

Cognitive Bias And Decision-Making: Focus On ENIE Management

Younes Ait Ouaret

ENSM Koléa (Algeria), Laboratory for managerial innovation, governance
and entrepreneurship
younesaitouaret@yahoo.fr

Received: 16-01-2024 Accepted: 02-04-2024 Published: 06-06-2024

Abstract:

The aim of this research was to investigate the influence of overconfidence on managers' strategic choices, through a qualitative case study conducted with the Algerian state-owned company ENIE. Interviews were conducted with 8 executives to explore their perceptions of their decision-making process. The analysis revealed the presence of numerous cognitive biases, such as overconfidence, loss aversion and historical anchoring, and their potentially harmful impact on strategic decisions. These results confirm the value of studying these biases to improve decision-making. However, the absence of a quantitative phase is a methodological limitation. Future research should replicate this type of study using mixed methods. Despite these reservations, this research sheds relevant light on the influence of cognitive biases in strategic choices within complex organizations, and highlights the need to raise awareness among decision-makers.

Keywords: Cognitive biases, Overconfidence, managerial decision making.

1. Introduction

Strategic decisions are crucial to the future and performance of organizations (Butler, Astley, Hickson, Mallory, & Wilson, 1979). They generally commit significant resources over the long term, and are made in an uncertain environment (Smida, 2006).

For a long time, classical economic theory considered these strategic choices to be the fruit of a rational process aimed at optimization. However, numerous works from cognitive psychology have challenged this paradigm, revealing the influence of systematic biases affecting the judgment of decision-makers (Schwenk, 1984; Bazerman & Neale, 1986).

The behavioral approach to strategy, initiated by (Cyert & March, 1963; Simon H. , 1955) showed that the formulation of strategic problems and the evaluation of alternatives were subject to heuristics and cognitive biases (Lyles & Thomas, 1988). This finding underlines the need to better understand these mechanisms in order to improve the quality of strategic choices.

Overconfidence is one of the most robust and critical biases in the literature, particularly among decision-makers in positions of responsibility (Russo & Schoemaker, 1992). The existence of this bias is a strong signal of the potential presence of other biases affecting the decision-making process. Indeed, numerous studies show that overconfidence favors biases such as illusion of control, anchoring bias or loss aversion (Russo & Schoemaker, Managing overconfidence, 1992; Bazerman & Neale, 1986).

In order to analyze the impact of overconfidence on the strategic choices of ENIE's managers, we adopted a qualitative methodology based on semi-structured interviews with the company's executives. Specifically, in-depth interviews were conducted with ENIE's 8 central managers and CEO to gather their insider perspective on the strategic decision-making process.

The interview guide was structured to explore the managers' perceptions, as well as collect data on variables associated with overconfidence and related biases. Content analysis will enable us to quantify the presence of overconfidence in the decision-making process based on the interview data.

2. Cognitive biases in managerial decision-making

While the "homo *œconomicus*" model postulates perfect rationality on the part of agents (Smith, 1776) the contributions of cognitive psychology have shown the limits of this paradigm by highlighting the influence of systematic biases affecting human judgment (Tversky & Kahneman, 1974)

The emergence of behavioral economics, with the seminal work of Herbert Simon, challenged the optimization hypothesis, by analyzing the use of heuristics in a context of bounded rationality (Simon H. , 1955).

Before looking specifically at overconfidence, we need to review the definition of heuristics and their role in managerial decision-making. Highlighting the duality between intuitive and rational thinking will also provide a better understanding of this cognitive bias.

2.1. Definition and role of heuristics

Heuristics are defined as simplified principles, methods or strategies that individuals use to process information and make decisions, especially in complex situations. (Kahneman, 2003). They help reduce cognitive effort by focusing on a few salient pieces of information, while rapidly arriving at a solution deemed satisfactory (Gigerenzer & Gaissmaier, 2011).

Within the framework of dual-process theory, heuristics are associated with System 1 thinking, i.e. the intuitive and automatic process (Kahneman, 2012). While they enable us to process large volumes of information efficiently, heuristics can also lead to systematic biases and deviations from rationality.

