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RESEARCH ARTICLE

STRATEGIC MINDS, BIASED CHOICES: COGNITIVE REFLECTION AND RESOURCE ALLOCATION DECISIONS

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Abstract: The resource allocation decisions are the foundation of corporate strategies and are made by individuals susceptible to cognitive biases. Given that execution is potentially where strategic management fails, the research aims to investigate the relationship between the degree of cognitive reflection, indicative of a predisposition to employ heuristics, and decision biases under conditions of uncertainty in resource allocation. Employing an ex-post facto methodology, an online survey was conducted using convenience sampling, characterized by its non-probabilistic and unrestricted nature. The research focused on evaluating resource allocation decisions within a case featuring two distinct commitment levels. The individual's cognitive reflection level emerges as a significant factor contributing to decision biases, while the magnitude of resource commitment influences cognitive dedication and the decision-making process. Consequently, there exists a discernible risk of resource allocation decisions deviating from the formal strategy, particularly when decision-makers exhibit lower cognitive reflection levels or demonstrate a diminished commitment of resources. This study sheds light on the intricate dynamics of resource allocation shaping strategy and emphasizes the importance of cognitive considerations in fostering strategic alignment.

Keywords: Biases, Cognitive Reflection, Decision, Resource allocation, Strategy

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INTRODUCTION

The impacts of cognitive biases on individuals' decisions have been explored extensively in research in recent years, from financial to strategic decisions. For [1] the decision to allocate resources is the basis of corporate strategy. This strategy is purely consistency in resource allocation decisions, regardless of whether it is deliberate, intended, or conscious.

According to [2] it is not the formal strategy defined by top management that determines the strategy of a company, but rather the daily decisions of managers about where to commit resources. This decision is made using a limited rationality, which states that the rationality of individuals is influenced by the complexity of the environment and their cognitive limits, both of knowledge and computational capacity, which makes optimal decisions impossible [3],[4]. To deal with this limitation, individuals have developed devices called heuristics [5], which act by creating shortcuts that reduce the complexity of the analyses and that explain some systematic anomalies in decisions, called biases. The heuristics work most of the time quite appropriately, but if used out of context, they can generate biases in decisions (systematic errors) [6],[7].

The behavioral strategy, according to [8], focuses on strengthening the empirical integrity and practical usability of strategy theory, and does so by grounding strategic management in realistic assumptions about cognition, emotion, and social interaction. This branch of behavioral research has generated research in the last 30 years, however, the performance has still been

pulverized, with greater focus on decision making and strategic cognition, a subarea that involves the study of cognitive biases [9]. The relationship between the level of cognitive reflection of individuals and the decision to allocate resources in the face of a defined strategy has not yet been explored in the literature. Thus, the research question of the present study is: is there a relationship between the level of cognitive reflection of the individual with the biases in the decision of resource allocation, given a formal strategy?

Thus, this research evaluates whether the level of cognitive reflection of individuals can affect resource allocation decisions and consequently the execution of the strategy, in addition to assessing whether there is influence of the level of resources committed in this decision. An *ex-post-facto* methodology was used, evaluating the variable tendency to heuristics of individuals and two allocation decisions with different levels of committed resources.

The hypothetical corporate context was presented through an animated online case, as well as the two decisions related to the allocation of resources between two options, one focused on the short-term result and the other focused on the company's long-term strategy, in situations with distinct compromises between the options, with sufficient contextual data to emulate a real decision-making situation.

The results confirmed the hypothesis that the individuals presented biases in the decisions of resource allocation differently, according to their tendency to cognitive reflection. They additionally confirmed that different levels of resource commitment affect individuals with different tendencies to cognitive reflection differently. Possibly what would explain these differences would be different levels of cognitive dedication among people with more (less) tendency to the use of heuristics, and the level of commitment affects that dedication.

The findings are relevant to both academia and decision-making practice. For academia, the level of cognitive reflection of decision-makers can affect corporate strategies. These conclusions contribute to [4] and [2], and demonstrate that the paths defined by the resources allocation may not be aligned with the strategy intended by the company due to a tendency to the biases of the individuals who make these decisions.

In decision-making practice in the corporate environment, deviations do not seem to be worrisome when it comes to the most relevant decisions, because in addition to results with fewer biases, usually the processes involved in these decisions are much more mature and involve a certain level of governance, control and involvement of groups of individuals, which can reduce or eliminate biases.

