directed to managers based on a Likert scale, with a variation between 1 and 10, where 1 meant "strongly disagree" and 10 meant "strongly agree". Table 2 shows the individual items of the questionnaire and their respective research intentions.

Table 2

Likert scale statements

Subcategory	Statement
Duality	The company develops management control and supervisory practices.
	The manager/director/CEO of the company does not accumulate functions with the control/inspection bodies.
Protection from control	The control of managerial decision making is solely by the owners/shareholders.
	Most of the audits commissioned by the company are independent (external).
	Internal audits are kept unchanged in their composition for more than five years, as it is okay to keep the same auditors for several consecutive years.
Presence of a controlling shareholder	The owner/shareholder inhibits the supervision of the management because it is their indication.
Independence of control bodies	The owner/shareholder has a personal relationship with the manager.
	The members of the control body have no kinship relationship with the managers.
Power of the manager – autonomy, freedom of decision, use of debt	Investment decisions of the management are always evaluated from the point of view of risk and feasibility, so as not to impair the rights of the owner/shareholder.
	Management is free to make investments that have a large impact on the owner's/shareholder's assets without consulting them.
Information asymmetry	The owner/shareholder has all the information they need, at any time, and there are no conflicts or gaps in the reports provided by management.
	Management provides the owner/shareholder with all information about contracts, investments, or other types of financial decisions, as well as their justifications, always striving for transparency.
	The manager has privileged information that helps them in decision making.
Power hierarchies	The company has a clearly defined hierarchy with established and respected functions.
Monitoring and pressure from upper spheres	Investment projects must always be justified, as the company's resources cannot be used for projects without profitability.
	Investment projects proposed by management are always evaluated by the owner/ shareholder and their results are closely monitored, as their assets cannot be allowed to take irrational risks at any time.
Rigidity of planning	The manager is free to make investments and take improvised measures, without consulting the owner/shareholder, in case something gets out of control, because flexibility is a crucial point for good management performance.
Transparency	The company has an internal communication mechanism through which management provides the owner/shareholder and other interested parties with all information regarding contracts, investments, or other types of financial decisions, as well as their justifications, always striving for transparency.

Adoption of good corporate governance practices	The company rewards its managers for good results so that their wealth increases with that of the owners/shareholders.
	The company has a financial council or audit committee and regularly engages auditors/external consulting companies on a regular basis.
Longer tenures	How long has the company manager been in office?

The questionnaire developed with these statements was subjected to content validation by a group of experts. Shortly after the collection of the research participants' responses, a factor analysis was performed to validate the instrument and analyze its reliability (see Figure 1):

Figure 1

Questionnaire processing.

In the data processing stage, the descriptive statistics data of the sample were collected and the exploratory factor analysis (EFA) was started using the Statistical Package for the Social Sciences (SPSS) software. Factor analysis is a technique that aims to identify common factors in a set of interrelated variables, which allows the synthesis of a large number of data. In the case of this study, exploratory factor analysis was chosen as it is best suited for cases where the researchers have no prior knowledge of the structure of the factors to be created.

The first step in applying the AFE technique is to verify the appropriateness of the technique by analyzing the statistical test of the Kaiser-Meyer-Olkin (KMO) indicator. The closer the value found for the indicator is to 1, the more appropriate is the application of EFA. Another way to check the appropriateness of the technique is to analyze the anti-image matrix, which indicates the need to exclude a particular variable from the values on its main diagonal, which should ideally be greater than 0.5.

The results of the steps described below, as well as the reliability test and the detailed analysis of the variables.

4 RESULTS AND DISCUSSIONS

Despite the original intention of this research to address the issue of entrenchment in both privately held and publicly traded companies, it turned out that only 4.9% of the sample referred to managers of companies of the second type, so in order to ensure the relevance of the data, we decided to proceed only with the analysis of the responses of managers of privately held companies.

The sample, now consisting of 154 managers, thus had an average age of 46 years and an average working time of 11.6 years. Regarding gender, the ratio was 29.22% women to 70.78% men. Regarding the education level, it was found that most of the respondents, i.e., 53.25%, had a higher education degree, while the second most frequent among the education levels were specializations and Master of Business Administration (MBAs). The sample also included respondents with a doctorate and a master's degree, representing 14.94% of the total. As for the economic sector of the companies in which the respondents work, it was found that 49.35% were from industry, 30.52% were from commerce, and 20.13% were from the service sector, as shown in Table 3.

