



**Facultad de Ciencias Económicas y Empresariales**

# **BUSINESS STRATEGY FORMULATION BASED ON THE BEHAVIOURAL ANALYSIS OF STAKEHOLDERS**

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## 1. RESUMEN

La teoría de la toma de decisiones conductuales no es un desarrollo reciente. Los primeros intentos de describir y explicar el conocimiento psicológico relacionado con la conducta de toma de decisiones de las personas datan de principios del siglo pasado. Se llama teoría, pero es una combinación de varias teorías psicológicas. Sin embargo, como sugieren los estudios de H.A. Simon, que ganó el Premio Nobel de Economía en 1978, y D. Kahneman, que ganó el premio en 2002, la metodología psicológica y el conocimiento de la teoría de la decisión conductual se puede aplicar con éxito a campos como la economía y administración de empresas.

Entre los campos de investigación en administración de empresas, la gestión estratégica en general y la formulación de estrategias de negocio en particular se han quedado rezagadas con respecto a la aplicación de desarrollos de toma de decisiones conductuales. No fue hasta 2011 cuando se acuñó el término estrategia conductual y sirvió como paraguas para la aplicación de la teoría en el campo. Por lo tanto, es un área de investigación joven, aún no madura que requiere estructuración y mayor desarrollo para proporcionar los beneficios potenciales que puede aportar. Este es un tema material ya que tiene un impacto significativo en el valor económico generado por las empresas.

El propósito de esta tesis doctoral es contribuir al desarrollo del campo desde la construcción de la estructura intelectual actual de la disciplina hasta proponer un enfoque innovador para formular estrategias empresariales buscando que el negocio se beneficie las decisiones conductuales de las partes interesadas (stakeholders).

Esta tesis doctoral se ha realizado en tres pasos correspondientes a los trabajos académicos presentados para su publicación.

El primer paso es una revisión de la literatura utilizando técnicas bibliométricas cuantitativas. La metodología permite un procesamiento masivo de trabajos con un objetivo y un enfoque replicable. El resultado es un mapa de la estructura intelectual de la disciplina, mostrando los trabajos más influyentes, agrupados por elementos comunes y mostrando sus relaciones.

El segundo paso analiza los comportamientos de los diferentes actores que participan en el proceso de desarrollo de las estrategias (en la sala de estrategia) utilizando metodologías cualitativas de entrevistas en profundidad. El resultado

explora la influencia de los sesgos conductuales y las dinámicas sociales y propone un modelo novedoso de sistema complejo de las interacciones.

En el tercer paso, considerando que la línea de investigación más destacada en el campo de la estrategia conductual gira en torno a los escollos que provocan los sesgos en las decisiones estratégicas y cómo evitarlos, ***se ofrece una propuesta innovadora***. Se propone formular estrategias de negocio que se apoyen en el conocimiento de las necesidades emocionales y los sesgos en la toma de decisiones de las distintas partes interesadas en el negocio (stakeholders) para satisfacerlas. De este modo se incrementa el valor aportado por la empresa extendiéndolo a satisfacer no solamente las necesidades racionales de las partes interesadas sino también a sus necesidades emocionales.

Finalmente, la tesis abre amplios nuevos itinerarios para la investigación, reflexión e intervención.

## 2. PALABRAS CLAVE

gestión estratégica, estrategia de negocio, estrategia conductual, estrategia emocional, partes interesadas, sesgos cognitivos



### 3. ABSTRACT

The Behavioral Decision-making Theory is not a recent development. Initial attempts to describe and explain the psychological knowledge related to people's decision-making behavior date from the beginning of the last century. Though it is called theory, it is a combination of various psychological theories. As H. A. Simon, who won the Nobel Prize for Economics in 1978, and D. Kahneman, who won the prize in 2002 suggest, the psychological methodology and knowledge of the behavioral decision theory have been applied widely in such fields as economics and business administration with significant success.

Among the research fields in business administration, strategic management in general and business strategy formulation, in particular, have been lagging behind the application of behavioral decision-making developments. It was not until 2011 that the term behavioral strategy was coined and served as the umbrella for the application of the theory in the field. It is therefore a nascent area of research that requires structuring and further development to realize its potential benefits. This is a material topic, as it has a significant impact on the economic value generated by businesses.

The purpose of this doctoral thesis is to contribute to the development of the field from building the current intellectual structure of the discipline to proposing an innovative approach to formulate business strategies, leveraging the knowledge of emotions and the behavioral decisions of stakeholders.

The thesis comprises three steps, corresponding to the academic papers submitted for publication.

The first step is a review of the literature using quantitative bibliometric techniques. The methodology enables a massive process of works with an objective: a replicable approach. The result is a map of the intellectual structure of the discipline, showing the most influencing works, grouped by commonalities, and displaying the relationships.

The second step analyzes the behaviors of the different actors in the strategy room, using qualitative in-depth interview methodologies. The result explores the influence of behavioral biases and social dynamics and proposes a novel complex-system model of the interactions.

The third step, considering that the most prominent line of research on behavioral strategy revolves around the pitfalls that biases provoke in strategic decisions and how to avoid them, ***an innovative proposal is offered***. Using the behavioral approaches of business stakeholders as information about their emotional needs, it is possible to formulate business strategies that fulfill these needs. Thus, the value creation of the business is increased, adding to the satisfaction of the rational needs of stakeholders, as also their emotional needs.

Finally, the thesis opens a wide range of itineraries along the paths of research, reflection, and intervention.

#### 4. KEYWORDS

strategic management, business strategy, behavioral strategy, emotional strategy, business stakeholders, cognitive bias

# SECTION ONE

## 5. INTRODUCTION

### 5.1. Personal motivations

Unlike other PhD candidates, I have confronted this challenge after a more than thirty-five-year-long and fruitful professional career. As an executive in Multinational Enterprises (MNEs), I have had the opportunity to participate in a few business strategy formulation processes. I and my colleagues were very conscious of the economic and business impact of our decisions for the company and dedicated our vast experience and best efforts to come up with potentially successful strategies. All this is based on thorough market research, company analysis, and rational processes, often with the aid of top strategic consultants.

My experience, however, indicated that the processes and their results could not be qualified as purely “rational”. I realized that there was a significant influence of individual and group behaviors, perceptions, and emotions that departed from rationality and introduced other elements. We may not be fully aware of them, but they definitely lead us to conclusions and outcomes.

Later on, in my academic journeys, I found out about behavior decision-making theories and their application to economics, finance, and marketing, among other business environments. Further, I became aware of the development of behavioral strategy discipline, which precisely addresses the situations and behaviors I knew from my business experience. I felt I had to offer my humble contribution to the discipline for the benefit of the academic community, and more importantly, for the future of business decision-making.

### 5.2. Why is it important?

Strategic decision-making (SDM) is of great importance because of the five characteristics of strategic decisions (SDs) (Papadakis & Barwise, 1998):

- a) they are usually big, risky, and hard to reverse, with significant long-term effects,
- b) they are a bridge between deliberate and emergent strategies,
- c) they can be a major source of organizational learning,
- d) they play a significant role in the development of individual managers, and
- e) they cut across functions and academic disciplines.

The economic impact of these decisions is significant and any contribution to their improvement has to be considered.

### **5.3. Background, purpose, and research questions**

Here, we address the purpose of this thesis, its origins, and its destination. The question that human decisions are not purely rational for various reasons is not new. Various lines of thought and later research, especially in the field of psychology, have dealt with this topic by developing the theory of behavioral decision-making.

Numerous theories have been developed about decision-making. A salient example of the descriptive theory is the behavioral decision theory, which aims to integrate cognitive biases with the rational utility approach (Takemura, 2021). These theories constitute one of the pillars of this thesis and are briefly reviewed in section 5.1. and are developed in-depth throughout the document.

The theory of behavioral decisions has been applied to various areas of social sciences in which human decision-making is fundamental (Slovic et al., 1977). In the field of strategic management in general and the formulation of business strategies in particular, it has been applied with some delay compared to other fields, but it has finally developed its own line of research called behavioral strategy. These approaches are set out in section 5.2. This thesis covers it in depth and aims to contribute to the field.

In addition, the thesis is based on research on the behavior and decision-making of participants in the process of formulation of strategies and the objectives of these strategies that are the business stakeholders. Notes based on these investigations are found in sections 5.3. and 5.4. although they are treated in depth throughout the thesis since it proposes contributions to these two areas.

Based on the aforesaid fields of research, the thesis starts with research questions it aims to answer, which are formulated in section 5.5.