2.2. Intuitive vs. rational thinking

D. Kahneman has highlighted the duality between two systems of thought in information processing and decision-making System 1 and system 2(Kahneman, 2012) (table 01)

Faced with a complex situation, the natural tendency is to mobilize system 1 and heuristics first (Stanovich & West, 2000). However, this can lead to errors and systematic bias. System 2 allows us to review information analytically and avoid certain biases. But its high cognitivecost means that it is not always mobilized, resulting in the persistence of heuristics and biases despite the ability to analyze rationally.

Table 01: Comparison of systems 1 and 2 thinking

	System 1	System 2
Features	Fast, automatic, unconscious, intuitive, mono-tasking	Slow, aware, analytical, rational multitasker
Benefits	Fast responses, no cognitive effort, effective for simple, routine tasks	In-depth reflection, voluntary control, adaptability
Disadvantages	Can lead to errors and cognitive biases, difficulty with complexity	Requires cognitive effort, to analysis can lead paralysis

Source: realized by the author according to (Kahneman, 2012)

2.3. Influence on the quality of managerial decisions

The use of heuristics and intuitive rather than rational thinking has a major impact on the quality of managerial decisions.

Several empirical studies have shown that managers frequently make sub-optimal decisions as a result of cognitive biases (Schwenk, 1984; Bazerman & Neale, 1986). Confirmation bias, for example, leads managers to seek out information that confirms their initial beliefs. Anchoring leads to overemphasis on a reference datum, corresponding to the exploration of alternatives. These biases hinder the objective evaluation of alternatives and can lead to erroneous decisions. They occur even in experienced managers (Russo & Schoemaker, Managing overconfidence, 1992).

Awareness of these biases is therefore crucial to improving the quality of the decision-making process in a managerial context. Identifying them enables us to put in place safeguards and move closer to rational evaluation.

3. Overconfidence, a common bias among decision-makers

Overconfidence is a cognitive bias particularly prevalent in individuals with significant decision-making power. Numerous empirical studies have shown that this bias is frequently observed in executives, managers and entrepreneurs (Busenitz & Barney, 1997; Koellinger, Minniti, & Schade, 2007).

Table 02: Literature assessment of the overconfidence bias of executives and managers

Authors	Country	Population	Proportional bias
(Malmendier and Tate, 2005)	USA	Managers	13 - 60 %
(Ben-David and al., 2007)	USA	Managers	60 %
(Doukas and Petmezas, 2007)	UK	Managers	27%
(Billett and Qian, 2008)	USA	Managers	04 – 25 %
(Graham and al. 2013)	INT	Executives & Managers	80 %
(Bouwman, 2014)	USA	Managers	19 – 40 %
(Hilary and al., 2016)	USA	Managers	34 %

(Otto, 2014)	USA	Managers	32 – 49 %
(Eichholtz and Yönder, 2015)	USA	Managers	34 %
(Malmendier and Tate, 2015)	USA	Managers	40 %

Source: (Paquin, 2019)

The study of managerial overconfidence is poorly documented, unlike that of investors and entrepreneurs (Bessiere, 2007). There is, however, some research on this bias among managers (Ben-David, Graham, & Harvey, 2013; Malmendier & Tate, 2015; Adam, Fernando, & Golubeva, 2015). According to the management literature, cognitive biases such as overconfidence can influence decision-makers (Tipu & Arain, 2011). For (Simon & Houghton, 2003) this bias is defined as extreme confidence in forecasts. Managers are particularly prone to it because of their attachment to and control over results (Weinstein, 1980; Langer, 1975). This bias varies between individuals (Klayman , Soll, González-Vallejo , & Barlas , 1999) and influences strategies. Empirical studies show that it has an impact on mergers & acquisitions (Hayward & Hambrick, 1997; Malmendier & Tate, 2005; 2008) innovation (Galasso & Simcoe, 2011; Hirshleifer, Low, & Teoh, 2012) or CEO performance (Schumacher, Keck, & Tang, 2020). From a theoretical and empirical perspective, overconfidence influences the processing of information on past performance and future decisions (Åstebro, Jeffrey, & Adomdza, 2007; Chen, Crossland, & Luo, 2015). Particular attention must therefore be paid to this bias at the strategic summit. However, it prevents us from considering extreme cases (Montibeller & Von Winterfeldt, 2015) and can lead to value-destroying mergers (Malmendier & Tate, 2015).

