Business Decision-making in Finance: Epistemological and Paradigmatic Aspects

A Tomada de Decisão Empresarial em Finanças: Aspectos Epistemológicos e Paradigmáticos

Matheus da Costa Gomes
Mauricio Ribeiro do Valle

ABSTRACT

This teaching case provides the possibility for discussion on epistemological and paradigmatic issues in finance. It deals mainly with the cognitive, social, and emotional influences observed on the decision making of individuals - Behavioral Finance's study field. This fictitious case exemplifies how a manager's beliefs, emotions, and feelings can influence his decisions and, consequently, impact his business' performance. Initially, Mr. Batista's success story is presented and serves to elucidate what comes after that: a literature review involving financial decision making, issues for reflection, discussion, and concluding remarks. In submitting contemporary aspects of the paradigmatic debate on finance and providing enlightening ideas and theoretical basis for researchers, students and other individuals interested in academic research and practical issues in the area, this teaching case contributes to the critical sense formation and development of finance professionals, researchers, graduate students, and advanced undergraduate students.

Keywords: Epistemology. Paradigm. Behavioral Finance. Corporate Finance. Financial Decision Making.

RESUMO

Este caso de ensino fornece a possibilidade de discussão sobre questões epistemológicas e paradigmáticas em Finanças, sobretudo quanto às influências cognitivas, sociais e emocionais observadas sobre a tomada de decisão dos indivíduos – campo de estudo das Finanças Comportamentais. O presente caso fictício exemplifica como as crenças, emoções e sentimentos do gestor podem influenciar suas decisões e, consequentemente, impactar o desempenho de seu negócio. Inicialmente, o caso de sucesso do Sr. Batista é apresentado e serve para elucidar o que vem depois dele: revisão da literatura envolvendo a tomada de decisão financeira, questões para reflexão, discussão e considerações finais. Ao apresentar aspectos contemporâneos da discussão paradigmática em Finanças e ao fornecer de forma elucidativa ideias e base teórica para pesquisadores, alunos e demais indivíduos interessados

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Matheus da Costa Gomes
matheusgomes@usp.br
Master in Controllership and Accounting - University of São Paulo
Mestre em Controladoria e Contabilidade - Universidade de São Paulo
Universidade de São Paulo
Ribeirão Preto/SP - Brazil

Mauricio Ribeiro do Valle
marvalle@usp.br
Full Professor - FEARP - University of São Paulo
Livre docente da FEARP - Universidade de São Paulo
Universidade de São Paulo
Ribeirão Preto/SP - Brazill

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RESUMO

na investigação teórica e prática de assuntos da área, este caso de ensino contribui com a formação e o desenvolvimento de senso crítico de profissionais de finanças, pesquisadores, estudantes de pós-graduação e estudantes de graduação em nível avançado.

Palavras-chave: Epistemologia. Paradigma. Finanças Comportamentais. Finanças Corporativas. Tomada de Decisão Financeira.

Introduction

The theories labeled as traditional corporate finance are those that derive from the principle of maximizing the company's value (ARDALAN, 2017). For them, companies always seek profit through a cost-benefit analysis, and the *homo economicus* represent the individual - a rational utility maximizer decision-maker (ARDALAN, 2008; BURRELL; MORGAN, 1979). In contrast, financial decision-makers acting on the assumptions of behavioral finance are not all time wealth maximizing individuals, and some of their decisions may be considered *ex-post* as unreasonable (THALER, 2018; ÁVILA et al., 2016; BAKER; RICCIARDI, 2014).

There are several situations in the complex world of financial decision making in which it is necessary to seek explanations out of the ordinary or non-rational from the traditional corporate finance point of view. These situations may have answers in the agents' economic decision-making behavior. For example, why would a manager fail to raise funds that would be used to invest in projects with a positive net present value? The answer is that the manager may be influenced by your willingness to take risks, which, in turn, translates into taking more or less debt, or even the investment projects can be underestimated due to loss aversion or the manager's lack of confidence.

The truth is that behavioral biases influence the managers' financial decisions (MALAQUIAS; MAMEDE, 2015; ROSTAMI; DEHAGHANI, 2015), and behavioral economics theories have provided many alternative explanations to traditional methods of corporate finance. Even though those have not reached the same level of development of the latter, the approaches that consider the individual a multifaceted being in a dynamic and complex environment are positive and have brought new ideas and contributions for Finance. In Brazil, the theme has gained relevance and has been presenting an average growth of 20% per year of publications in national journals (SILVA; SANTOS; PEREIRA, 2018). Therefore, it is essential to present and differentiate these two approaches, making a critical comparison between them.