When it comes to smaller resource allocation decisions, which are made daily to direct the use of resources and define what the priority activities are, there is a greater risk involved, as there has been a high level of bias that impacts all individuals, including the least susceptible individuals. In addition, these are the activities that have less governance and control, usually taken individually and with impact only to the resources under their management.

LITERATURE REVIEW

Strategy

The manager, according to [10], is guided by a continuous base that orders tactical actions, which he defined as interactive, short-lived and adaptable realignments that opposing forces use to achieve their goals. This ongoing foundation is the company's strategy. According to this author, this strategy can be seen as *a priori* statements to guide provisions or *a posteriori* results of a real decision-making behavior. Finally, [10] also states that strategy is consistency in behavior, whether this consistency is intended or not. Not having a defined strategy is also a strategy in practice.

In a broad way, strategic management consists of decisions and actions that ensure that the company thinks and acts in order to adapt to its environment [11]. The allocation of resources is the basis of the strategy of corporations [12]. In his view, strategy formulation can be either a conscious process before certain decisions are made or the strategy can be formed gradually, potentially even involuntarily, as decisions are made.

That is, the strategies can be intentional, such as a priori guidelines, or derived, such as consistency of a posteriori decision-making behavior. In short, it defines strategy as the pattern identified in a series of resource commitment decisions.

Along the same line of thinking, state that it is not the formal strategy defined by senior management that determines the path that will be taken, but rather the daily decisions of managers about where to commit the resources that define the company's real strategy [2]. In the authors' view, the realization of the strategy is in the hands of what he calls operational managers, who are responsible for making the resource allocation choices.

The belief in an extremely controlled top-down strategic process in all its steps almost never exists in large corporations, and in practice it is just the opposite. Thus, as strategy-derived initiatives are in a planning and unfolding process, decisions are simultaneously being made by operational managers. These managers are already acting with their decisions, in ways that make the initiatives feasible or impossible.

The perspective presented shows that in practice the commitment of resources is what defines the strategy, shaped step by step by the daily decisions in all hierarchical levels of resource allocation in: policies, programs, people and units [2].

In addition, strategy execution most often involves a trade-off between short-term and long-term views. [13] elucidate that in general "the main objective of private sector organizations is the promotion of sustainable growth of shareholder value." However, investments in intangible assets, to increase revenue in the long term, compete with cost reduction to achieve short-term financial goals, while improving short-term results can lead to the impracticability of long-term investments and, often, this exchange is imperceptible. The strategy must balance these forces towards sustainable growth in pursuit of the defined vision.

Thus, as the strategy emerges from resource allocation decisions, one of the constructs evaluated will be the bias in the allocation of resources defined by the decision-maker between two options, one more focused on the short-term result and the other more focused on the formal medium-term strategy.

Decision

As a result of Simon's extensive academic work, two concepts have been much discussed historically and have come to figure as important foundations of the decision-making process of individuals. The first is limited rationality, which premises that humans are rational, and so make their decisions. However, this rationality is impacted by the complexity of the environment and its cognitive limits, both of knowledge and computational capacity, which prevents them from making an optimal decision [4].

The individual does not try to understand the world as an integral system, but creates partial models and identifies patterns, reducing the volume and processing of information. These simplified models are called heuristics [4]. Heuristics are pre-established rules that help us make decisions throughout our lives, working most of the time in a very appropriate way, however, if used in inappropriate situations, they can lead to biases (systematic errors) [7].

On the other hand, argues that given that in the case of most decisions made that are supposed to be at risk are actually made under uncertainty and therefore there are no clear probabilities on which to lean, heuristics are indispensable and may even bring results superior to those obtained through rational decisions. The author states that this type of problem, whose possibilities of unfolding are limitless, cannot be solved by rational optimization [14].

The deepening of studies on limited rationality and the use of heuristics in decision making led to the development of the concept of Cognitive Reflection, a tendency of individuals to use heuristics in their decisions [15],[16]. Cognitive reflection is the willingness or individual ability to block the first impulsive response that the individual's mind presents and to activate the reflective mechanisms that allow him to find the answer, make a decision or have a certain behavior in a more thoughtful way [16].

Thus, the second construct evaluated will be the cognitive reflection of the decision-makers, that is, the tendency of these individuals to make decisions based on heuristics or in a more considered way. Research on the topic has led to the development of a tool to assess the tendency of individuals to use heuristics in their decisions. This test assesses how strong the monitoring of rationality is about the use of heuristics, that is, the cognitive reflexibility (or reflection) of the individual.