#### ***5.3.1. Behavioral decision making***

The topic of decision-making has been a part of human reflections since the very beginning of human thought. In ancient Greece, thinkers and philosophers thought long and hard about this, especially after the Athenian democracy put important decisions in the hands of the whole citizenry. By the time Aristotle explained in his *Ethics* the best way to work out how to act—to deliberate, take decisions—the ancient Greek poets, dramatists, historians, and orators had developed rules for the Competent Deliberator. Often, the rules were demonstrated through negative

examples in tragedy, when hopelessly incompetent deliberators wreck their families and cities by taking dire decisions (Hall, 2015).

During the last century and the beginning of the current one, much literature has been authored on decision-making. Historically, the field has passed through several stages, as follows (Andersen & Andersen, 1977):

1. Preoccupation with the rational
2. Critiques and extensions of the rational tradition
3. Creation of fully articulated alternatives to the rational
4. Multi-perspective view of decision making

In the first stage, the rational period, the approach was purely based on an articulated view of the decision process. A representative definition of decision-making in this period is the one of Fishburn (1972): “decision is a deliberate act of selection by the mind, of an alternative from a set of competing alternatives in the hope, expectation or belief that the actions envisioned in carrying out the selected alternative will accomplish certain goals”. In this vision, human beings and their organizations were dominated by rationality, as were their decision-making processes. This approach had a decisive influence on economic and business theories for centuries, leading to the description of Homo Economicus.

However, in the second part of the last century, scholars realized that human beings and their organizations were not capable in their decisions to consider all the information, different alternatives, social influences, and potential consequences, and therefore incapable of taking optimal decisions. From then, in various stages, decision-making theories added to or changed the approach to consider all these facts, with the so-called “non-rational” theories which are by no means theories of irrationality but rather an approach with more realistic assumptions regarding the subject (Gigerenzer & Gaissmaier, 2015).

As described in the first article of this dissertation (The intellectual structure of behavioral strategy: a bibliometric study) some seminal works were key to moving from the science of psychology into the economic and business fields (Urío et al., 2022). From the initial organizational behavior foundations from the Carnegie School (Cyert & March, 1963; March & Simon, 1958; Simon, 1947), to the works of Taversky and Kahneman (1974), some basic psychological concepts as biases have been set, to be used by the economic and business community. The settings of the behavioral developments in economic theories (Thaler, 2005) and business (marketing and customer experience) were laid out.

### **5.3.2. Behavioral strategy**

Within the field of business management, strategic management is a key area dealing with the formulation and implementation of medium- and long-term actions to achieve companies' goals. Strategic management has two distinctive stages: formulation and implementation.

The formulation stage is the process through which business executives decide the goals, objectives, and measures for the organization to pursue and the actions required to reach them, by analyzing the internal and external environment. It is therefore a stage of decision-making. Selection from different alternatives is the core task.

Despite being a clear target for the application of decision-making theories, this field has been lagging behind other disciplines (Lovallo & Sibony, 2010; Powell et al., 2011) such as the economy (Tversky & Kahneman, 1974), finance (Thaler, 2005), and marketing (Dobni et al., 2001). The term "Behavioral Strategy" was coined in 2011 (Powell et al., 2011) and despite the initial impetus, it is still at a nascent stage of development.

Most of the research has revolved around the discovery of bias influence in strategy decision-making, the impact on non-optimal decisions, and how to avoid falling into the trap.

### **5.3.3. The strategy room**

Business strategy development is a complex process. Depending on the company, the internal and external situation, and other factors, the number and typology of people involved varies significantly. Traditionally, it has been an activity led by the CEO and performed by the senior management team. In the aftermath of the Enron episode, a closer involvement of the board of directors was required. This involvement has happened not only in the board's role of control but also, most importantly, in influencing decisions that can drive business performance. The employment of external advisors who bring knowledge and an objective approach is also a common practice in big companies. There could be direct and indirect involvement of several other parties but the "inner circle" of people comprises members of the senior management team, the board of directors and in some cases, external advisors, all led by the CEO who is ultimately responsible for the outcome. The place the members of this inner circle meet has been labeled the **strategy room** by senior McKinsey partners (Bradley et al., 2018), referring to the environment where the interactions and behaviors take place.

The aforesaid group of people works for a period of a few months, sometimes extending to more than a year. During this period, there is a thorough analysis of data leading to what are called strategic decisions. It is therefore a scenario in which human interactions, relations, and individual and group decision-making dynamics take place. The results of this process determine the direction of the company in the forthcoming years and to a significant extent, its business success too.

Some research has focused on the analysis of the influence of factors in this decision-making process leading to behavioral biases departing from objective decisions. This has been the bulk of the research labeled as “behavioral strategy” research. However, less attention has been paid to the internal group dynamics of the core team. These dynamics may have a specific influence on each company, leading to specific biases in the outcomes, making it difficult to extract conclusions for industries or common business-related situations.

Analyzes of group decision-making dynamics have been conducted by psychologists. Their focus has been primarily on unveiling human behavior when working in teams. Leadership and organizational behavior theories provide a good basis to describe and understand the processes and potential outcomes.

There is a less explored area of research with a focus on applying the advances achieved by psychologists to the group of people developing strategies. Independently of the industry, business problems, and other internal and external factors, there are common characteristics from the group dynamics viewpoint in the strategy room. As we have seen, the people involved comprise members of similar groups with similar characteristics and in general, similar interests and aims in the process. Analyzing the mechanisms holistically provides valuable insights for understanding and improving the process. Contributing to this effort has been the aim of the second article of this thesis.

#### **5.3.4. Stakeholders' behavior**

Since the formal launch (it was developed in successive approaches) of the stakeholders' theory by Freeman (1983), several scholars have worked on the substitution of stockholders by stakeholders as the central group whose needs have to be addressed and satisfied through corporate strategy. The aim was to consider all interested groups in business decisions and performance. The focus of strategy shifted from financial performance exclusivity to embracing several other business-influenced parties. The movement was fueled by the prominent influence



of the Corporate Social Responsibility movement. The strategic management financial scorecards were substituted by balanced scorecards (Kaplan & Norton, 1992) and then by stakeholder scorecards (Neely & Adams, 2000; Wolf & Körnert, 2004).

In financial performance, the impact of strategy on stakeholders' needs is measured by a wide range of figures which configure the strategy objectives to reach and scorecards for the follow-up. However, since an apparent good financial performance does not imply business success in the long run (Birchard, 1995), achieving the stakeholders' related objectives does not necessarily lead to their satisfaction with the business in question (Baumgartner et al., 2022; Bridoux & Stoelhorst, 2014; Gazheli et al., 2015). The stakeholders' needs and expectations from a business company cannot always be expressed in purely rational, financial, or strategic terms but like all human groups, are influenced by emotions and behavioral approaches that must be considered. These elements have already been studied from the corporate communication perspective (Luoma-Aho, 2015). However, there has been little focus on the integration of these emotional needs into corporate strategies, despite multiple efforts for the integration of stakeholders' general needs into strategy (Plaza-Úbeda et al., 2010).

### **5.3.5. Research questions**

The research questions aim to reflect the objective of the research.

The first objective was to delineate the academic body of the research around behavioral strategy. The interconnections between researchers and scientists in the development of science lead to the notion of fields and disciplines. Mapping these relationships has been the aim of researchers to understand the structure of such interrelations. The specialized branch of information science is where the idea of mapping science has been finally realized (Small & Garfield, 1985). These maps, based on the relationships of the researcher's production, have been called the intellectual structures of the disciplines. Mapping the field of behavioral strategy using these tools fulfilled this first objective.

The second objective was to find some gaps in this young field of research and contribute to its development.

Therefore, the research questions are:

- 1) Which intellectual structure forms the basis of behavioral strategy?
- 2) What are the gaps to be filled in the development of the field, to contribute to the approach?

The study identified two gaps, which prompted the next two research questions:

- 3) Is there a holistic model that could explain the interactions of the different actors participating in strategy formulation in and out of the strategy room?
- 4) Is it possible to develop strategies that consider the behavioral aspects of the company stakeholders?

To answer these questions, three different academic articles were written and included in section two of this thesis. The first article (chapter I) addresses questions 1 and 2, while the second and third articles (chapters II and III) address questions 3 and 4, respectively.

## 6. STRUCTURE, STORYLINE, AND METHODOLOGY

### 6.1 Structure

The following work is structured into three chapters, each of them corresponding to one of the scientific articles published, or in the process of being published, that make up the scientific unit of this doctoral thesis. Therefore, each of the chapters has its own introduction, methodology, discussion, and results sections and is structured as it was published or sent to the corresponding journals.

In this doctoral thesis, each of the articles is preceded by an introductory justification that presents the motivation for including it in this work and explains some aspects of the research that were not included in the article itself due to space constraints. These justifications lend continuity to the argumentative line of the thesis, to understand the scientific unit of the work and the elements common to the three studies.