The general objective of this teaching case is to provide the possibility of discussion on epistemological and paradigmatic issues in finance, especially regarding the cognitive, social, and emotional influences observed on the individuals' decision making (the field of behavioral finance study). The case has an educational objective to promote reflections about the complexity of the financial decision-making process in the business context. This fictitious case exemplifies how a manager's beliefs, emotions, and feelings can influence his decisions and, consequently, impact his business performance.

By presenting contemporary aspects of the paradigmatic discussion in Finance and by providing elucidating ideas and theoretical basis for researchers and other individuals interested in the theoretical and practical investigation of subject matters, this case should be used in Finance disciplines in undergraduate and graduate courses. This teaching case contributes to the critical sense formation and development of finance professionals, researchers, graduate students, and undergraduate students who have the repertoire, or training based on epistemology or science philosophy.

Within a learning process, the use of this teaching case should be accompanied by a literature review involving decision making in finance. The successful case of Mr. Batista serves to elucidate what comes after that: literature review, questions for reflection, discussion, and closing remarks.

The Successful Case of Mr. Batista

With the advance of industrialization and the concerns about job security, at a time when there were a high number of accidents in factories, the hitherto worker in one manufacturing line for heavy products began to make his shoes to work. From a small backyard factory, Mr. Batista went on to produce better shoes than he used to work to endure the arduous workday.

Mr. Batista was knowledgeable about shoemaking that he had learned from his paternal grandfather, and through the leather of his parents' farm, he designed and made a very sturdy iron- toed shoe for his use. The boss of Mr. Batista, tired of absences of injured workers, mainly because of the frequent fall of products on their legs and feet, one day noticed Mr. Batista's shoes and asked that he make him a pair. After testing the quality of the new shoes, sturdy and straightforward, the boss convinced Mr. Batista to sew 500 pairs for the entire factory. Then Mr. Batista decided to leave work at the factory to devote himself entirely to making shoes.

Mr. Batista discovered unconditional love, making shoes gave him greater satisfaction than his old job. Mr. Batista felt like a child, the art of preparing leather, cutting, sewing, and framing, to glimpse new shoes in the end, gave him unparalleled satisfaction.

At first, Mr. Batista's enterprise was like a family business: mom, dad, and siblings all helped Mr. Batista. However, over time, Mr. Batista began to receive more and more orders, and this began to suffocate him, leaving him stressed. He hired people and began to delegate some functions. However, Mr. Batista made sure to monitor negotiations with suppliers and customers closely. He liked to bring technological news to the business: from steel razors, he switched to laser cutting. In the assembly industry, he was rigorous to the extreme, no leather, sole, and heels would go by if they weren't perfect. Quality was a hallmark of Mr. Batista, and his brand-new line of shoes was a hit: more casual for everyday life.

With the business growth, there was an increase in the company's formal obligations - legal person - and of course, of Mr. Batista himself. He was not very fond of these things and, therefore, hired professional specialists for it. Pressured to open his company's capital on the stock exchange, to capture resources to expand its sales in Brazil and perhaps to other countries, wary Mr. Batista traded shares on the stock. However, without losing control, he kept most of the actions under his power. Soon, Mr. Batista realized that he did the wrong thing, the decision of opening capital caused him to spend more time signing papers and fulfilling formalities than working with shoes, there were meetings, opinions, and suggestions of all parts. In less than a year, Mr. Batista bought all the shares that were on the market for three times the initial price, became again the sole owner of what he called "MY PASSION!"

Indeed, Mr. Batista always believed in his intuitions more than the analysts/consultants he hired. They once came to him with talk of "maximizing company value." The only thing he wanted to make the most of was his satisfaction with his shoes. For the market analysts, Mr. Batista should always seek to make the most profit possible, but that was not the case. Once a North American bank offered to Mr. Batista a line of credit with lower interest rates than those usually charged in his country. He did not accept because he was suspicious of these "foreigners" and because he was an old customer of the Bank W, where the same manager had been with him for decades. Mr. Batista placed a higher value on trust than on cost-benefit analysis.