Table 3

Sample characterization

Variable	Options	Frequency	Percentage
Gender	Female	45	29.22%
	Male	109	70.78%
Education level	Elementary School	1	0.65%
	High School/Technical	0	0%
	Higher education	82	53.25%
	Specialization/MBA	48	31.17%
	Master's degree	16	10.39%
	Doctorate degree	7	4.55%
	Post-doctoral degree	0	0%
Economic Sector	Business	47	30.52%
	Industry	76	49.35%
	Service	31	20.13%

Finally, regarding the position of the respondents, 37.66% indicated that they are managing partner or financial manager of the company. Another 44.16% of the respondents indicated that they are in commercial, operational, or administrative management positions. The other variations of the positions indicated revolve around the same areas.

4.1 EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis was applied with varimax rotation so that the variation of factors was maximized. Principal component analysis (PCA) was considered as the extraction method, which examines the sample considering the total variance of the data. And to determine the number of factors, the Kaiser criterion was chosen, i.e., keeping factors with eigenvalues greater than 1.

Based on these parameters, the KMO statistic rated the sample as appropriate for the application of factor analysis with a value of 0.772. Bartlett's sphericity test yielded a χ^2 value of 978.062 with a significance of 0.00, indicating the relationship between the studied indicators. Subsequently, the analysis of the anti-image matrix showed that no variable had to be excluded, since the smallest value on the main diagonal was 0.601.

Once the adequacy of the factor analysis was established, this technique was applied to all variables, resulting in the formation of six components with eigenvalues greater than 1, as shown in Table 4.

Table 4

Total variance explained

Component	Initial eigenvalues			Extraction Sums of Squared Loadings		
	Total	% variance	cumulative %	Total	% variance	cumulative %
1	**4.516**	**21.504**	**21.504**	**3.984**	**18.970**	**18.970**
2	**3.364**	**16.019**	**37.523**	**2.925**	**13.930**	**32.900**
3	**1.502**	**7.150**	**44.673**	**1.032**	**4.916**	**37.816**
4	**1.213**	**5.774**	**50.447**	**.670**	**3.188**	**41.004**
5	**1.049**	**4.997**	**55.444**	**.544**	**2.589**	**43.594**
6	**1.018**	**4.849**	**60.293**	**.479**	**2.280**	**45.874**
17	.970	4.619	64.912			
8	.853	4.064	68.976			
9	.806	3.839	72.815			
10	.744	3.544	76.359			
11	.723	3.442	79.801			
12	.640	3.045	82.847			
13	.572	2.722	85.569			
14	.540	2.573	88.141			
15	.494	2.354	90.496			
16	.463	2.206	92.701			
17	.07	1.936	94.637			
18	.339	1.612	96.249			
19	.285	1.358	97.607			
20	.65	1.260	98.868			
21	.238	1.132	100.000			

The components in Table 4 account for 45.87% of the cumulative variance, with component 1 representing 18.97% and component 2 representing 13.93% of the total variance. Table 5 shows the composition of the components extracted from the analysis of variance using varimax rotation. It is important to highlight that component 1 was labeled as Decision Autonomy, component 2 was labeled as Power Hierarchy, component 3 was labeled as Monitoring and Pressure, component 4 was labeled as Freedom of Action, component 5 was labeled as Transparency in Control and Supervisory Functions, and finally component 6 was labeled as Nepotism in the Organization.

Table 5

Factor loadings of components

	Decision Autonomy **(Component 1)**	Power Hierarchies **(Component 2)**	Monitoring and pressure **(Component 3)**	Freedom of action **(Component 4)**	Transparency in control and supervisory functions **(Component 5)**	Nepotism in the organization **(Component 6)**
Autonomy6 - Investment projects proposed by management are always evaluated by the owner/shareholder and their results are closely monitored, as their assets must not take irrational risks at any time.	.789					
Autonomy5 - Investment projects must always be justified, as the company's resources cannot be used for projects without profitability.	.602					
Autonomy1 - The owner/shareholder has all the information they need, at any time, and there are no conflicts or gaps in the reports provided by management.	.583					
Autonomy3 - Management provides the owner/shareholder with all the information they need about contracts, investments or other types of financial decisions, as well as their justifications, always striving for transparency.	.510					
Autonomy2 - Investment decisions of the management are always evaluated in terms of risks and feasibility so as not to compromise the rights of the owner/shareholder.	.480					
Autonomy4 - The manager has privileged information to assist in decision making.	.430					
Hierarchy2 - Internal audits are kept without change in their composition for more than five years, as it is okay to keep the same auditors for several consecutive years.		.820				
Hierarchy4 - The owner/shareholder has a personal relationship with the manager.		.755				
Hirarchy1 - Most audits commissioned by the company are independent (external).		.744				
Hierarchy3 - The owner/shareholder prevents the inspection of management because it is their indication.		.506				