Finally, these three chapters are complemented by general conclusions and implications that provide meaning to the compendium.

### 6.2 Motivation

The presentation of this thesis as a compendium of articles has been chosen for various reasons:

In the first place, it is an ethical obligation of the researcher to disseminate the results of the research. This is particularly important when the research could have a significant impact on business performance and economic returns. Scientific articles have a greater diffusion than doctoral theses and can be accessed and cited by the academic community, reinforcing their influence and impact.

Second, the blind peer review contributes significantly to enriching the research and strengthening its rigor. This contribution is not achieved on the same scale in traditional approaches to doctoral theses. A doctoral student is an apprentice researcher, but exposure to research processes reinforces the learning mechanism. Publishing in high-impact journals has been arduous because of the competition in the academic profession, but the challenge has been one of the factors providing high motivation for the work.

The articles of this thesis aim to provide knowledge and suggest actions that add value to companies in the development of their strategies.

### 6.3 Logic structure

The document follows a logical structure such that even if each article is considered independently with its own results and conclusions, it provides a homogeneous

and sequential logical flow. Actually, the articles are part of a theory-building process in three steps: literature review, theory analysis, and new theory proposal. Because of the different requirements of the three steps, three different methodologies— the quantitative, qualitative, and conceptual approaches—have been adopted, as will be discussed later.

The logic and aim of this thesis are to answer the research questions stated at the beginning of the project. In this regard, the first article tries to answer the question of what the intellectual structure of the behavioral strategy discipline is. Research traditionally begins with a review of the academic literature. In this case, it is required to go further and delineate the intellectual structure, as it is a field where a variety of disciplines combine, each with its own development. It is necessary to present those aspects of the disciplines that constitute the root and have most profoundly influenced the construction of the field of behavioral strategy.

This analysis conducted in the first article allows us to discover, *inter alia*, two important areas not treated in depth to date. I feel they are very relevant and of great interest both for the academic community and for professionals dedicated to the development of strategies.

The second article develops a holistic model of behaviors in the strategy room. As opposed to the traditional approach dealing with the impact of individual biases on the strategic outcome, this approach is intended to describe group behaviour and interactions of the participants taking strategic decisions over a period: the strategic decision-making process. The process and the analysis are complex, but some characteristic behaviors emerge, setting the structure for future developments that test and complete the findings of the work.

Finally, in the third article, a new avenue for research is proposed. Traditionally, research aims to uncover potential pitfalls and traps that the psychology of strategy decision-makers can fall into. The aim is to make these decision-makers aware of potential mistakes and to improve the process and the outcomes. This approach neglects the fact that not only are executives and other parties involved in strategy development human beings subject to cognitive traps but also that they are all stakeholders for whom the strategy is developed. Integrating the needs and expectations of these stakeholders in the strategic decisions is something yet to be deeply explored, offering a fruitful area for successful strategy development and implementation.

## 6.4 Methodology

There is no single methodology for the thesis. A different methodology has been chosen for each of the articles, in an endeavor to find the most appropriate for the purpose and optimize the results and conclusions.

*Article 1: The intellectual structure of behavioral strategy: a bibliometric study (Urío, S., Redondo, R., & Gavilan, D. (2022). Strategic Management, 27(1), 4-21.*

<https://doi.org/10.5937/StraMan2110005U>

*Full text on Section 2, Chapter I, page 36 of this document.*

The first article has been developed using citations and co-citations in a bibliometric analysis (Donthu et al., 2021) to study the roots and structure of behavioral strategy. This field of research is relatively new but based on different areas of knowledge such as psychology, sociology, and strategic management. The article aims to draw the intellectual structure of behavioral strategy. The methodology is the most widely used for this purpose in very different research fields. It has been used in strategic management (Furrer et al., 2008; Ramos-Rodríguez & Ruíz-Navarro, 2004) but never so far in behavioral strategy.

The methodology has been chosen because it allows the unpacking of the evolutionary nuances of a specific discipline (Donthu et al., 2021). It is used to analyze big volumes of data for research production and has two particularly strong advantages:

- **Objectivity:** It is a quantitative way of measuring research impact, as opposed to other literature review approaches.
- **Replicability:** The procedure is transparent and can be reproduced.

Among the range of techniques of bibliometric analysis, citation and co-citation analysis have been used. Citation is the main tool used by the academy to measure the academic impact of research. Co-citation allows the study of the relationships between research works providing connections and structure which may not be obvious without this analysis. Combining the techniques, it is possible to attain the objective of the article and define the intellectual structure of behavioral strategy.

The task is not easy because the field has evolved, as mentioned, from very different disciplines. To reach the objective, a three-step process has been followed (see Figure 1 in the article).

1. **Extraction from the Web of Science.** First, the works related to behavioral strategy have been extracted from the WoS database. This has been done with very restrictive criteria to ensure that the works are

at the core of the discipline. The query to the database is: (TS= (“Behavioral Strategy”) AND WC=(Business AND Management)). The process provided 31 documents. There are other works too on the behavioral strategy that did not match the criteria, but this is not an issue because there is no bias in the selection and we work on the following steps with the cites. These cited works are the real influencers of the discipline and the ones that conform to the intellectual structure, which is what we are aiming at.

A few preliminary analyses were conducted. The works were ranked by year to have a view of the time spread and by the number of cites. The author’s affiliation institutions were ranked too by the number of works to display the most active research universities in the field.

2. **Citation analysis.** The second step comprises a citation analysis of the previous step extraction. The cites are the works that influenced behavioral strategy studies. Using a tool for the purpose (Bibexcel), different aspects of the unique cites of the extraction (2.203) were analyzed:

- Top cited works ranking.
- Strategic management vs behavioral strategy influencers. This analysis was possible using strategic management bibliometric studies (Furrer et al., 2008; Ramos-Rodríguez & Ruíz-Navarro, 2004). It provides a very interesting comparison of influencers between what could be considered as the parent discipline (strategic management) and the child (behavioral strategy) determining the real relation and influence among them.
- Co-citation analysis. Finally, in the third step, co-citation analysis was performed. Co-citation coupling is used to establish a subject similarity between two documents. Two documents are co-cited if they both appear in the reference list of a third document. In this step, co-citations and their frequency are examined as a proxy for the commonality of the citations around the behavioral strategy topic. The assumption is that frequently co-cited papers represent the key concepts, methods, or experiments in the field (Small, 1973).

3. **Multidimensional Scaling (MDS) and Principal Component Factor (PCF) analysis.**

Using the same tool as in the previous step (Bibexcel), the cites were paired by co-citations. The result was a co-citation matrix of well above

four million cells. To refine the selection, the matrix was reduced by including only the unique documents cited at least twice, to remove non-related and low-impact cites (311 documents).

This matrix was then analyzed for robustness using two different techniques, delivering very similar results.

*Multidimensional scaling (MDS) analysis.* To prepare for the analysis, an r-Pearson correlation was used as a measure of similarity between documents and considered the main diagonal as missing data. The matrix was truncated following strong r-Pearson correlation criteria. Once the correlation matrix was determined, the multidimensional scaling technique (MDS) was applied using stress as a goodness of fit index. As stress value depends on the number of documents and their original configuration, it was necessary to select the number of papers to map. If the number of papers is between 20 and 50, the stress measure is optimal and allows a readable map in a reduced space, providing a clear graphical representation and containing an adequate number of works to enable the intellectual structure of the field to emerge (Ramos-Rodríguez & Ruíz-Navarro, 2004). To make that selection, the strongest co-citation was determined as the maximum frequency of a paper being co-cited with any other. With the previously mentioned criteria, the level was established in a matrix of 41 papers with 1.505 co-citations, yielding an excellent result (stress=0.032). The result provides a picture of the selected documents in a two-component space.

*Principal component factor (PCFA) analysis.* To check the robustness of the results and to have a more objective method than a simple visual inspection to group the documents, a factor analysis (principal component extraction method) was conducted on the co-citation matrix confined to the 41 selected papers, extracting 4 factors and applying varimax rotation. The selection of 4 factors to be extracted was also supported on the screen plot/elbow curve (showing a dramatic drop off in the 5<sup>th</sup> eigenvalue, compared to the 4<sup>th</sup>) and the total amount of explained variance reached 61% with the four factors retained.

The results are plotted, first as a result of multidimensional scaling where distances between works are meaningful, and then, the result of the factor analysis using UCINET tool which provides a chart with groups of related works which conformed to the intellectual structure.

The article analyzes the factors showing, as could be expected, that the grouping interpretation is around the different roots of the works in the structure. It also analyzes the key works (nodes and sub-nodes) and their relationships, establishing the intellectual structure of behavioral strategy to achieve the aim of the paper.