Some people closest to him said that Mr. Batista did not accept his limitations and followed unreliable sources in the decision-making process rather than gathering accurate information, which undermined his business performance. The fact is that Mr. Batista's decisions were centralized; he rarely went back for a decision. He believed in his products, had long and faithful customers, liked to relate with his key suppliers, had many friends among his employees because he spent most of the time in the workplace. His products had quality and low prices, and the company had high bargaining power. When a strong competitor entered the market, Mr. Batista was afraid of having to close, but not because he had lost a significant market share, but because he noticed that his shoes needed to be improved. That's when Mr. Batista worked the hardest, getting up to 20 hours a day at the factory. At this time, launched new products, and had remained competitive, remained happy.

His company has already received several purchase proposals. One has reached six times the value expected by market experts. Mr. Batista would not sell even for a hundred times more, there was no Mr. Batista without a company, and there would be no company without Mr. Batista. No one knew more about it than he did, if anyone wanted to understand his business better, it would be best to have a 10-minute conversation with Mr. Batista than weeks to analyze the company's financial statements. Mr. Batista did not work on Saturdays; it was a belief thing/religion. Once, he stopped trading a lot of shoes for export because the other trading party only had the Saturday for it, and in addition to being Saturday, it was also his birthday. Mr. Batista never would take any critical decision that date, even more, that, according to him, if fate would have it, it was not meant to be.

The company of Mr. Batista is here today, is one of the most successful shoe industries, and serves as a benchmark for other companies. Mr. Batista never went to college. The part of the financial statements he likes best is the one that tells the company's story and leaves a message for readers. Mr. Batista does not think long term, much less rest, despite his old age, and things will stay that way for as long as he lives.

Decision-Making in Finance: Epistemological and Paradigmatic Aspects

Epistemology is the study of knowledge that deals with the nature, extent, and construction of knowledge. The paradigm consists of philosophical choices concerning the nature of reality (ontology), the development of knowledge (epistemology), human nature, and the methodology (BURRELL; MORGAN, 1979). In other words, a paradigm represents the set of choices or pattern to be followed by a particular science (epistemology). To better understand these concepts, Table 1 shows the dimensions of social science's nature assumptions (ontology, epistemology, human nature, and methodology). These dimensions are under two distinct approaches: subjective and objective.

For Burrell and Morgan (1979), ontology on the subjective side is nominalism, where the reality is centered on the individual, with a predominance of emotions and abstractions. That is, the truth is the fruit of people's imagination. In the objective side of the ontological field, realism assumes an existence external to the individual, in a concrete and invariable world.

Table 1 also shows that, regarding the epistemological dimension, knowledge can be relative and therefore not measurable (anti-positivism), or scientific, which can be verified and measured (positivism). In the subjective assessment of human nature, individuals have free will (voluntarism), while in the objective assessment, they are determined by the environment in which they are inserted (determinism). The dimension of the subjective methodology, ideographic, characterized by the domain of individual's perceptions, whereas in objective view nomothetic, it is made the use of the operationalization and measurement construction, in addition to the quantitative analysis.

Table 1 Dimensions of the social sciences' nature assumptions.

Subjective approach to the social sciences	Subjective/ objective dimensions	Objective approach to the social sciences
Nominalism: reality is interpreted centered on the individual, being socially constructed.	Ontology	**Realism:** Reality is external to the individual, it is "given".
Anti-positivism: knowledge is relative. Researchers focus on the meaning and examine the whole of a situation.	Epistemology	**Positivism:** Scientific knowledge is the truest. Researchers focus on empirical evidence, looking for fundamental laws and causal relationships.
Voluntarism: Human beings have free will and have autonomy to make decisions: free will.	Human Nature	**Determinism:** Human beings are products of their environments.
Ideographic: The understanding of the world is made through perceptions and according to a situation or a phenomenon.	Methodology	**Nomothetic:** The understanding of the world is made through the operationalization and construction of measures that, along with quantitative analysis techniques, seek to discover universal laws that explain reality.

Source: Adapted from Burrell and Morgan (1979).

Before the first half of the twentieth century, there were researchers and "practical" practitioners who were based on the experiences of the day to day to shape decision making to managers and investors. However, the results and the experiences described by them were not treated as universally applicable, allowing for the classification of the approach at this time as a positivist, in an attempt to explain why things are as they are, but the results and conclusions with low power of generalization (MRAMOR; LONÈARSKI, 2002).