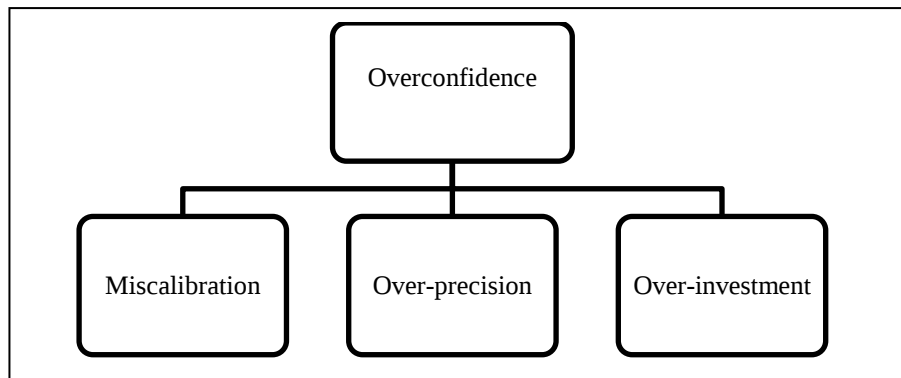
This impact at managerial level is explained by the fact that overconfidence is amplified in people with a high sense of control linked to their position (Hazami-Ammar & Sammoudi, 2017).. In addition, the low frequency of strategic decisions makes it difficult to learn from experience to correct this bias (Bessière & Pouget, *Excès de confiance et création d'entreprise: une synthèse des approches cognitives*, 2012).

3. 1. Definition and typology of overconfidence

Overconfidence is a well-documented cognitive bias in the psychology and behavioral economics literature (Bessière, 2007). It

manifests as a tendency to overestimate one's own abilities, level of knowledge or chances of success (Russo & Schoemaker, 1992)

Figure 01: Typology of overconfidence



Source: Created by the author based on (Moore & Healy, 2008; Russo & Schoemaker, 1992)

There are three types of overconfidence, according to (Moore & Healy, The trouble with overconfidence., 502-517.):

- Miscalibration: a tendency to overestimate one's level of actual knowledge
- Over-precision: excessive confidence in the accuracy of one's judgments
- Over-investment: the tendency to consider oneself better than others

These three forms have been robustly demonstrated in numerous experimental studies (Lichtenstein & Fischhoff, 1977 & Fischhoff, 1977; Pallier, et al., 2002). They can occur together or separately in the same individual.

3.2. Origins and explanatory factors of this cognitive bias

The intensity of overconfidence varies significantly according to a range of contextual and individual factors highlighted in the scientific literature. Understanding the determinants of this bias is essential to apprehending the situations in which it is likely to manifest itself most acutely.

A first determining factor is the objective difficulty of the task at hand. Numerous studies have shown that overconfidence increases for

particularly difficult problems, a phenomenon known as the "hard-easy" effect (Lichtenstein & Fischhoff, 1977 & Fischhoff, 1977). Individuals are more likely to overestimate their abilities in difficult activities.

On the other hand, several studies have revealed generated variation, with men demonstrating a higher level of overconfidence than women on average (Lundeberg, Fox, Brown, & Elbedour, 2000). This discrepancy can be explained by differentiated societal pressures.

Moreover, overconfidence fluctuates according to cultural context. Cross-cultural studies have shown that it is more pronounced in countries such as the United States than in Japan (Yates, Lee, Shinotsuka, Patalano, & Sieck, 1998).

The level of expertise does not protect against the risk of overconfidence, and in some cases may even encourage it. (Berner EdD & Graber MD b, 2008).

Finally, an accumulated availability of information tends to reinforce overconfidence, although the accuracy of judgments does not mechanically increase (Hall & Sverdlík, 2016).

3.3. The influence of overconfidence on the quality of managerial decisions

Reasonable confidence in one's own abilities can prove beneficial in a managerial context, fostering optimism, initiative-taking and resilience in the face of adversity (Russo & Schoemaker, 1992). However, when this self-confidence becomes excessive and disconnected from actual abilities, it can turn into a counter-productive bias for decision-making. Overconfidence can have negative repercussions on the quality of decision-making and the performance of organizations (Bessière & Pouget, 2012).