*Article 2: Modelling the behavioral interaction in the business strategy room: A qualitative study based on interviews with the participants.*

*Full text in Section 2, Chapter II, page 61 of this document.*

The second article aims to analyze the process of strategy development from the participants' perspective. Various research techniques could have been chosen for the purpose. The ones most commonly used by researchers in this discipline are surveys or deductions from the outcome analysis.

However, in this article, an in-depth interview technique has been chosen in a traditional qualitative methodology approach. Surveys are not very suitable to uncover behavioral patterns, particularly biases. The analysis of the discourse of the in-depth interview methodology suits the purpose much better. There is, however, a methodological challenge due to the difficulties in reaching a good sample and conducting interviews with elite informants: they are typically time-constrained individuals, knowledgeable, used to being in a dominant position, visible in the public domain and involved in impression management (Ma et al., 2022). The challenge was confronted by the lead author, who has professional experience in executive positions in MNEs<sup>1</sup> and has been involved in strategic processes similar to the informants, allowing a leveled interaction with them.

There are a few parameters that are key to the rigor and trustworthiness of a qualitative study like this (Korstjens & Moser, 2018):

- Sampling
- Saturation
- The five quality criteria
  - Credibility: confidence that can be placed in the truth of the research findings.

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<sup>1</sup> The lead author has held positions of executive responsibility as CEO in subsidiaries of multinationals in the IT and Telecoms industries such as AT&T, EDS and Atento (part of Telefonica group) in countries like Italy and Spain.



- Transferability: the degree to which the results can be transferred to other contexts or settings with other respondents.
- Dependability: stability of findings over time.
- Confirmability: the degree to which the findings could be confirmed by other researchers.
- Reflexivity: the process of critical self-reflection about oneself as a researcher.

These parameters have been carefully considered in the article, as explained below.

### Sampling

By selecting a variety of actors with different roles and perspectives, it has been possible to get a good picture of the group's dynamics in strategy development. The sample is not particularly large because the objective is not to reach statistical representativeness. The aim is to delve deep into the perceptions of the informants of the processes studied as much as get the hidden aspects that do not emerge, with other techniques like surveys. In this way, unexpected aspects previously unknown to the researcher can emerge. Further, it is possible to avoid the social desirability bias (Krumpal, 2013) which is the tendency of survey respondents to answer questions in a manner that will be viewed favorably by others. The relatively small size of the sample can be considered conducive to the aim of the research, as the previous experience of the interviewer in similar situations allowed the researcher close association with the respondents, thus enhancing the validity of fine-grained, in-depth inquiry (Crouch & McKenzie, 2006).

The criteria for the selection of the sample includes, among the more traditional, the variety of backgrounds and experiences (members of the board of directors, executives, consultants, etc.) which brings different perspectives of similar processes. It enables a comparative analysis to reach conclusions (Glaser & Strauss, 1967). This is the reason for the long lapse of time between interviews. As indicated reaching elite informants is not easy (Ma et al., 2022). The network of professional contacts of the lead author has been used. The potential initial bias was diluted in a three-wave snowball process looking to complement the gaps observed in each of the steps (Heckathorn, 2011).

### Saturation

The previous topic of sample size typically relies on the concept of saturation (Guest et al., 2006). Saturation is the point at which no new information or themes are observed in the data. During the interviews, several themes were considered. However, when considering the specific aims of the research, saturation was reached in the relevant aspects of the study (biases, social dynamics, group and individual relationships, roles of the actors, etc.).

### Data Processing

Nvivo<sup>2</sup> software version 12 Plus was used for the discourse analysis. The 29 most common biases in business (Lovallo & Sibony, 2010) were clearly identified and thirteen selected for analysis (see Figure 1 in the article). The four social dynamics (Bradley, 2018) were selected because they reflect the agency problems and the reality that very often executives, consultants, and board members act in their own interest, not purely in that of the enterprise. These types of social behaviors particularly shown in the strategy room were the target of the study. The selected biases and group dynamics were the main elements for coding the interviews. A thorough discourse analysis was conducted, leading to the conclusions in a three-step process.

#### *Step 1*

The process followed for the analysis was based on different features of NVIVO. The process started with an exploratory stage inspecting the most general aspects of the discourse, for which the word cloud visualization technique and word frequency queries were used.

Word clouds display the most frequently occurring words in different font sizes, the more frequent, the larger. This technique was used to explore words associated with biases, as well as having a first approach to how interviewees express their perceptions. Figure 1 shows an example of one of the clouds used.

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<sup>2</sup> NVivo is a software program used for qualitative and mixed-methods research. Specifically, it is used for the analysis of unstructured text, audio, video, and image data, including (*inter alia*) interviews.



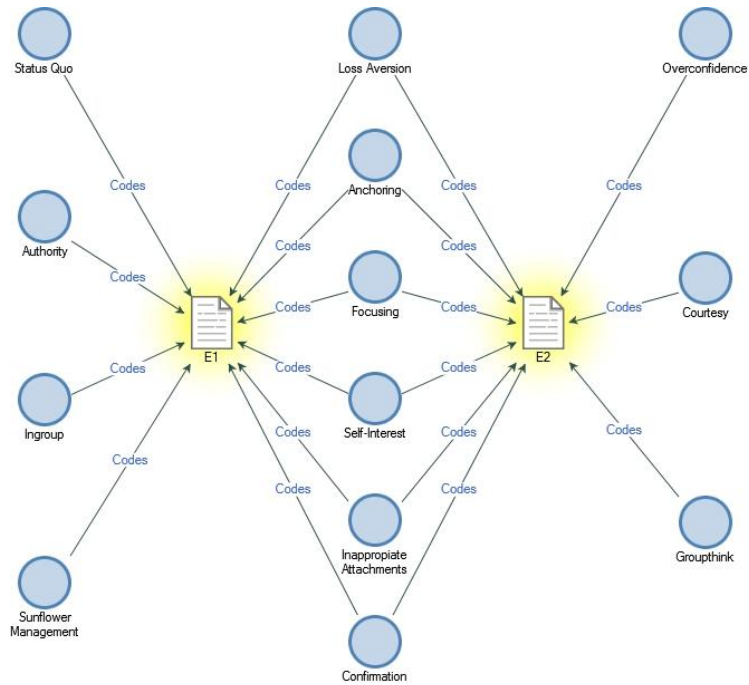


Figure 3

Then, following the reverse process, nodes in the interviews were compared. The analysis enables investigation of the reasons why some biases are more present in some interviews than others. Figure 4 shows an example of the graphs analyzed.

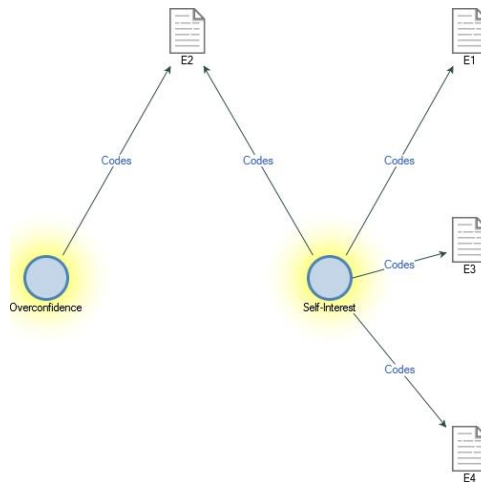


Figure 4

### Step 3

Finally, a comparative analysis of interviews/nodes was performed using a coding matrix displaying the number of times a particular bias is identified in each interview (see example in Figure 5). Interviews are selected by affinities and related to more influential nodes looking for common patterns. By developing this analysis and relating the biases and social dynamics with the actors involved, it was possible to draw a holistic interpretative model of the relations, which is among the most prominent results of this research.

	A : Self-Interest	B : Authority	C : Loss Aversion
1 : E1	3	1	10
2 : E2	6	0	4
3 : E3	6	0	7
4 : E4	2	1	2

Figure 5

### Credibility

To reinforce the rigor, informants were chosen with no connections between them. However, a confluence was observed in their perceptions, getting close to triangulation. In other words, at least two or three informants with no connections among them describe situations where a bias or social behavior can be identified. The in-depth interview technique also allowed the researcher to inquire into the most hidden areas without signals of contradictions, which could point to reality distortion.

### Transferability

The informants developed their experience and came from different positions of responsibility, from different backgrounds, and big (in terms of revenues and number of employees) multinational, multicultural companies in different industries. Despite this, as mentioned, the outcomes in the research lines were confluent in the aspects that led to the conclusions and the proposed model of interaction.

However, from the transferability criteria viewpoint, this work has some limitations: although the informants work in the strategy development processes

of big multinationals, there is a Spanish context. The companies were multinationals with headquarters in Spain or foreign multinationals operating in Spain.