Hierarchy5 - The company rewards its managers for good results so that their wealth increases in line with that of the owners/shareholders.		.381				
The company has a Fiscal Council or Audit Committee and regularly hires external audits/consultancies.						
Monitoring3 - The company has an internal communication mechanism through which management provides the owner/shareholder and other interested parties with all information regarding contracts, investments, or other types of financial decisions, as well as their justifications, always striving for transparency.	.302		.673			
Monitoring2 - The company has a clearly defined hierarchy, with established and respected functions.	.410		.500			
Monitoring4 - Manager's Time in Office.			.401			
Monitoring1 - The company develops management control and supervisory practices.	.300		.357			
Freedom2 - The manager is free to make investments and take improvised measures, without consulting the owner/shareholder, in case something gets out of control, because flexibility is a crucial point for good management performance.				.725		
Freedom1 - Management has the freedom to make investments of great impact for the wealth of the owner/shareholder without consulting them.				.719		
Transparency2 - The control of the managerial decision making is solely by the owners/shareholders.					.624	
Transparency1 - The manager/CEO/director of the company does not accumulate functions with the control/inspection bodies.	.363				.416	
Nepotism1 - The members of the control body do not have a kinship relationship with the managers.						.738
Cronbach's alpha	**0.773**	**0.778**	**0.564**	**0.704**	**0.484**	**0.583**

When the components were submitted to the Cronbach reliability test, it was found that the "Monitoring and Pressure," "Transparency in Control and Supervisory Functions," and "Nepotism in the Organization" components had low reliability, so their respective variables were excluded. of the instrument to be validated in this work, and a new factor analysis was conducted with the others, as shown in Table 5. In the new analysis, again performed using SPSS software, the KMO value found also indicated the adequacy of the sample, with an indicator of 0.752, and Bartlett's sphericity test gave a $\chi 2$ value of 610.041 and a significance of 0.00.

The anti-image matrix further excluded the need to exclude variables. The smallest value on the main diagonal was 0.586 and the largest was 0.836. In view of this, factor analysis, when applied, yielded 3 eigenvalues greater than 1, as shown in Table 6.

Table 6

Total variance explained

Component	Initial eigenvalues			Extraction sums of squared loads		
	Total	% variance	cumulative %	Total	% variance	cumulative %
1	**3.227**	**24.824**	**24.824**	**2.733**	**21.024**	**21.024**
2	**2.911**	**22.394**	**47.219**	**2.400**	**18.458**	**39.481**
3	**1.305**	**10.041**	**57.260**	**.883**	**6.791**	**46.273**
4	.883	6.790	64.050			
5	.797	6.130	70.180			
6	.772	5.941	76.121			
17	.668	5.138	81.259			
8	.594	4.566	85.825			
9	.477	3.673	89.498			
10	.427	3.286	92.784			
11	.353	2.712	95.497			
12	.320	2.461	97.958			
13	.265	2.042	100.000			
14	.540	2.573	88.141			
15	.494	2.354	90.496			
16	.463	2.206	92.701			
17	.407	1.936	94.637			
18	.339	1.612	96.249			
19	.285	1.358	97.607			
20	.265	1.260	98.868			
21	.238	1.132	100.000			

For the 3 components selected according to their eigenvalues and responsible for 46.273% of the cumulative variance, the previous designations were retained, i.e., component 1 was designated as Decision Autonomy, component 2 as Power Hierarchies, and component 3 as Freedom of Action. Table 7 shows the factor loadings of the variables for each of the components.