Several empirical studies have shown that this bias leads managers to make suboptimal decisions and to overestimate their probability of success. (Tversky & Kahneman, 1974; Langer & Roth, Heads I win, tails it's chance: The illusion of control as a function of the sequence of outcomes in a purely chance task., 1975; Russo & Schoemaker, Managing overconfidence, 1992; Moore & Healy, The trouble with overconfidence., 2008). For example, overconfidence can lead managers to underestimate risks and overlook critical information. It also encourages an escalation of commitment to projects doomed to failure. This bias is all the more problematic as the infrequency of

strategic decisions limits opportunities to learn from and correct mistakes (Bessière, 2007).

Awareness of this bias is therefore essential to improve the quality of managerial choices, particularly in complex organizations (Lovallo & Sibony, 2010). Debiasing techniques such as critical thinking, red teaming or the use of contradictory opinions can help limit the harmful effects of overconfidence (Larrick, 2004; Switzer & Snizek, 1991)

4. The "ENIE" case study

4.1. Presentation of ENIE

ENIE is a state-owned Algerian company specializing in the manufacture of electronic products. It was created in 1983 as part of the restructuring of SONELEC. Its head office is located in the Sidi Bel Abbès industrial zone. With a share capital of 8.3 billion dinars, ENIE has become a key player in the Algerian electronics sector. Its main areas of activity are:

- TV manufacturing (LCD, LED, smart TV)
- Production of electronic payment terminals
- Electronic board design
- Embedded systems development
- Photovoltaic solar energy projects
- Designing security and video surveillance systems

ENIE currently has 1,329 employees. It is organized into two levels:

- At central level, ENIE has a classic functional structure comprising General Management and support departments (Finance, HR, etc.).
- At the operational level, the company is decentralized into 6 specialized units (Electronic Integration, Research and Development, etc.), with a high degree of management autonomy.

This matrix organization, combining functional structure and operational divisions, aims to combine the advantages of

centralization (overall coherence) with those of decentralization (responsiveness, unit responsibility).

The units have their own resources and develop specific skills in their market segments. General Management retains responsibility for defining overall strategy.

Since 2011, it has been organized into 6 specialized business units with autonomous management:

- Electronics Integration Unit
- Research and Development Unit
- Photovoltaic Energy Unit
- Safety unit and LED display
- Maintenance and Metrology Unit
- Subcontracting unit

This unit-based organization is designed to develop skills and enhance the company's responsiveness to its various markets. ENIE boasts state-of-the-art research laboratories. Since its creation, ENIE has experienced constant growth and modernization of its equipment and product offering. Today, it enjoys a leading position in the Algerian electronics market.

4.2. Methodology

In order to analyze the impact of overconfidence on the strategic choices of ENIE's managers, we adopted a qualitative approach. In-depth semi-structured interviews were conducted with the company's 8 central managers and the CEO. The aim was to gather their perceptions of their own decision-making process.

A semi-directive interview guide was developed to conduct one-to-one interviews with ENIE's senior managers. The aim was to explore in depth their perceptions of their own strategic decision-making process.

The interview guide included 6 main themes:

- Managers' roles and responsibilities
- Information systems and collaboration
- Knowledge of cognitive biases
- Manifestations of overconfidence
- Error management and learning

- Prospects for improvement

A total of 6 senior managers, including the CEO, were interviewed out of a total of 8. The two managers we were unable to interview were on vacation, and the second was in Mecca. The interviews were recorded and transcribed in full for analysis. This was carried out using a thematic content analysis method.

Initially, questionnaires aimed at the managers' staff had also been planned to cross-fertilize their views. However, the low response rate made this quantitative approach irrelevant. It was therefore not included in this study, which is one of its limitations.

4.3. Presentation of survey results

We have chosen to begin by presenting the results of our semi-structured interviews with ENIE managers. This qualitative discourse analysis gives us a direct insight into how the decision makers themselves perceive their decision-making process.

Given that our aim is to study overconfidence and cognitive biases in these executives, it seemed logical to start with the material most likely to reveal their state of mind and reasoning.