Here, there is a potential for future research which uses the analysis framework of this study with other respondents to confirm the outcomes proposed.

### Dependability

The extensive experience of the respondents enabled a study of the question's evolution over time. A few elements of change have been identified and pointed out in the article, related to the evolution of industries and strategic approaches. However, the key findings in terms of biases and social behaviors, which constitute the aim of the study, have been identified along with the professional lifetime with no significant changes.

### Confirmability and Reflexibility

Finally, from the viewpoint of the confirmability criteria, trying to avoid researcher biases in the process of data collection and analysis, four researchers were involved: three authors with different backgrounds and research fields and an external researcher, a specialist in qualitative methodology, who guided and supervised the development of the research.

Triangulation of the different views of the researchers and their reflections led to a mitigation of the potential biases of the interviewer.

### Results

Besides the practical outcomes and conclusions of the research, the result is a useful model describing the most common roles and interactions happening in the strategy room.

### *Article 3: From Behavioral Strategy to Emotional Strategy:*

*It is time to use emotions as a competitive advantage*

*Full text in Section 2, Chapter III, page 93 of this document.*

Finally, the third article is a conceptual paper. As such, it is focused on the integration and proposal of new relations among strategic and business management areas of research that are currently unconnected and builds a new avenue for future research.

The current lines of research on business strategy formulation focus on how to create economic and/or social value for business stakeholders. The study of the roots and developments of behavioral strategy (literature review carried out in the first article) reveals their focus on identifying the prevailing cognitive biases and how to avoid the potential pitfalls. However, in different and unconnected approaches, researchers find that each stakeholder, as individuals or groups, once the economic and social value reaches a minimum as described in Maslow's pyramid, diverts attention to more subtle, emotional needs. Based on the professional experience of the author in the development of business strategies (almost 40 years in big multinational enterprises at the high executive level), **a theoretical gap is identified.**

Four main theories are involved in the new theory development. They can be characterized by their roles in domain theories and method theories (Lukka, 2005). The domain theory refers to a particular set of knowledge on a substantive topic situated in a field or domain. The method theory can be defined as a meta-level conceptual system for studying the substantive issues of the domain theory (Lukka & Vinnari, 2014). Following this framework, **behavioral strategy and strategic management** are taken as the **domain theories**, proposing a complementary theory covering new aspects in those fields. **Cognitive psychology and motivation theory** applied to business stakeholders are the proposed **method theory** for development (Lukka & Vinnari, 2014).

From a methodological perspective, the article follows the structure and three building blocks of theory (Dubin, 1978; Whetten, 1989): what, how, why, and who, where, and when.

What: which factors should be considered as part of the explanation of the social phenomena of interest?

The article starts by reviewing the key pillars on which the proposal is based: **business strategy, stakeholders and business social strategy, behavioral strategy, emotions, and motivation theory.** There are several other factors integrated based on the proposal but have been omitted in the review based on the parsimony

criteria, as their influence is relatively lower or could be considered included in the main pillars, as could be cognitive biases integrated with the behavioral strategy.

How are the previous factors related?

The article proceeds to review how the academic literature relates the factors, emotions, and motivation theory, to each type of business stakeholder: customers, shareholders/investors, employees, suppliers, and distributors. It reveals common patterns in these relationships. It also shows the strong link between them. Finally, it points out that business strategies are now more oriented to satisfy the needs not only of the owners (shareholders) but also of the rest of the business stakeholders.

Why: the rationale that constitutes the theory's assumptions.

Finally, the article proposes a holistic emotion-based formulation of business strategies that integrates all the pillars considered. It confirms that the model proposed complements the existing rational models, adding the emotional viewpoint which has the potential of a very significant impact on the added value for the stakeholders of company strategies.

These temporal and conceptual factors have to be added, as the main proposal is tested in real strategy formulations and further research is conducted.

The article proposes the initial basic elements for future research that covers the gap. The approach is exploratory but proposes a significant number of components for future developmental consideration.

## 6.5. Ethical considerations

This thesis has adhered to all the ethical requirements of scientific research, as per national and international protocols. The criteria of good practice throughout the research process have been carefully considered (the principle of voluntariness, the principle of non-maleficence, the principle of information to participants, etc.).

Special care has been taken in the second article, whose qualitative methodology entailed conducting interviews with managers. The ethical requirements applied were:

- a) privacy and respect: As discussed, the participants held prominent executive positions in multinational enterprises which they were very concerned with carefully protecting from all aspects, particularly from reputational damage. Therefore, it was extremely important to assure the candidates about the non-disclosure of their identity. Special attention has



been paid to this requirement to avoid the chance of participants and/or companies could be identified in the article.

- b) consent: To ensure that interviewees formally provided consent for the interview, they were asked to sign an *ad hoc* form (specimen in Annex I).
- c) project information: Before conducting the interview, the participants were informed of the purpose of the interview and about the usage of the data and information they provided. Both the doctoral thesis and the academic article for publishing were covered in this conversation. However, the strictly necessary information was provided to avoid biases during the interview, driven by the social desirability bias (Krumpal, 2013).
- d) voluntary participation: Participation in the interviews was voluntary. Regrettably, two of the identified potential interviewees refused to participate when they were informed of the different project aspects, as mentioned before.
- e) unbiased preparation of results: As described, a triangulation approach was used involving three additional researchers apart from the interviewer to avoid biases in data interpretation from all aspects, including ethical issues.

## 6.6. Details of the articles of this thesis

### 1.

The first article, "***The intellectual structure of behavioral strategy: a bibliometric study***", performs a literature review of behavioral strategy using bibliometric techniques. It draws the intellectual structure of the field, showing the most influential works grouped by the research lines.

- o The article was published in Strategic Management-International Journal of Strategic Management and Decision Support Systems on April 8, 2022 (Online February 4, 2022).

Urío, S., Redondo, R., & Gavilan, D. (2022). The intellectual structure of behavioral strategy: A bibliometric study. *Strategic Management*, 27(1), 4-21. <https://doi.org/10.5937/StraMan2110005U>

### 2.

The second article, "***Modelling the behavioral interaction in the business strategy room: A qualitative study based on interviews with the participants***", studies the behaviors and interactions among the group of participants in strategy development. By interviewing a set of participants in the strategy process of big companies, a model is drawn that describes and explains the dynamics of the process.

- o The article has been sent to the Journal of Organization Design on July 7, 2022. It is currently under review.

### 3.

The third article, "***From Behavioral Strategy to Emotional Strategy: It is time to use emotions as a competitive advantage***", proposes a new approach to business strategy development. It challenges the current approach of behavioral strategy which considers cognitive biases as obstacles to developing successful strategies. By considering the emotional needs of business companies' stakeholders, it argues that more successful strategies would be developed.

- o The article has been sent to the Journal of Management Development on July 7, 2022. It is currently under review.

# SECTION TWO

## 7. CHAPTER I: THE INTELLECTUAL STRUCTURE OF BEHAVIORAL STRATEGY

### 7.1. Introductory justification

The starting point of any research is a review of the state of the art, and so it is for this thesis. This means understanding the current knowledge about the studied matter through the analysis of similar or related published work. It, therefore, requires a review of existing literature on the subject. This first article is thus a literature review of behavioral strategy.

Behavioral strategy is not a mature discipline yet. It is also the confluence of different research fields such as psychology, sociology, and organizational management. These facts demand a holistic view so as not to lose perspective and allow drawing the structure of the discipline and the main contributions.

### 7.2. The gap

We have found a gap in the literature. As seen before, behavioral strategy is still a nascent discipline, which has developed in the last twenty years. Due to this and the difficulties that entail the confluence of such different research fields, a structured review of the literature has not been carried out to date. Previous works provide partial and specific reviews for the researcher, such as support for the specific article. To date, there is no comprehensive review like those found in other fields of research that provide researchers with an overview of the discipline.

To cover this gap, we conducted a systematic quantitative review. It is systematic because it uses a systematic and reproducible methodology. Starting from bibliographic records from the most recognized database (Web of Science) and using citation, co-citation bibliometrics, and other quantitative techniques, we drew the intellectual structure of the discipline. This approach has been used in the analysis and mapping of the evolution of science in general (Chen, 2017), strategic management (Furrer et al., 2008; Ramos-Rodríguez & Ruíz-Navarro, 2004), and many other research fields.

### 7.3. Contribution

The article bridges the gap, providing a thorough literature review of behavioral strategy.

The result of the research is not only a literature review but a map of the intellectual structure of behavioral strategy (see figure 3 of the article). There are several additional outcomes of the article, including the following.