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At that time, researchers built classes of financial decision-making rules. The main rule at the time, which remains to the present day, is the eventual purchase of undervalued assets and, consequently, the sale of overvalued assets, to obtain gains. In this case, the challenge is to know when there are undervaluation and overvaluation of assets in the market. The pursuit of profit outweighs any other goal.

There was a conviction that companies had some "normal" debt capacity, which would lead to a reduction in the average capital cost based on the company's characteristics (ARDALAN, 2017). However, this capacity for indebtedness could not be determined, and, if it existed, it was based on the experiences and feelings of the company's internal managers. No rational and universally applicable behavior was assumed, the approach was positive, based on "golden rules" limited to the environment and time back then (MRAMOR; LONÈARSKI, 2002).

Before the 1950 decade, the vast majority of finance on research was descriptive and with a limited institutional environment. Beginning in the 1950s and 1960s, *homo economicus*, the rational utility maximizer, became the focus of propositions for how humans make decisions, dominating finance studies. For example, Markowitz (1952) and the portfolio theory; Modigliani and Miller (1958) and their assumptions of the irrelevance of capital structure and dividend policy; Sharpe (1964) and the Capital Asset Pricing Model (CAPM); and Black and Scholes (1973) and the option pricing model. In the case of Corporate Finance, the study by Modigliani and Miller (1958) represents the paradigm shift in finance according to McGoun (1992, p.166-167); in addition to the influential works of Markowitz (1952), Kendall (1953), Sharpe (1964) and Fama (1965) that propelled this change.

Table 2 presents the sociological paradigms according to the model proposed by Burrell and Morgan (1979). The model is a diagram with four paradigms: radical humanist, radical structuralist, interpretative, and functionalist. The dimensions here are two, sociology of radical change and sociology of regulation, that contrast between subjective and objective approaches. Ardalan (2008) considers that the research in finance went from an interpretative to a functionalist paradigm. In the currently dominant (functionalist) paradigm, the financial world is a place of concrete reality, and the human being plays a passive role in which his behavior is the result of the environment in which he is inserted (BURRELL; MORGAN, 1979).

Table 2 Diagram of sociological paradigms.

	Sociology of radical change		
	A concern about problems of change, conflict and coercion in social structures, emphasizing division, hostility, dissent and disintegration.		
Subjective	Radical humanist	Radical structuralist	**Objective**
	Interpretative	Functionalist	
	Social balance emphasizing commitment, cohesion, solidarity, consensus, reciprocity, cooperation, integration, stability and persistence.		
	Sociology of regulation		

Source: Adapted from Burrell and Morgan (1979).

The central argument of the entire theoretical framework of Modern Finance Theory was built on the assumption that individuals are rational beings within a functionalist approach. However, with so many anomalies and financial crises going on, researchers and experts have begun to wonder about the validity of this economic assumption (ZANALDA, 2015; ARDALAN, 2008; KAHNEMAN; TVERSKY, 1979). Are the hypotheses and assumptions utilized for so long are contained in reality? Bringing finances ever closer to a reality not separated from the individuals' minds seems to be a big challenge.

Postmodernity critique in finance accuses academic research of being too performative, with great potential to alter its study objects (ARDALAN, 2017; ARDALAN, 2008). The search for more realistic assumptions has been presented in research that recognizes the human being not only as a mechanical wealth maximizer but as a much more complex individual. In addition to the academic world, non-specialists and finance professionals, who seem to believe that rationality is an excellent way to describe individuals, societies, and markets, feel different when they are challenged with specific questions about people and institutions they are well aware. That is, in practice, the theory tends not to work (ARDALAN, 2017; BAKER; RICCIARDI, 2014; BAKER; WURGLER, 2002).

In the 1970s, an alternative, less functionalist, and linear paradigm emerged by criticizing unlimited rationality and incorporating behavioral aspects into financing and investment decisions. The so-called "behavioral finance" proposes a rapprochement of the area with the interpretative paradigm. Behavioral finance emerged with the growth of experimental psychological studies in economic and financial contexts. From these studies, the central argument regarding investor rationality was questioned and, consequently, the dominant paradigm models, based on *homo economicus* and rational utility maximizer, were further refined.

The foundations of behavioral finance are centered decisively on the work of two Israeli psychologists and researchers: Amos Tversky and Daniel Kahneman (1974; 1979). Although not an economist, Daniel Kahneman was congratulated with The Prize in Economic Sciences in 2002, the Nobel Prize. Most recently, in 2017, researcher and economist Richard Thaler also won the Nobel Prize in Economics for contributions to behavioral finance. For Thaler (2018), limited rationality, social preferences, and lack of self-control affect individuals' financing and investment decisions, as well as market outcomes.