In a second phase, the quantitative results of questionnaires carried out among their employees will provide an outside view of the same decision-making processes. This two-stage approach will provide a useful cross-fertilization of these two complementary perspectives.

4.3.1. Results of interviews (qualitative survey)

Semi-structured one-to-one interviews with the 8 central directors and the CEO of ENIE provided a wealth of information on their perception of the management decision-making process.

Several findings emerge from an analysis of their discourse. First of all, most managers cite the company's structural financial difficulties as a key determinant influencing their choices. Limited room for manoeuvre has an impact on the decision-making process.

Similarly, the management of the company's social assets, with a bloated payroll, seems to take precedence over long-term strategic considerations. HR trade-offs are a delicate issue.

A lack of internal communication and cohesion is also apparent, with little interaction between management and other employees. Information circulates more informally.

On the cognitive level, most managers mention their lack of understanding of the concept of bias and the absence of safeguards to guard against it in their decision-making. A few examples of questionable or unsuccessful decisions are cited.

Some report high levels of stress linked to the company's economic situation. We can assume that this excessive pressure favors biases such as urgency or overconfidence.

Some managers emphasize the role of collective decision-making bodies such as the Company Coordination Council (CCC) and the Board of Directors in guaranteeing informed choices at strategic level. Nevertheless, the instability of the CEO, with 7 incumbents in 20 years, seems to have hampered the definition of a long-term strategy.

The Development Plan launched in 2011 has enabled the company to modernize and adopt a project-based organization. But this change has been accompanied by difficulties linked to the departure of skills that have not been replaced, and the unsuitability of ERP-type information systems.

The legacy of the former consumer electronics business still weighs heavily on unit performance in terms of the ratio of payroll to added value. The constitution of the current organization seems to be based more on existing resources than on a clear economic strategy.

In conclusion, this qualitative analysis points to factors conducive to the emergence of cognitive biases among ENIE decision-makers: stress, lack of communication, focus on financial constraints, lack of awareness of biases, and so on. The results of the questionnaires will complete this overview.

4.3.2. Biases likely to emerge from managers' interviews

- a. Optimism and overconfidence: A number of responses reveal excessive confidence and optimism in the company's ability to overcome its difficulties. Some, for example, are over-optimistic about their ability to secure bank financing despite their financial situation. This overconfidence can lead to risk neglect and a frantic commitment to problem-free paths.
- b. A focus on the short term: Short-term financial and social concerns seem to dominate management's attention. Long-term strategic positioning issues take a back seat. This reduced time

horizon, reinforced by the urgency of the situation, can lead to opportunistic but harmful decisions in the long term. *"Relationships are paramount when it comes to managing projects"*, says one-unit manager, testifying to a search for short-term solutions. This reduced time horizon may have led to counter-productive choices.

- c. Status quo bias: The desire expressed by some employees not to make waves and to leave the company in the near future is indicative of a conservative stance. This status quo bias leads people to stay the course out of fear of change, despite the obvious unsuitability of the current way of working. A statement like *"I'd like to leave the company soon"* reveals a conservative posture. This bias also explains the retention of non-praiseworthy activities for fear of backlash.
- d. A historical bias: The 1999-2003 period was a golden age for the company," laments one executive in an interview. This anchorage skews current diagnoses, like the refusal to acknowledge the obsolescence of the old model. Nostalgic references to a historical golden age contrast with current difficulties. This anchoring leads to biased comparisons with an idealized past. Yet yesterday's solutions are not adapted to today's challenges in a changing context.
- e. Loss aversion: The evocation of certain past decisions reveals a marked aversion to losses, such as the refusal of a contract that is crucial to avoid a financial loss. This bias leads to choices that do not maximize overall utility.
- f. Confirmation bias: Many managers' belief that their difficulties are entirely due to external factors is indicative of confirmation bias. They overweight the evidence confirming their perception, neglecting their own responsibility.
- g. Retrospective bias: Some comments reveal a retrospective bias, with past failures appearing a posteriori as avoidable and unfulfilled optimistic forecasts as unrealistic. This illusory determinism leads to excessive confidence in predictability.