Table 7

Factor loadings of components

	Decision Autonomy **(Component 1)**	Power Hierarchies **(Component 2)**	Freedom of Action **(Component 3)**
Autonomy6 - Investment projects proposed by management are always evaluated by the owner/shareholder and their results are closely monitored, as their assets must not take irrational risks at any time.	.771		
Autonomy5 - Investment projects must always be justified, as the company's resources cannot be used for projects without profitability.	.720		
Autonomy1 - The owner/shareholder has all the information they need, at any time, and there are no conflicts or gaps in the reports provided by management.	.659		

Autonomy3 - Management provides the owner/shareholder with all the information they need about contracts, investments or other types of financial decisions, as well as their justifications, always striving for transparency.	.595		
Autonomy2 - Investment decisions of the management are always evaluated in terms of risks and feasibility so as not to compromise the rights of the owner/shareholder.	.565		
Autonomy4 - The manager has privileged information to assist in decision making.	.389		
Hierarchy2 - Internal audits are kept without change in their composition for more than five years, as it is okay to keep the same auditors for several consecutive years.		.828	
Hierarchy4 - The owner/shareholder has a personal relationship with the manager.		.765	
Hierarchy1 - Most audits commissioned by the company are independent (external).		.714	
Hierarchy3 - The owner/shareholder prevents the inspection of management because it is their indication.		.494	
Hierarchy5 - The company rewards its managers for good results so that their wealth increases in line with that of the owners/shareholders.		.394	
Freedom2 - The manager is free to make investments and take improvised measures, without consulting the owner/shareholder, in case something gets out of control, because flexibility is a crucial point for good management performance.		.304	.719
Freedom1 - Management has the freedom to make investments of great impact for the wealth of the owner/shareholder without consulting them.			.719
Cronbach's alpha	**0.773**	**0.778**	**0.704**

Only one variable had a factor loading in two components, but the difference between the loadings was sufficient to consider it part of the freedom of action component. The components were therefore submitted to Cronbach's alpha test. The Decision Autonomy component had an alpha of 0.773, the Power Hierarchies component had an alpha of 0.778, and the Freedom of Action component had an alpha of 0.704, indicating the reliability and consistency of the instrument developed in this study.

The items in the Decision Autonomy component have as their object of investigation information asymmetry and the absence or presence of manager's monitoring of the use of company resources. In turn, the Decision Hierarchies component aims, through its variables, to verify the adoption of good corporate governance practices and the efficiency of control, since it examines the independence of the control bodies, etc. Finally, the elements of the freedom of action component focus on identifying the manager's freedom and autonomy over the company's resources.

Table 8 allows us to evaluate the correlation of the variables of component 1. On the diagonal line, the mean and standard deviation of each variable were arranged, and in the other cells, the correlations between the items of the component are found. All items had a standard deviation lower than the mean, indicating low dispersion of the variables. Most of the correlations between items were low or moderate, except for the correlation between the A utonomy5 and Autonomy6 items, which was stronger, which may indicate that managers have limited autonomy over investment security and that investment projects tend to be evaluated and closely monitored by controlling bodies. Only one correlation between items was significant at the 0.01 level, while the others were all significant at the 0.05 level.

Table 8

Correlation of the Decision Autonomy component

	Autonomy1	Autonomy2	Autonomy3	Autonomy4	Autonomy5	Autonomy6
Autonomy1	**7.4877 (2.1242)**					
Autonomy2	.329**	**7.7654 (2.1570)**				
Autonomy3	.415**	.283**	**7.5556 (2.0999)**			
Autonomy4	.390**	.190*	.207**	**6.7840 (2.6298)**		
Autonomy5	.451**	.472**	.430**	.247**	**7.4506 (2.1237)**	
Autonomy6	.459**	.474**	.432**	.272**	.509**	**7.7716 (2.0559)**

** Correlation is significant at the 0.01 level (2 ends). * The correlation is significant at the 0.05 level (2 ends).

Table 9, in turn, deals with the correlation between the items in Component 2 titled Power Hierarchies. Note that the standard deviations were also smaller than the means of the correlations between the items, so there is little dispersion. The significant correlation between the Hierarchy1 and Hierarchy2 items is highlighted in the table with an index of 0.618. The correlation between these items may indicate that while most of the audits commissioned by the organization are independent (external), the internal audits have remained unchanged in composition for many years, which is also not consistent with good corporate governance practice. In addition, the items Hierarchy2 and Hierarchy4 also showed considerable correlation, which could indicate a tendency toward personal interference in management control. The other correlations of Component 2 were moderate or low. In addition, the correlation between items was significant at the 0.01 level.