For behavioral finance, the rational individual makes his decision reasonably following his computational capacity and available knowledge (ARDALAN, 2017; PONDÉ, 2014). In this context of limited rationality, there is a complex environment about the individual's mental capacity, where beliefs and preferences limit purely rational decisions: biases, pocket rules, loss aversion, mental accounting (THA LER, 2018; KAHNEMAN; TVERSKY, 1979). Thus, it is not possible to consider all alternatives, let alone all the consequences of a decision. Table 3 presents some behavioral biases that may alter individuals' perceptions and, consequently, influence their decisions.

Table 3 Behavioral biases that may change individuals' perceptions

Benchmarks and loss aversion
Endowment effect: You overvalue an asset you already own, compared to another that you don't already own.
Status quo bias: the possible loss is perceived more than the potential gain concerning the current situation.
House money effect: New rich people are not risk-averse.
Overconfidence
Excessive confidence in the accuracy of inside information.
Illusion of knowledge: increasing trust from partial information.
Illusion of control: unfounded belief in the ability to influence events.
Statistical erros
Gambler's fallacy: the need to observe patterns when in reality they do not exist.
Very rare events have their probabilities calculated very erroneously (both up and down).
Ellsberg's paradox: differences in understanding risk and uncertainty.
Extrapolation bias: Failure to correct regression for mean and sample size.
Excessive weight attributed to past experience over large sample statistics.
Overreaction: Excessive weight attributed to recent events.
Fail in the probability adjustment.
Other behavioral biases
“Magical” thinking: belief in the ability to be able to influence results when it is not possible.
Dynamic inconsistency: negative discount rates, debt aversion.
Selective perception and herd effect.
Insufficient self-control.
Familiarity bias: tendency to invest in nearby and known assets.
Easy recall of certain events.
Cognitive dissonance and minimization of regret (confirmation trap).
Effect of disjunction: Waiting for new information even when it is not important for the decision making.
Anchoring and framing biases.
Tendency to gamble and take unnecessary risks in some situations.
Mental accounting and compartmentalization.

Source: Adapted from Rubinstein (2001)

The behavioral approach in finance appears in two strands. The first is based on the more formal behavioral economics developed by Kahneman and Tversky (1979), and the second refers to studies already in the corporate area. For example, in the context of corporate finance, Baker and Wurgler (2002) assume temporary investors' irrationality in the construction of the market timing theory, much due to the optimism created by them on financial decisions and the company's new information. On the managers' side, the high expectation and pressure from the business environment can make them act irrationally (KRIEGER; ANG, 2013; ZHANG; GIMENO, 2016).

In Brazil, despite the sharp growth of research on the subject in recent years, the vast majority is still focused on replicating seminal studies such as Kahneman and Tversky (1979) with university students (BARRETO; MACEDO; ALVES, 2013; MARTINS et al., 2015; TORGA et al., 2018). However, some studies analyze cognitive and heuristic biases in the decision making of economic agents such as managers and investors (YOSHINAGA; RAMALHO, 2014; AGUIAR et al. 2016; SILVA et al., 2017). The results support the evidence that their behavioral bias influences individuals in the decision-making process.

Behavioral finance can fill essential gaps in business finance. Because there are corporate strategies that exploit behavioral biases, from trading to long-term bond issuance, the union of these views provides a better understanding of some seemingly non-rational actions of economic agents such as managers and investors. Since there are these cognitive biases, disciplined officers can develop ways to avoid making damaging behaviors, or between managers who do not have enough self-knowledge to prevent them, it is up for their superior responsibility to intervene and restrict the decisions of those.

For students, researchers, and other individuals interested in theoretical and practical research in finance is essential to know that these two approaches were not born from the same paradigmatic nest. Their postulates and epistemological processes are different, which does not mean that they do not interact; on the contrary, one has much to contribute to the other and vice versa.

Teaching Notes

CASE SUMMARY

When Mr. Batista made his first shoe, he could not imagine that years later, his confections would be national references. The need to have more sturdy footwear to endure the workday joined the passion for producing their own shoes. Mr. Batista decided to undertake a business and, thus, has started his company. However, with the business' growth and the increased complexity, making business began to demand more and more of its owner. The present case shows how Mr. Batista's beliefs, emotions, and feelings influenced his decisions and, consequently, led to the success of his company.