- The most cited works in the behavioral strategy field.
- Academic institutions highly involved in the topic.
- The interactions between behavioral strategy and strategic management. It shows that there is limited interaction. Although both areas of research are closely related, behavioral strategy can be considered a differentiated field. The roots and the developments are complementary, covering and using different approaches.
- The most prominent works of the different fields (psychology, sociology, economics, strategy) “confluenting” and influencing behavioral strategy.

**The article is already cited** in the guest editorial of the Management Research Review special issue on Behavioral Strategy (Cristofaro et al., 2022) as a reference study on the subject. This cite reflects the impact the article can have on the future of the discipline.

For our purpose, the article also uncovers several gaps in the development of the discipline. Two of these gaps have been addressed in the next two articles.

#### **7.4. Conclusions for the thesis**

As mentioned, researching the intellectual structure of the discipline has two purposes:

1. Contributing to the development of behavioral strategy, providing future researchers with a structured view of the building blocks of the field.
2. As part of the overall research effort of the thesis, it helps to spot gaps not yet addressed.

The conclusions related to the first purpose are covered in the corresponding article section. The second purpose is part of the aim of this thesis and the basis for research questions two and three. The conclusions from this viewpoint are discussed in this section. A couple of significant gaps are identified. Addressing these gaps constitutes the objective of the second part of this thesis.

Behavioral strategy area is made of fragmented (Cristofaro et al., 2022) and incomplete streams of research. There is a lack of impulse to unify the field and its different “souls”, as pointed out in the cornerstone piece by Powell et al. (2011).

Analysing the latest developments in behavioral strategy, factor 1 shown in the first article found that most approaches concentrate on three aspects:

- The influence of some specific cognitive biases in strategic decisions.
- The usage of some frameworks as analogies in strategy developments.
- The implications of new psychology developments in the strategic approach

The analysis shows the research in the discipline concentrated on some aspects. There are several areas requiring further attention from researchers. Some of them are mentioned in the conclusions section of the article. Among the areas that require further analysis, two gaps stand out:

- Most of the research carried out in the discipline has used either data analysis to uncover biases from theoretically rational behaviors or conceptual developments using existing research to develop new proposals. The adoption of qualitative methodologies is well-suited for the study of individual and group behaviors. They are the manifestation of biases in decision-making strategy.
- The recognition of the fact that human emotional and cognitive biases influence the formulation of not only business strategies but also the behaviors and decisions of business stakeholders. This angle has been addressed by each stakeholder and the interaction with the company. However, the behavioral strategy field has not addressed the fact from a holistic view from a strategy development viewpoint.

These gaps are explained in detail and have been covered in two independent articles: chapters II and III of Section two of this document.

## **7.5. Article**

# The intellectual structure of behavioral strategy: a bibliometric study

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## Abstract

Behavioral strategy is a relatively new subfield of strategic management and yet its roots go back to the origins of the discipline. Its rapid growth over the last few years, the interest created in the research community, and the intrinsically diversified approaches call for organization of the intellectual structure developed by scholars. This paper aims to provide the intellectual structure of the subject based on the published research for the entire period covered by the Social Science Citation Index (SSCI) Database. By using bibliometric and data analytic techniques, we determine the key works in the development of the subfield, the groups that determine the conceptual contributions and the bridging works that provide the common bond between them. To achieve this, we have used co-citation analysis to capture relationships. It is followed by multidimensional scaling (MDS) and a principal component factor analysis (PCFA) for displaying the groups of works that constitute the different lines of research. The study offers useful insights in the discipline and conclusions for future developments in the subject for researchers and practitioners alike.

## Keywords

behavioral strategy, strategic management, literature review, co-citation analysis, bibliometrics.

## Introduction

Strategic management deals with the major initiatives taken by general managers on behalf of owners, involving utilization of resources to enhance the performance of firms in their external environments (Nag, R., Hambrick, D. C., & Cheng, M., 2007). Despite its development over more than a century, this field of knowledge is relatively young, yet immature and very fragmented, with several open lines of research (Nag et al., 2007; Nerur, S. P., Rasheed, A. A., & Natarajan, V., 2008; Pettigrew, A., Thomas, H., & Whittington, R., 2002; Volberda, 2004). Attempts have been made by a few authors to structure and summarize the main streams on the subject (Guerras-Martín, L. Á, Madhok, A., & Montoro-Sánchez, Á., 2014;

Nerur et al., 2008; Ramos-Rodríguez & Ruíz-Navarro, 2004).

One of the most recent and promising lines of research in strategic management works on the influence of cognitive processes in decision making. It encompasses several approaches to strategy and business management that consider the behavioral, non-rational character of individuals and organizations when making business decisions (Bromiley, 2005). This consideration becomes more important when looking at the two main stages of the strategic management process, formulation, and implementation, both entailing a high degree of human decision making.

Since the last decade of last century, both academics and practitioners have realized the need

to fully explore the opportunities that highlighting the behavioral component of decision making could offer to the development and implementation of business strategies. However, behavioral research in strategic management has been lagging behind other disciplines (Lovallo & Sibony, 2010; Powell, T. C., Lovallo, D., & Fox, C. R., 2011) such as economy (Tversky & Kahneman, 1974), finance (Thaler, 2005), and marketing (Dobni, B., Dobni, D., & Luffman, G., 2001).

In the initial stages, when looking at the behavioral influence in the strategic management process, the researchers focused on specific areas often unconnected to each other (Camerer & Lovallo, 1999; Felin & Foss, 2005; Levinthal & March, 1993; Ocasio, 1997). It was clearly necessary to stand back and gain perspective. A key step in structuring the knowledge and research and providing the basis for a conceptual unity to the approach was taken by Powell et al., (2011), who coined and defined the term “behavioral strategy”. Since then, it has been consolidated as a promising field within the strategic management discipline and several researchers have published studies contributing to its rapid development.

Despite the fact that literature reviews for the purpose of structuring a discipline of knowledge intellectually are mostly carried out once that discipline has reached a certain level of maturity, at other times they also address new or emerging topics that would benefit from a holistic conceptualization and synthesis of the literature (Ramdhani, A., Ramdhani, M. A., & Amin, A. S., 2014). The latter initiative is particularly required when the complexity caused by the confluence of different fields of knowledge in a new discipline requires an overall view so as not to lose perspective. This is the case of the behavioral approach in the development of business strategies, as it needs contribution from such disparate areas as psychology, sociology, and organizational management, as well as some of the main research streams of strategic management itself.

To the best of our knowledge, this need has not been addressed using a systematic bibliometric methodology to draw upon the avenues of different disciplines that are converging and developing the discipline. The attempts, previously mentioned, to delineate the intellectual structure of strategic management had not yet identified behavioral strategy as an emergent line of research within the field. Other researchers have carried out extensive narrative literature reviews as part of their work, but their aim was to support their arguments rather

than study the topic systematically (Bromiley, 2005; Powell et al., 2011).

To cover this gap, we have conducted a systematic quantitative review. It is systematic because we have used a citation and co-citation analysis methodology, which selects the literature in a way that is explicit, transparent, and reproducible, avoiding biases and subjectivity (Snyder, 2019). The objective of this article is to show the most influential works of the different research streams that are contributing to the development of the behavioral vision of strategic management. It achieves this by identifying the most influential research works and their contributions, grouping them so as to display their structure and development.

This paper is not a substitute for exhaustive study of the content, but rather contributes to assessing the degree of influence and relationships between each of the works and the different fields of knowledge they come from, on objective parameters. The results will help scholars develop this line of research further by clarifying the confluence of the disciplines, through indicating the building blocks used by researchers. This approach will also help practitioners by clearly identifying and delineating the foundations of the intellectual structure of the discipline.

The article is organized into three sections. The first is a review of the methodology in general and its application in this case. The second presents and analyzes the results of the study (describing the different analyses according to the final scheme). The third summarizes the main conclusions obtained, possible limitations, and future research.

## 1. Methodology

We have chosen citation analysis for the review because it is the technique most accepted in academia to measure the quality and influence of scholarly publications (Cole & Cole, 1971). The assumption is that the works, and authors cited by researchers who explicitly devote their effort to the development of the field, are those that have influenced them to build their contributions (Smith, 1981). This methodology therefore allows the definition of the key influencers in the discipline and it is an objective and powerful tool to systematically analyze a large number of works.