The test is known as the Cognitive Reflection Test (CRT) [16], and it is "a simple measure of a type of cognitive ability." According to the author, the test was applied to a sample of university students, and as a result he verified an inverse relationship with the temporal discount (respondents with lower CRT showed a preference for lower values in the short term than higher values later) and a positive relationship with bets with higher expected value. Other studies have shown that CRT is related to some typical heuristics and bias activity, as well as the ability of logical rationality (e.g.,[17],[18],[19]).

The results of these studies demonstrate that CRT is a powerful predictor of an individual's ability to make unbiased judgments and rational decisions in a wide variety of contexts [20]. The test comprises 3 questions with open answers and the lower the number of correct answers, the lower the supervision of the rational over the heuristics.

Some factors led to the need to increase the number of questions of the test [20], among them (i) the difficulty of the test, (ii) with more questions it is possible to expand the discrimination in the statistical analyses (with a CRT of 3 questions you have 4 levels - 0, 1, 2 and 3 correct answers, with more questions there would be more levels for the analysis) and (iii) given the great popularity of the test, there is a great possibility of finding in the sample individuals familiar with the questions, weakening the ability of the test to measure effective cognitive reflection.

Based on this, [20] proposed what they called the CRT-L or Cognitive Reflection Test - Long, with 3 additional questions, and in their study they reached a reliability (Cronbach's alpha) of 0.76 and a significant correlation with the results of the original CRT (with only 9% of the sample zeroing in the score).

The result of the test shows a tendency of supervision over impulsive decisions, however this supervision depends additionally on the complexity of the decision itself. Individuals dedicate weighted reasoning at a level equivalent to the complexity of the demand, leaving to the heuristics the least relevant decisions [2011]. Individuals tend to assign greater importance to decisions involving significant levels of commitment, impairment, or risk, resulting in more thorough consideration. Conversely, decisions characterized by lower levels of commitment, impairment, or risk may render individuals more susceptible to cognitive biases, as they may be approached with less scrutiny or cognitive effort.

The relationship between the biased constructs in resource allocation decisions and the cognitive reflection of the individual has not been explored in academia until now, and this relationship permeates the Behavioral Strategy field. The foundations of this field of research are the fruits of Simon's work on heuristics and biases in decision theory. This field focuses on strengthening the empirical integrity and practical usability of strategy theory, and does so by grounding strategic management in realistic assumptions about cognition, emotion, and social interaction [8].

The field of research has generated research in the last 30 years, however, the performance has still been pulverized, with greater focus on decision making and strategic cognition, a subarea that involves the study of cognitive biases [9]. Some research approaches the subject biases in resource allocation decisions [21], which presents some individual biases that can influence decisions (e.g. anchoring) and how to mitigate them in the resource allocation process.

The present research aims to empirically detect this relationship, starting from the hypothesis: is there a relationship between the level of cognitive reflection and the biases in resource allocation decisions, given a formal strategy?

METHODOLOGY

This research aims to establish if there is a relationship between the level of cognitive reflection of individuals and the execution of the strategy through the decision of resource allocation. In order to evidence the effect of the level of resources involved in the allocation decision, we will control this variable additionally, observing whether the level of resource commitment can influence decisions.

Thus, we used the ex post facto research [22] in which the variables that will be evaluated are the tendency to cognitive bias of individuals and their decision to allocate resources. The tendency to cognitive biases will be measured through the CRT-L, and the dependent variable will be measured through the distribution of resource allocation responses between two options, one focused on the short-term result and the other focused on the company's long-term strategy, in two situations with different resource commitments, after the presentation of a case in animation that illustrates a contextual corporate hypothetical situation. Given the objectives of this research, this study is classified as an applied and explanatory quantitative research.

This hypothetical scenario refers to a bank branch under the responsibility of the decision-maker whose role will be assumed by the test subjects. The decisions are two examples of deliberations taken by managers in companies: one of them of allocation of an employee between two activities, a choice that will favor the immediate result of the agency under the responsibility of the decision-maker or customer satisfaction, which is the strategic pillar of the bank for the medium term, without, however, having a representative commitment.

The second decision is a more complex deliberation, also establishing a dilemma between short-term results and medium-term customer satisfaction, but with a very high commitment, expressing a greater trade-off between the choices, with a great impact on both the bank and the decision-maker, and in both options there is a greater burden.