Table 02: Main cognitive biases found in the discourse of ENIE managers

Cognitive bias	Illustrative verbatim	Potential impact
Overconfidence	"Prospecting for capital at banks: given the company's difficult financial situation, the hunt for capital is almost a mission impossible."	Overestimate our ability to obtain financing despite our fragile financial situation.
Focus on the short term	"Relational skills are key to managing projects", "finding short-term solutions".	Neglecting long-term strategic issues. Sub-optimal decisions.
Status quo	"The manager is suffering from advanced work-related stress, which is why he wants to leave the company as soon as possible".	Maintain the status quo for fear of change, despite dysfunctions. Biased comparisons with an idealized historical golden age. Unsuitable solutions from the past
Historical roots	"1999-2003: is the only period in which the company has achieved feats".	Biased comparisons with an idealized historical golden age. Unsuitable solutions from the past.
Loss aversion	Refusal of a crucial contract to avoid financial loss.	Sub-optimal choices that do not maximize overall utility.
Confirmation	Belief that difficulties are entirely due to external factors.	Overweight the evidence supporting your perception, neglect your responsibility.

Source: realized by the author

4.3.3. Overconfidence, a likely explanation for the limitations of the development plan launched in 2011

The ambitious strategic development plan launched in 2011 by ENIE's current management team raises questions about its mixed results in relation to the initial objectives. Initiated by the central directors following approval by the authorities, this project, which benefited from a colossal budget of 15 billion dinars financed by state funds, as

well as the write-off of ENIE's debts, aimed to position the company as a national leader in the electronics sector.

However, the strategy adopted seems to have underestimated certain structural challenges inherent to ENIE. In particular, the over-staffed workforce no longer corresponds to the actual activity following the discontinuation of consumer electronics during the restructuring. Despite the new project-based organization, the legacy of the former activity is still weighing on the performance of certain units in terms of the ratio of payroll to added value. The constitution of the current organization seems to be based more on existing resources than on a clear economic strategy.

In addition, the massive departure of skills between 2006 and 2010 without replacement poses a problem. Recruitment is currently at a standstill, given the company's fragile financial situation. And yet, the development of innovative activities linked to research was supposed to ensure the company's renewal. However, this has yet to materialize. Despite massive investment, the economic situation remains fragile and the workload limited.

Given the significant discrepancy between the ambitious targets set in the 2011 development plan and the much more modest achievements, overconfidence seems to have played a significant role. Management clearly overestimated the company's ability to overcome certain major structural challenges, such as overmanning. They were also over-optimistic about the speed with which innovations would materialize as a result of massive investment.

This overconfidence, typical of decision-makers, may have led them to adopt a strategy that was out of all proportion to the organization's real capabilities. A more rational analysis, taking greater account of risks, would undoubtedly have avoided this discrepancy between excessive ambitions and mixed results. This case illustrates the harmful influence that overconfidence can have on the quality of strategic choices. A more in-depth analysis, based on tangible economic data, would be necessary to objectify this diagnosis.

4.4. Discussion of results

The results of this case study of ENIE's managers highlight several interesting findings in the literature on cognitive bias.

First of all, these decision-makers exhibit most of the biases frequently observed in other work on this theme. These include overconfidence, loss aversion and status quo bias (Bazerman, 2006;

Kahneman, 2012). This confirms the cross-cutting nature of these biases, including in the Algerian context.

What's more, certain verbatims illustrate their potential impact on the quality of strategic decisions. For example, excessive historical anchoring or short-term focus can lead to suboptimal choices. These results demonstrate the value of studying cognitive biases to understand and improve the decision-making process of executives.

Finally, we note that these decision-makers are not aware of the influence of their biases on their judgments. They do not implement debiasing techniques, contrary to the recommendations of certain authors (Bazerman, 2006). This underlines the importance of raising managers' awareness of these biases through targeted training.

4.5. Research limits

Although the semi-structured interviews provide a rich insight into the perceptions of the managers themselves, this research has one important methodological limitation. In fact, the quantitative component, in the form of questionnaires intended for managers' direct collaborators, could not be carried out, as the response rate was too low.