EDUCATIONAL OBJECTIVES

The case has an educational objective to promote reflections on the complexity of the financial decision-making process in the business context, taking into account the cognitive, social, and emotional influences observed on the decision making. Also, this teaching case provides the possibility of a discussion on epistemological and paradigmatic issues.

PEDAGOGICAL ASPECTS

We developed this case for application in undergraduate and postgraduate courses in Management, Financial Management, Administration, Accounting, Economics, and other classes with disciplines in the area of Finance. The case is targeted at researchers, graduate students, and advanced undergraduate students. The narrative of the present case is fictitious; however, we draw on our academic and professional experiences for its construction. As it is an important subject within the process of knowledge in Finance, we applied the case in the classroom before its publication, and the results were positive.

The professor making use of this case may find it necessary to adapt it to achieve some specific goal. Due to the type of education or class size, we suggested the following: (a) individual reading and analysis by students (30 minutes); (b) analysis and discussion of students in small groups or individually, orchestrated by the professor (40 minutes); and, (c) closing of the discussion by the professor, in which the case is analyzed making connection with the literature and weaving the final considerations (30 minutes).

In order to further stimulate debate in the classroom, the professor can ask the students if they know or have heard managers alike with Mr. Batista, with issues related to the complexity of the decision-making process in a business context. The students probably have already come across people who resemble the individual of the case, either in the workplace, through friendships (some fellow family business manager), or even the media. When students are asked specific questions about people and institutions they know well, even those who believe that *homo economicus* defines individuals and today's society, feel the something itch as they bump into a more complex reality.

For students who want to deepen these issues, the references found at the end of this document provide a great reading. If the professor prefers, he can ask for the preview reading of one of them, such as the work of Ardalan (2008) or Simon (2013).

Discussion Questions

This teaching case proposes five questions for discussion. However, other questions may be formulated by the professor or arise during the reading of the case by the participants. The questions address the objectives of the teaching case. They can be answered based on the information presented in it, as well as underlying questions that make the connection with the literature. We suggest that the professor works on these questions without showing the discussion that follows. The goal is that the students can connect it with some of the literature in a critical and reflective view. After that, the professor can present the proposed discussion here to verify the proximity to the debate realized in class with the analysis offered by this study, raising and closing important points not yet built in the classroom.

- **Question 1** Which aspects most influenced the decisions of Mr. Batista's company?

- **Question 2** What are the characteristics of the individual's behavioral finance? Does Mr. Batista exhibit these characteristics?

- **Question 3** What are the main differences between behavioral finance and corporate finance?

- **Question 4** Think about the lifetime horizon of Mr. Batista's company. How long will the company last? Is it challenging to reconcile short- and long-term interests?

- **Question 5** In your perception, what are the most significant contributions of behavioral finance? And what is your criticism of this approach?

Discussion: Case Analysis and Connection with Literature

Question 1 Which aspects most influenced the decision of Mr. Batista's company?

From the history of Mr. Batista and his company, it is clear that the decisions he makes are influenced by his beliefs, emotions and feelings, that is, behavioral aspects. Therefore, Mr. Batista is a much more complex being than just a "rational" wealth maximizer, and it is impossible to understand his company without considering it. In contrast, the company would be different without him.

These behavioral biases that influence Mr. Batista's decision appear in the text under negotiation moments and making funding decisions and investment. Importantly, negotiation plays a vital role in some of the most critical business events: acquisitions and mergers, seeking new bank financing, contracting suppliers and customers, negotiating with the union and employees. When Mr. Batista do not even consider making use of a credit line for not knowing the financial institution, and already have a bank with a manager who accompanies him for years, this reflects the feelings of familiarity, comfort, and trust, for example.

Question 2 What are the characteristics of the individual's behavioral finance? Does Mr. Batista exhibit these characteristics?

Behavioral finance considers a complex individual and his cognitive biases in the decision-making process. Thus, beliefs, emotions, and feelings can lead to non-rational or non-maximizing wealth decisions, and cognitive biases can lead to anomalies (THALER, 2018). Mr. Batista entirely fits this approach. He has a feeling for the shoe manufacturer that is difficult to measure. He makes a point in participating or being close to the entire manufacturing process, cares about his products' quality, and maintains a good relationship with customers, suppliers, and employees. Mr. Batista makes decisions to maintain this *status quo*. These individual characteristics are some of those considered by behavioral finance.