The aim is to provide sufficient contextual data for individuals to decide between options according to what they would do in their professional life, emulating a real decision-making situation. The case presented is an adapted abstract of "Citibank: Performance Evaluation" of Harvard Business School [23].

The contextual data presented are leadership characteristics of the executive hierarchically superior to the individual who makes the decision, about the medium and long-term strategy being strongly based on Customer Satisfaction, about the importance that the president of the bank attaches to this strategy, what are the characteristics of the customers, the market and the competition, about the bank's profitability in the segments in which it operates, about how the bank's service works, how the goals are defined and how the performance measurement of the executive and his bonus works.

The basic context showed the important role of customer satisfaction in the company's medium and long-term strategy, and that for the agency in question this indicator did not present a good result in the Scorecard adopted by the bank, in addition to presenting the client portfolio of the decision-maker's agency, composed mainly of premium customers.

The first decision was to allocate an assistant to receive the clients who came in person to the agency to give an initial direction, whose feeling of the decision-maker was that it would help to improve customer satisfaction, or as an alternative to allocate it in the sale of insurance to the customers who waited there, in effect to improve the penetration of selling an insurance and contribute to a goal of its hierarchical superior. A decision with a smaller trade-off between options and with a lower short-term commitment, regardless of the choice.

The second decision consisted of, given the excellent financial performance and low customer satisfaction of the agency until then, choosing between keeping the operation as it is, achieving most of the goals of the company's Scorecard, but failing with the most important goal for the long term (customer satisfaction) or frustrating the short-term goals in order to establish a clear path to success in customer satisfaction.

In addition to the impact on the result of the agency and the Scorecard, there would be a penalty in the payment of the bonus if the decision-maker opted for this second alternative. There was, therefore, a very large trade-off between the options, with impact on both, the company and the individual making the decision.

Thus, it was evaluated whether individuals with a greater tendency to cognitive biases (cognitive reflection) present biases in resource allocation decisions, and whether the level of resource commitment affects these biases.With the limitations imposed by the COVID-19 pandemic, the survey was conducted online, which on the one hand may weaken decision emulation in the business environment, but on the other hand it increased the number of respondents, improving the explanatory capacity of the analyses and reducing the risks of not being able to obtain sufficient sampling for generalization of the results.

The research instrument was made available online, and can be found in this link (in portuguese). An online pre-test was conducted with a group of 12 people in order to evaluate the time required for response, the length of the questionnaire and the clarity regarding the evaluations, especially of the case used. As it is impossible to use the entire universe of research and obtain a probabilistic sampling, in the study we used convenience sampling, non-probabilistic and unrestricted, and involved students, professional managers and non-managers.

RESULTS

The statistical tests that allow formulating hypotheses about qualitative characteristics of populations are the non-parametric ones. Unlike parametric tests, nonparametric tests do not require strong assumptions about the distribution of data, although they present comparatively less robust results. Because they are less efficient, they usually require larger samples or differences to reject the null hypothesis [24].

Pearson's $\chi 2$ test (chi-square) was used to compare the observed distributions with the expected distributions in each category, in order to evaluate statistical independence or not, evidencing the probability that the differences between the observed and expected distributions are obtained by chance [25].

As the research aims to understand a human behavior, within a business environment and with a limited sample, a significance level of 0.10 (a) was adopted as a reference for the validation of the hypotheses, given that in the behavioral sciences these events and relationships are much more uncertain [22].

The evaluated group was composed of 128 individuals, of which 59% were men. Based on the number of correct answers in the CRT-L test, used to measure cognitive reflection, the individuals were separated between two groups so that they have equivalent sizes, the first group was called "heuristic" and comprised individuals who hit up to 2 questions of the CRT-L test (0, 1 and 2 correct answers, Group1-H) and as the theory has a greater tendency to make decisions based on heuristics, and a second group called "rational", of individuals who answered 3 to 6 CRT-L questions correctly (3, 4, 5 and 6 correct answers, Group2-R), and who, according to the theory, tend to make more rational decisions in a more considered way.

The distribution between the amounts of correct answers was very different, some were left with few respondents. There is no theoretical basis to support the cutoff point adopted, the option was arbitrary in order to enable the balanced distribution between the two groups and subsequent tests.

Segregating the groups with a breakdown by gender, there is a balance between women and men in the heuristic group (52% and 48%), and a higher concentration of men in the rational group (69%). This imbalance was expected based on the research already conducted on the subject, which identified that men tend to perform better in the CRT (e.g. [16],[26],[27],[28],[29]).