Analysis of the responses to this questionnaire would have made it possible to cross-reference the subjective view of decision-makers with the more objective view of their direct subordinates. It could also have provided tangible data to assess the existence and impact of biases, notably overconfidence. Without this confrontation with employees' perceptions, the interpretation of the interviews is limited. This is a weakness that needs to be addressed in future research on this topic.

5. Conclusion

The aim of this study was to analyze the influence of overconfidence on the strategic choices made by managers of the state-owned company ENIE. Through semi-structured interviews, it explored these decision-makers' perceptions of their own decision-making process.

Analysis of managers' discourse reveals the presence of numerous biases highlighted in the literature, such as overconfidence, loss aversion and status quo bias. A number of verbatims illustrate their

potential impact on the quality of strategic decisions. These results confirm the value of studying managers' cognitive biases to understand and improve their decision-making process.

However, this research has significant methodological limitations, due to the abandonment of the quantitative phase initially planned. Future work on this issue would benefit from crossing the subjective views of decision-makers and the objective views of employees. Despite these reservations, this case study sheds relevant light on the biases affecting strategic choices within a complex organization. It underscores the need to make managers aware of these biases through targeted training, in order to improve the quality of their decision-making.

This study opens up interesting perspectives for furthering our understanding of the influence of cognitive biases on managers' strategic choices. It would be relevant to replicate this approach in other organizational and cultural contexts. The use of mixed methods combining qualitative and quantitative research would enrich and objectify the results. It would also be interesting to analyze the differential impact of overconfidence according to the gender or expertise of decision-makers. Finally, research could explore the effect of debiasing techniques on improving the quality of strategic decisions in a managerial context. There are therefore numerous prospects for further research in this field, at the crossroads of strategic management and cognitive science.

Bibliography

- Adam, T., Fernando, C., & Golubeva, E. (2015). Managerial overconfidence and corporate risk management. *Journal of Banking & Finance*, 195–208.
- Bazerman, M., & Neale, M. (1986). Heuristics in negotiation: Limitations. *Cambridge University Press*, 311-321.
- Ben-David, I., Graham, J., & Harvey, C. (2013). Managerial miscalibration. *The Quarterly journal of economics*, 1547–1584.
- Berner EdD, E., & Graber MD b, M. (2008). Overconfidence as a Cause of Diagnostic Error in Medicine. *The American Journal of Medicine*, S2-S23.
- Bessière, V. (2007). Excès de confiance des dirigeants et décisions financières: une synthèse. *Finance Contrôle Stratégie*, 39–66.
- Bessière, V., & Pouget, J. (2012). Excès de confiance et création d'entreprise: une synthèse des approches cognitives. *Finance Contrôle Stratégie*, 15-4.
- Busenitz, L., & Barney, J. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of business venturing*, 9–30.
- Butler, R., Astley, W., Hickson, D., Mallory, G., & Wilson, D. (1979). Strategic Decision-Making: Concepts of Content and Process. *International Studies of Management & Organization*, 5-36.
- Cyert, R., & March, J. (1963). A behavioral theory of the firm. *Englewood Cliffs, NJ*, 169–187.
- Galasso, A., & Simcoe, T. (2011). CEO overconfidence and innovation. *Management Science*, 1469–1484.
- Gigerenzer, G., & Gaissmaier, W. (2011). Heuristic Decision Making. . *Annual Review of Psychology*, 451-482.
- Hall, N., & Sverdlik, A. (2016). Encouraging Realistic Expectations in STEM Students: Paradoxical Effects of a Motivational Intervention. *Frontiers in Psychology*, 1109.
- Hayward, M., & Hambrick, D. (1997). Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative science quarterly*, 103–127.
- Hazami-Ammar, S., & Sammoudi, H. (2017). Biais comportementaux des dirigeants et structure du capital des PME Tunisiennes. *Vie & sciences de l'entreprise*, 63–96.
- Hirshleifer, D., Low, A., & Teoh, S. (2012). Are overconfident CEOs better innovators? *The journal of finance*, 1457–1498.
- Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*, 697-720.