Question 3 What are the main differences between behavioral finance and corporate finance?

The economic models used by corporate finance were brought from the neoclassical economic approach and are based on a series of assumptions (axioms) that human behaviors would have unlimited rationality. Regarding the case, the epistemology which solidified the dominant paradigm about discussing financing and investment decisions is of little value to Mr. Batista's emotions and feelings. This creates limitations on an ontological problem of things that need to exist or conditions that need to be met to validate the process that transforms intuition/perception into knowledge.

If people were 100% rational creatures, then they would only have to give them the information they needed to make good decisions, and they would immediately make the right decision. However, reasoning ability, perception, and limited-time often lead to simplistic analyses and erroneous conclusions from the economic-rational point of view. If the principles that shape the behavior around Mr. Batista's decision-making are the same principles of other business managers, these characteristics need to be considered to a better understanding of the business decision making even though their set of emotions and feelings is different.

Behavioral finance aims to explain and predict an individual's decision making and financial flows from psychologically realistic assumptions, without relying on the (rigid) assumptions used in corporate finance. The main difference is that behavioral finance assumes bounded rationality, showing that psychology plays an important role. Behavioral finance considers a complex individual and its cognitive, social, and emotional bias in the decision-making process, unlike corporate finance.

Question 4 Think about the lifetime horizon of Mr. Batista's company. How long will the company last? Is it challenging to reconcile short- and long-term interests?

Mr. Batista's conception of time is his own existence; there is no "time" after his death. The company is limited to this horizon, and this must be considered in its understanding and future forecasts. That is, we can make assumptions and make inferences that will only be valid while Mr. Batista lives. After his death, to understand the company, it will be necessary to comprehend Mr. Silva or Mr. Manoel or Mrs. Carmen, who is in charge of the decisions of the company created by Mr. Batista.

This time perception issue is important because companies are usually looked under the continuity principle, meaning, it is assumed that they will continue to operate in the future. However, behavioral finance considers selective perception as insufficient self-control in the decision-making of the individual over the time horizon, so there is a difficulty in aligning short-term and long-term decision. For example, the going public of Mr. Batista's firm could be the right decision for the future of the company; however, Mr. Batista preferred to maintain his business management and control model.

Question 5 In your perception, what are the most significant contributions of behavioral finance? And what is your criticism of this approach?

Behavioral finance has brought economics closer to psychology. The contributions of this science are growing and gaining representation. The detailed look at people's behavior shows that they behave differently, depending on the decision-making scenario and the multifactorial context. Behavioral finance draws attention to the recognition of the social, cognitive, and emotional limitations of individuals in projecting the economic environment. However, behavioral finance has its limitations. The psychological impacts themselves can be contradictory alone, and for every anomaly that happens in the market, it is possible to find a responsible psychological effect. But researchers and finance professionals are increasingly interested in understanding the complex individual decision-maker, and this goes beyond the company, such as Mr. Batista and the understanding of its complexity.

Final Considerations

The knowledge construction of the so-called Modern Finance Theory is based on the rationality of the individual. After decades of *homo economicus* prevalence in research in the area, a new approach has been gaining strength to explain financial problems. The behavioral finance has to gain space for contributions that relaxes assumptions of the dominant paradigm, commonly employed in corporate finance, as the irrationality of the investor or market inefficiency

Approaches that consider a multifaceted human being in a dynamic and complex environment are positive, but not universal. The consensus of the importance of loosening some strong assumptions that dominated the paradigm for decades and the need for new theoretical streams leaves an uncertain path to where will the finance researches head. The historical oscillation between the functionalist and interpretative paradigms leaves doubts on whether behavioral finance will figure as a stream within the functionalist or will it have the strength to overcome the dominant paradigm.

The truth is that this context poses as an invitation to researchers and professionals seeking to contribute to finance's knowledge and better understand the phenomena of the area. The researcher needs to be aware of the paradigmatic perspectives, work in harmony with the environment, engage with the various market participants, leading to higher perception and understanding of the facts, not ignoring the complexities of the context. The finance professionals must add non-universal weights and ponderations to the business decision-making, i.e., not disregard Mr. Batista; leave the cookbook aside, without focusing too much on the consequences it has on financial decisions. In this case, the behavior of a "complex" individual is taken into account, considering a given environment and time. One advances in the predominantly descriptive interpretative and then develops the functionalist theory.

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