The distribution of the age group of the respondents seems to represent that observed in leadership positions in companies, ensuring conclusions based on individuals with corporate experience and decision-making experience, bringing the research closer to the decisions observed in the reality where decisions are made and strategies executed, and consequently strengthening

the generalization of results (54% over 40 years). In the breakdown by age group between the groups, a fairly equitable distribution between heuristics and rationals is observed.

Managers and non-managers present themselves in adequate proportions in order to have a significant basis for the analyses of the present research (41% and 59%, respectively), guaranteeing both a group of significant managers, individuals responsible for the decisions of resource allocation in companies, and individuals without experience in this type of decision.

When the cut of managers and non-managers distributed in the cognitive reflection groups is evaluated, a higher concentration of non-managers in the heuristic group and a higher concentration of managers in the rational group is observed. This distribution is mainly due to the proportions of men and women in each group and the relationship mentioned above.

The allocation decision would take place between two options, customer satisfaction and the short-term result in two different situations, one without relevant commitment, that is, with a small trade-off effect between the consequences of the two alternatives, and a second decision with a representative commitment, with a large trade-off effect between the consequences of the two alternatives, show significant differences.

For the statistical test of this signaling, as there are no previous studies on the subject and the case had the objective of generating ambiguity for decision making, a priori it was assumed that the distribution of the responding individuals of both groups should be 50% for Customer Satisfaction and 50% for the Result, as the two-dimensional analysis adopted by [6] in their research. To assess whether there is a statistical difference between the distributions of respondents in the heuristic and rational groups compared to the expected, Pearson's $\chi 2$ test (chi-square) was used.

Table 1: Analytical summary - cognitive reflection

Decision Type		Observed Distribution		Expected Distribution			
		Result	**Satisfaction**	**Result**	**Satisfaction**	**Signifi-cance**	Hypothesis
Low Commitment	Group1-H	24 37,5%	40 62,5%	32 50,0%	32 50,0%	**0,046**	Confirmed (heuristic group varied significantly)
	Group2-R	27 42,2%	37 57,8%	32 50,0%	32 50,0%	**0,211**	
High Commitment	Group1-H	37 57,8%	27 42,2%	32 50,0%	32 50,0%	**0,211**	Not confirmed (no significant difference in groups)
	Group2-R	34 53,1%	30 46,9%	32 50,0%	32 50,0%	**0,617**	

Respondents' distribution in low (high) commitment decisions. 1-H is the heuristic group, more inclined to use heuristics and 2-R is the rational group, more inclined to rational decisions. The number of respondents and the percentage are presented.

The results show that there is a tendency in the decision to allocate resources between short and long term (without evaluating the chosen option) derived from cognitive biases, for decisions with low commitment of resources (burden). While the rational group presented p-value with which one cannot rule out a 50%/50% distribution between the responses to a significance of 10%, the heuristic group presented a different distribution than expected with statistical significance. In the case of the decision with the highest commitment of resources, a difference between the groups was verified, but it did not present significance, that is, it is not possible to refute the hypothesis that this difference was generated by chance.

In addition, p-values higher in the decision with greater commitment for the same group (0.211 and 0617 are higher than the p-values of the decision with less commitment, in each group) indicate that there was a reduction in biases, statistically proven in Table 1. This significant difference is probably due to a greater cognitive dedication and weighting of individuals when a greater commitment of resources is being evaluated, while a lower commitment leaves individuals more exposed to biases.

Tabel 2: Analytical summary – commitment level

Decision Type		Low commitment		High commitment			
		Result	**Satisfaction**	**Result**	**Satisfaction**	**Signifi-cance**	Hypothesis
Low x High Comm.	Group1-H	24 37,5%	40 62,5%	37 57,8%	27 42,2%	**<0,01**	Confirmed (biases were different)
	Grupo2-R	27 42,2%	37 57,8%	34 53,1%	20 46,9%	**0,08**	

Respondents' distribution in low and high commitment decisions comparison. 1-H is the heuristic group, more inclined to use heuristics and 2-R is the rational group, more inclined to rational decisions. Are presented the number of respondents and the percentage.