- Kahneman, D. (2012). *Système 1 / Système 2 : Les deux vitesses de la pensée*. Paris: Flammarion.
- Klayman , J., Soll, J., González-Vallejo , C., & Barlas , S. (1999). Overconfidence: It Depends on How, What, and Whom You Ask. *Organizational Behavior and Human Decision Processes*, 216-247.
- Koellinger, P., Minniti, M., & Schade, C. (2007). "I think I can, I think I can": Overconfidence and entrepreneurial behavior. *Journal of economic psychology*, 502–527.
- Langer, E. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 311-328.
- Larrick, R. (2004). Debiasing. *Blackwell handbook of judgment and decision making*, 316–338.
- Lichtenstein & Fischhoff, 1977 , S., & Fischhoff, B. (1977). Do those who know more also know more about how much they know? *Organizational behavior and human performance*, 159–183.
- Lovullo, D., & Sibony, O. (2010). The case for behavioral strategy. Retrieved from <http://dln.jaipuria.ac.in:8080/jspui/bitstream/123456789/2496/1/The%20case%20for%20behavioral%20strategy.pdf>
- Lundeberg, M., Fox, P., Brown, A., & Elbedour, S. (2000). Cultural influences on confidence: Country and gender. *Journal of Educational Psychology*, 152-159.
- Lyles, M., & Thomas, H. (1988). Strategic Problem Formulation: Biases and assumptions embedded in alternative decision-making models. *Journal of Management Studies*, 131-145.
- Malmendier, U., & Tate, G. (2005). Does overconfidence affect corporate investment? CEO overconfidence measures revisited. *European financial management*, 649–659.
- Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of financial Economics*, 20–43.
- Malmendier, U., & Tate, G. (2015). Behavioral CEOs: The role of managerial overconfidence. *Journal of Economic Perspectives*, 37-60.
- Montibeller, G., & Von Winterfeldt, D. (2015). Cognitive and motivational biases in decision and risk analysis. *Risk analysis*, 1230–1251.
- Moore, D., & Healy, P. (2008). The trouble with overconfidence. *Psychological review*, 502-517.
- Pallier, G., Wilkinson, R., Danthiir, V., Kleitman, S., Knezevic, G., Stankov, L., & Roberts, R. (2002). The Role of Individual Differences in the Accuracy of Confidence Judgments. *The Journal of General Psychology*, 257-299.
- Paquin, P. (2019). Les effets de la surconfiance des dirigeants sur les décisions managériales : le cas des. *Gestion et management*. Université de Strasbourg.

- Russo, J., & Schoemaker, P. (1992). Managing overconfidence. *Sloan management review*, 7–17.
- Schumacher, C., Keck, S., & Tang, W. (2020). Biased interpretation of performance feedback: The role of CEO overconfidence. *Strategic Management Journal*, 1139-1165.
- Schwenk, C. (1984). Cognitive simplification processes in strategic decision. *strategic Management Journal*, 111-128.
- Simon, H. (1955). A behavioral model of rational choice. *The quarterly journal of economics*, 99–118.
- Simon, M., & Houghton, S. (2003). The relationship between overconfidence and the introduction of risky products: Evidence from a field study. *Academy of Management journal*, 139-149.
- Smida, A. (2006). Les moments de décision stratégique. Un essai de conceptualisation et de modélisation. In *Xvème conférence internationale de management stratégique, annecy/Genève*, 13-16.
- Smith, A. (1776). An inquiry into the nature and causes of the wealth of nations: Volume One. London: printed for W. Strahan; and T. Cadell.
- Stanovich, K., & West, R. (2000). Advancing the rationality debate. *Behavioral and brain sciences*, 701–717.
- Switzer, F., & Snizek, J. (1991). Judgment processes in motivation: Anchoring and adjustment effects on judgment and behavior. *Organizational Behavior and Human Decision Processes*, 208–229.
- Tipu, S., & Arain, F. (2011). Managing success factors in entrepreneurial ventures: a behavioral approach. *International Journal of Entrepreneurial Behavior & Research*, 534-560.
- Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under uncertainty. *Science*, 1124-1131.
- Weinstein, N. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 806-820.
- Yates, J., Lee, J.-W., Shinotsuka, H., Patalano, A., & Sieck, W. (1998). Cross-cultural variations in probability judgment accuracy: Beyond general knowledge overconfidence? *Organizational behavior and human decision processes*, 89–117.