However, the establishment of relationships between works and therefore of the intellectual structure of the discipline requires going beyond mere citation. To achieve this, we have used co-citation analysis to capture relationships. It is

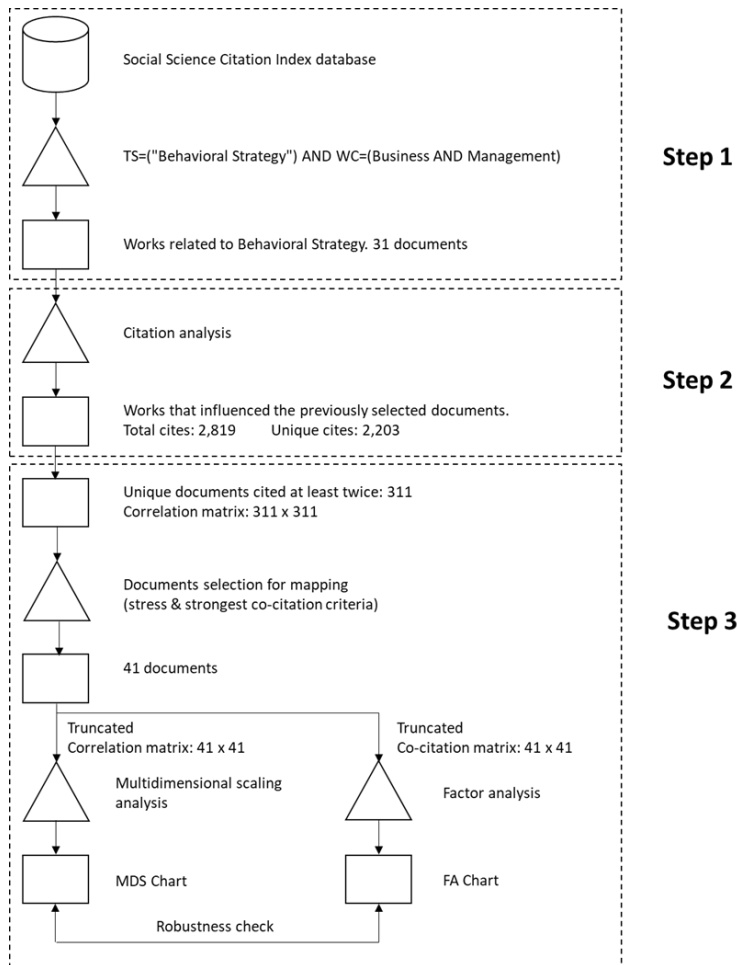


followed by multidimensional scaling (MDS) and a principal component factor analysis (PCFA) for displaying the groups of works that constitute the different lines of research.

### 1.1. Methodology used in this paper

In the case of behavioral strategy, finding the key authors systematically is particularly difficult because of its essential interdisciplinarity. The approaches of seminal articles and the keywords used to position them are not homogeneous. To

overcome this difficulty, and to obtain a representative collection of behavioral strategy research, we have carried out a three-step process which allowed us to perform a wide visual sweep of the discipline: first, we focused on the works which explicitly use the term “behavioral strategy”, second, we used a wide-angle lens to examine the works cited by studies selected in the first step, and finally, we used co-citation technique to reduce the focus distance and raise the intellectual structure (see Figure 1).



**Figure 1:** Research steps  
Source: the authors

In the first step, we retrieved an initial group of papers from the Social Science Citation Index database from all sources and the time period available, using “behavioral strategy” as the search string. To make sure we were working with the right discipline, the results were filtered by the categories “business” and “management”. This

search provided 31 documents. The limited number of publications located is due to the fact that the term “behavioral strategy” has gained currency in the field only recently.

In the second step, we retrieved the 2,203 unique cited documents from the previous extraction to perform a citation analysis and gain a

view of the literature that influenced them. Not all these cited documents were related to behavioral strategy, as researchers cite in their works documents that support all the aspects covered.

In the third step, we examined the co-citations and their frequency as a proxy for the commonality of the citations around the behavioral strategy topic. The assumption was that frequently co-cited papers represent the key concepts, methods or experiments in the field (Small, 1973). From the 2,203 cited documents of the previous step, we got a co-citation matrix well above four million cells. In order to refine the selection and make the co-citation matrix manageable, we reduced this matrix by selecting the 311 most frequently (at least twice) cited papers (Bergh, D. D., Perry, J., & Hanke, R., 2006; García-Lillo, F., Úbeda-García, M., & Marco-Lajara, B., 2016; Ramos-Rodríguez & Ruíz-Navarro, 2004). This is well over the number selected by other researchers, precluding omission of papers that could be significant and reaching the computational limit of the software used (SPSS, v26). Following Ramos-Rodríguez and Ruíz-Navarro (2004), we then used r-Pearson correlation as a measure of similarity between documents and considered main diagonal as missing data. Once the correlation matrix was determined, we applied multidimensional scaling technique (MDS) using stress as a goodness of fit index. As stress value depends on the number of documents and their original configuration, we had to select the number of papers to map. If the number of papers is between 20 and 50, the stress measure is optimal and allows a readable map in a reduced space, providing a clear graphical representation and containing an adequate number of works to enable the intellectual structure of the field to emerge (Ramos-Rodríguez & Ruíz-Navarro, 2004).

To make that selection, we determined the strongest co-citation as the maximum frequency a paper was co-cited with any other. For example, Gavetti, Greve, Levinthal and Ocasio’s (2012) strongest co-citation was 8, the number of co-cites with Powell, Lovallo and Fox (2011), whereas it was co-cited fewer times with other papers.

$$\text{Strongest co-citation (paper}(i)) = \max(k) \text{ so that co-citation (paper}(i), \text{paper}(j)) = k \text{ for certain } j = 1, 2, \dots, 2044$$

We explored both the number of papers and the number of total co-citations involved, considering

those papers with strongest co-citations, where  $s = 1, 2, \dots, 8$ , as 8 was the maximum number of co-citations linking two particular papers in the co-citation matrix. Table 1 shows the results of this exploration.

**Table 1** Number of papers per co-citation level.

strongest co-citation considered	number of papers	number of co-citations
1	2.044	152.346
2	303	19.556
3	99	5.159
<b>4</b>	<b>41</b>	<b>1.505</b>
5	11	180
6	5	48
7	3	21
8	3	21

Source: the authors

Accordingly, we chose the 41 documents that presented a frequency of 4 with at least one other document in the co-citation matrix.

Finally, we conducted a factor analysis on the truncated co-citation matrix corresponding to the 41 selected works as a robustness check and grouping them to map the intellectual structure of the field.

## 2. Results and discussion

### 2.1. Initial extraction analysis

We first conducted an analysis of the 31 extracted from the SSCI database using “behavioral strategy” as the keyword (see Figure 1). Table 2 shows the initial list of top works ranked by their year of publication and number of citations. In spite of the large number of top ranked citations, the number of entries is small, as the extraction was based on a keyword/term coined in 2011. Thus, all documents retrieved are dated within the period 2011–2021.

**Table 2** List of works ranked by year and number of cites

No.	Authors	Cites	Local cites
<b>2011</b>			
1	Powell, T.C., Lovallo, D., Fox, C.R.	260	19
2	Hodgkinson, G.P., Healey, M.P.	202	7
<b>2013</b>			
3	Barney, J., Felin, T.	176	1
4	Reitzig, M., Sorenson, O.	37	2
<b>2014</b>			
5	Powell, T.C.	16	2
6	Hodgkinson, G.P., Healey, M.P.	18	1
<b>2015</b>			
7	Woodside, A.G.	12	0
8	Maitland, E., Sammartino, A.	42	0
9	Reitzig, M., Maciejovsky, B.	17	1
<b>2016</b>			
10	Artinger, S., Powell, T.C.	21	2
11	Reilly, G., Souder, D., Ranucci, R.	16	0
12	Schillebeeckx, S.J.D., Chaturvedi, S., George, G., King, Z.	9	0
<b>2017</b>			
13	Elfenbein, D.W., Knott, A.M., Croson, R.	3	0
14	Luoma, J., Ruutu, S., King, A.W., Tikkanen, H.	5	0
15	Sibony, O., Lovallo, D., Powell, T.C.	10	0
16	Healey M.P., Hodgkinson, G.P.	7	0
17	Powell, T.C.	9	0
18	Meissner, P., Wulf, T.	4	0
19	Bardolet, D., Brown, A., Lovallo, D.	1	0
20	Souder, D., Bromiley, P.	2	0
21	Bettis, R.A.	7	0
22	Levine, S.S., Bernard, M., Nagel, R.	11	1
<b>2018</b>			
23	Ocasio, W., Laamanen, T., Vaara, E.	17	0
24	Tarakci, M., Ates, N.Y., Floyd, S.W., Ahn, Y., Wooldridge, B.	7	0
25	Rhee, L., Leonardi, P.M.	7	0
26	Luoma, J., Falk, T., Totzek, D., Tikkanen, H., Mrozek, A.	3	0
27	Osiyevskyy, O., Dewald, J.	1	0
<b>2019</b>			
28	Mohliiver, A.	2	0
29	Di Stefano, G., Gutierrez, C.,	1	0
30	Du, X.J., Li, M., Wu, B.	0	0
<b>2020</b>			
31	Porck, J.P., van Knippenberg, D., Tarakci, M., Ates, N.Y., Groenen, P.J.F. et al.	1	0

Source: the authors

The list of institutions shows a significant involvement of European universities using and supporting the behavioral strategy research term in the field. Of the top eleven institutions with two or more works, nine are European, with an Australian and an American university completing the list (see

Table 3). In addition to the strength in cognitive psychology development, particularly in British institutions, this fact points to a higher acceptance of the term “behavioral strategy” by European academia when compared with researchers from other geographies.