DISCUSSION

A company's strategy is not one discussed in the boardrooms or boardroom, but one established by the standard of managers' decisions about where to commit resources, even if involuntarily or unconsciously. Individuals' decisions are impacted by heuristics and biases arising from their use. Cognitive Reflection is a measure that determines an individual's ability to control a response or decision based on heuristics. The relationship between these two variables can lead to biases in resource allocation decisions, not yet explored in academia until then. This research aims to empirically present the effect of this relationship, based on the hypothesis: is there a relationship between the level of cognitive reflection and biases in resource allocation decisions, given a formal strategy?

The results begin by demonstrating that both different levels of cognitive reflection and resource commitment can influence the levels of biases in decisions, generating greater bias when there is less commitment of resources, and reducing this bias in decisions with greater commitment of resources. The decision with the lowest commitment was made by most individuals in both groups in a less weighted manner, signaling a bias even for the group classified as rational (lower than that observed in the heuristic group, but without significance). The decision with the highest commitment in turn was made by the majority of individuals with a higher weighting, balancing the distribution between the two options, including for the heuristic group.

The two main conclusions are: i) there is bias according to the level of cognitive reflection of the decision-maker, and ii) the level of impairment of decision resources mobilizes cognitive resources and leads even the most heuristic individuals to make more considered decisions, bringing the decision closer to that of the rational group. Strategy execution can be impacted by managers' tendency to cognitive biases, and the practical implications of these results for decisions made and strategies adopted are significant.

Decision-makers with different tendencies to cognitive reflection presented biases that may have intensity that impacts their decisions and consequently the path to the realization of the company's strategy. Possibly cognition, being a limited processing capacity, is left dormant when the decision has less impairment, using much more heuristic reasoning for the decision and, consequently, being more exposed to biases, and when the decision is more relevant, this cognition capacity is more fully utilized, reducing exposure to the same biases. This ability seemed to be more limited in individuals with less cognitive reflection, generating greater biases even in decisions with greater impacts.

The findings are very relevant to both academia and the corporate environment. In the corporate environment the deviations do not seem to be worrisome when the subject is the most relevant decisions, because in addition to results with biases without statistical significance, usually the processes involved in these decisions are much more mature and involve a certain level of governance, collegiate / committees, which can eliminate biases.

When the subject is smaller decisions of resource allocation, which are taken daily to direct the use of resources and define what are the priority activities, there is a greater risk involved, because there was a higher level of biases. In addition, these are the activities of managers who have less

governance and control, usually taken individually and with impact only to their teams and resources under their management.

For academia, it was evidenced that lower cognitive reflection and, consequently, greater exposure to cognitive biases can affect corporate strategies through the biases generated in resource allocation decisions, confirming the findings of [16], [15] and [7] on cognitive reflection, and the relationship between demand complexity and the use of greater cognitive dedication.

These conclusions contribute to [1] and to [2] in order to show that the paths defined by the allocation of resources may not be aligned with the strategy intended by the company as a result of resource allocation decisions, which may be influenced by the biases of the individuals who make these decisions.
It is important to mitigate this risk by implementing structured decision-making processes, with decision support tools and clear policies. Transparency, systemic vision and clarity in the definition of truly strategic indicators will help decision-makers to see the cross-impacts, leading them to devote greater cognitive effort to decisions with greater systemic consequences. The result also dialogues with the work of [21], empirically demonstrating the effect of biases on individuals' resource allocation decisions, and expanding the importance of the levers presented by the authors for the establishment of a strategic decision process.

LIMITATIONS AND FINAL CONSIDERATIONS

The objective of this study was not to evaluate in which way would be the biases in the decisions (short term or medium term), an item that can be considered in future research involving the theme. Furthermore, it is crucial to note that the observed results may suggest a correlation between variables rather than a causal relationship. The distribution of respondents' decisions, delineated between short-term outcomes and medium-term strategies for both decision scenarios, did not follow a linear trend relative to the number of correct answers in the test. This trend, if existent, may become more apparent with larger sample sizes. Consideration should be given to the sample size when extrapolating the findings to a broader population.

Future research could use trend scales as to preference for the short-term or long-term option, deepening relationships. Despite configuring a practical impossibility in the real world, this graduation would bring more data to deepen any gaps in the current research and relationships not yet identified. A company's strategy is not inherently formalized but emerges organically from the cumulative decisions of its managers regarding resource allocations, even if done subconsciously. The discernible pattern is influenced by the individual's level of cognitive reflection and is contingent upon the cognitive dedication to the decision-making process, a variable that, in the present research, varied in accordance with the magnitude of resource commitment in the decision.

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