Table 9

Correlation of the Power Hierarchies component

	Hierarchy1	Hierarchy2	Hierarchy3	Hierarchy4	Hierarchy5
Hierarchy1	**4.5062 (3.0912)**				
Hierarchy2	.618**	**4.5308 (2.8939)**			
Hierarchy3	.383**	.361**	**4.6913 (2.9620)**		
Hierarchy4	.488**	.578**	.425**	**4.3950 (2.8182)**	
Hierarchy5	.307**	.388**	.218**	.255**	**5.0617 (3.0086)**

** Correlation is significant at the 0.01 level (2 ends).

Finally, Table 10 shows the result of the correlation between the two items of the freedom of action component, which has an index of 0.554. Since this index is only considerable and not high (Azevedo, 2020; Mombach, 2012), this correlation between the items of Component 3 can corroborate the correlation between the items of Component 1, showing that the manager does not have complete freedom to decide on the use of the company's resources in an improvised way and without consultation, especially when these investments have a great impact on the wealth of the owners.

Table 10

Correlation of the Freedom of Action component

	Freedom1	Freedom2
Freedom1	**6.0802 (3.0380)**	.554**
Freedom2	.554**	**5.7098 (2.8539)**

** Correlation is significant at the 0.01 level (2 ends).

4.2 DISCUSSION OF FACTORS

The instrument proposed in this study proved to be suitable to measure three characteristics of entrenchment reported in the literature. The exploratory factor analysis generated three components based on their variables aimed at identifying manager's decision autonomy, power hierarchies, and freedom of action in the use of the organization's financial resources. Entrenchment is related to the debt and leverage of the organization. A manager who is entrenched or intends to become entrenched makes decisions about the organization's

resources with the goal of maximizing their function, which is achieved by gradually ceasing to use mechanisms of control and corporate governance.

The autonomy and the freedom to decide on the use of the company's debt are expressions of the manager's power, indicating a high level of entrenchment. The first component has to do with the level at which the manager is monitored for the safety of his financial decisions. Therefore, Component 1 was constructed so that its variables examine the manager's autonomy to decide without being accountable to the owners, through reports and information on contracts, risks, and the feasibility of using organizational resources. Freedom of action, on the other hand, indicates the extent to which the manager is detached from planning to make improvisational decisions without consulting the owners of the resources. Thus, the variables in this component examined the rigidity of planning and monitoring to which the manager is subject. The literature points out that both autonomy and freedom of action can be used to entrench.

On the other hand, clearly defined power hierarchies indicate low levels of entrenchment because they subordinate management actions to the hierarchical level of the owners so that their interests are guaranteed. Thus, the variables of this component aimed to investigate the effectiveness of the separation between management and owners, since it verifies the independence of the control bodies and the efficiency of the mechanisms they use, such as audits. Thus, this study presented three reliable components that validated the measurement capacity of the proposed instrument.

5 CONCLUSIONS

The aim of this study was to develop and validate a scale to measure managers' entrenchment, which has its own characteristics in both its high and low expressions. To this end, a questionnaire was elaborated with statements developed based on the financial literature on entrenchment. After a literature review, the main characteristics of the high and low levels of entrenchment were collected. Then, the questionnaire was elaborated according to the Likert scale model and addressed to a sample of 154 managers.

Of the respondents, 70.78% were male. In terms of education level, the majority of the responding managers had higher education. In addition, 49.35% of the sample work in the industrial sector and most of them reported holding a management position in different areas, while 37.66% answered that they work in the position of managing partner.

In addition to collecting descriptive data about the respondents, the questionnaire attempted to investigate the level of entrenchment through statements about the characteristics of this factor. Therefore, the responses were submitted to an exploratory factor analysis and a reliability test, which validated the instrument for measuring entrenchment. As a result, three reliable components for measuring entrenchment were identified, namely: decision autonomy, power hierarchies, and freedom of action. Thus, this paper contributes to the financial literature by capturing the main characteristics of managerial entrenchment and providing an instrument for validating managerial entrenchment for studies in behavioral finance.

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