**Table 3** List of Institutions ranked by number of works (with Total Local and Total Global Cited Score).

Institution	Recs	TLCS	TGCS
Univ Oxford	5	23	316
Aalto Univ	3	0	25
Univ Manchester	3	8	227
Univ Sydney	3	19	271
Bilkent Univ	2	0	8
Erasmus Univ	2	0	8
HEC Paris	2	0	11
Tilburg Univ	2	0	8
Univ Connecticut	2	0	18
Univ Vienna	2	3	54
Univ Warwick	2	8	220

Source: the authors

## 2.2. The most influential works in behavioral strategy

In the second step of the process, we conducted a citation analysis of the works cited in the records initially extracted. Table 4 shows the top cited works (up to 5 times). The top ten positions look at different aspects of firms’ behavior which should be considered from a strategic management point of view.

There is a first group of authors which belong to the early roots of the behavioral theory of the firm, found at the second position, in Cyert and March (1963) together with sixth placed March and Simon (1958). The three authors led the so-called Carnegie School which, working in the field of organizational behavior, questioned rationality in human decision making and developed the concept of bounded rationality. This approach, which applied the cognitive research of psychology in organizations for the first time, was the basis for behavioral research extended to other economic and business fields.

Grounded in the developments of the first group, Kahneman and Tversky (1979) article is seminal for behavioral economics which had a significant influence in strategic management developments. In a later article, Kahneman and Lovallo (1993), analyze the biases in risk taking documented in psychological research and the

implications for decision making in organizations. The influence of heuristics has been one of the main subjects of research in organizational behavior (Loock & Hinnen, 2015).

Working on the path of behavioral decision-making and psychological biases, there were a group of works dealing with different aspects of their influence in strategic management. Camerer and Lovallo (1999) explore the overconfidence bias in individuals and organizations, Levinthal and March’s (1993) the myopia of learning as an early warning in strategic management research based on rational grounds and Ocasio’s (1997) focuses on the attention-based view of the firm.

Finally, in this time travel along the most cited articles, there is a group of works stressing behavioral aspects as key for strategy definition and implementation as the source of competitive advantage. At the top of the list is the article that defines the term “behavioral strategy” (Powell et al., 2011). This was the lead article and introduction to the Strategic Management Journal special issue on the “Psychological foundations of strategic management”. Two more articles from the same issue are in top positions, Levinthal (2011) and Hodgkinson and Healey (2011) marking the actual birth of the subfield. Gavetti (2012) joins this group one year later signaling that superior opportunities are cognitively distant.

**Table 4** List of top cites.

Rank	#	Work
1	23	Powell, T. (2011)
2	11	Cyert, R. (1963)
3	9	Levinthal, D. (2011)
4	8	Camerer, C. (1999)
5	8	Gavetti, G. (2012)
6	7	Levinthal, D. (1993)
7	7	Kahneman, D. (1979)
8	7	Kahneman, D. (1993)
9	7	March, J. (1958)
10	7	Ocasio, W. (1997)
11	7	Teece, D. (2007)
12	6	Hambrick, D. (1984)
13	6	Hodgkinson, G. (2008)
14	6	Hodgkinson, G. (2011)
15	6	Simon, H. (1947)
16	6	Zajac, E. (1991)
17	6	Zollo, M. (2002)
18	5	Gary, M. (2012)
19	5	Gavetti, G. (2005)
20	5	Gavetti, G. (2007)
21	5	Huy, Q. (1999)
22	5	Kahneman, D. (1982)
23	5	Lovallo, D. (2012)
24	5	Porter, M. (1980)
25	5	Teece, D. (1997)
26	5	Thaler, R. (2008)
27	5	Tversky, A. (1974)
28	5	Schwenk, C. (1984)

**Source:** the authors

### 2.3. Strategic management vs. behavioral strategy influencers

As an extension of the previous analysis, we have compared our ranking of the most influential works in the behavioral strategy field with the parent discipline of strategic management. For the purpose we first used Ramos-Rodríguez and Ruiz-Navarro's (2004) ranking of the most cited strategic management works for the period 1980–2000 (see Table 5). As this research ends with the century, we added the comparison with the study of Furrer, Thomas and Goussevskaia (2008) which extends

the research period to 2005, but focuses only on the articles published in four of the leading journals of strategy (AMJ, AMR, ASQ, and SMJ) (see Table 6). The comparison shows the intersection of the two sets of influential works for the field and the discipline. Although their study periods ended more than fourteen years ago, it is a valuable analysis, as most of the cited works in behavioral strategy fall within the research periods. The results show a very limited intersection between the lists, pointing to the fact that even if we consider behavioral strategy to be a field within the

discipline of strategic management, it is at the intersection of a varied mix of disciplines and rather than a branch it should be considered a complement that nurtures the current and future development of the discipline.

**Table 5** Ranking comparison strategic management vs behavioral strategy

Rank SM	Work	Rank BS
1	Porter (1980)	18
2	Rumelt (1974)	-
3	Porter (1985)	338
4	Chandler (1962)	338
5	Williamson (1975)	-
6	Nelson and Winter (1982)	29
7	Pfeffer and Salancik (1978)	-
8	Miles and Snow (1978)	338
9	Cyert and March (1963)	2
10	Thompson (1967)	-
11	Hofer and Schendel (1978)	338
12	Wernerfelt (1984)	29
13	Barney (1991)	70
14	Lawrence and Lorsch (1967)	70
15	Andrews (1971)	338
16	Penrose (1959)	338
17	Ansoff (1965)	338
18	Williamson (1985)	-
19	Scherer (1980)	338
20	Quinn (1980)	-
21	Prahalad and Hamel (1990)	338
22	Dierickx and Cool (1989)	-
23	Jensen and Meckling (1976)	134
24	Weick (1969)	-
25	March and Simon (1958)	6
26	Mintzberg (1978)	-
27	Bower (1970)	29
28	Child (1972)	-
29	Aldrich (1979)	-
30	Barney (1986)	70
31	Hannan and Freeman (1984)	-
32	Lippman and Rumelt (1982)	70
33	Mintzberg et al. (1976)	338
34	Burns and Stalker (1961)	-
35	Cohen and Levinthal (1990)	70
36	Hambrick and Mason (1984)	12
37	Rumelt (1984)	338
38	Buzzell et al. (1975)	-
39	Tushman and Anderson (1986)	-
40	Hannan and Freeman (1977)	-

**Source:** the authors based on Ramos-Rodríguez and Ruíz-Navarro, 2004

Some works have been very influential for both behavioral strategy and strategic management: March and Simon (1958), Cyert and March (1963) and Porter (1980). The first two, the cornerstones

of the behavioral theory of the firm, are ranked among the top ten in behavioral strategy and the top twenty-five in strategic management. The last is the most influential in strategic management and

ranks eighteenth in behavioral strategy.

**Table 6** Ranking comparison strategic management vs behavioral strategy

Rank SM	Work	Rank BS
1	Barney (1991b)	56
2	Cohen and Levinthal (1990)	56
3	Teece et al. (1997)	17
4	Wernerfelt (1984)	29
5	Nahapiet and Ghoshal (1998)	312
6	Powell et al. (1996)	-
7	Dyer and Singh (1998)	119
8	Grant (1996)	119
9	Uzzi (1997)	-
10	Peteraf (1993)	312
11	Eisenhardt and Martin (2000)	29
12	Dierickx and Cool (1989b)	-
13	Williamson (1991)	-
14	Tushman and Anderson (1986)	-
15	Gulati (1995)	-
16	Szulanski (1996)	119
17	Amit and Schoemaker (1993)	56
18	Leonard-Barton (1992)	312
19	Hambrick and Mason (1984)	11
20	Eisenhardt (1989a)	312
21	Ring and Van de Ven (1994)	-
22	Hamel (1991)	-
23	Gulati (1998)	-
24	Levinthal and March (1993)	5
25	Eisenhardt and Tabrizi (1995)	-
26	Oliver (1991)	-
27	Ouchi (1980)	-
28	Kogut (1988)	-
29	Lane and Lubatkin (1998)	-
30	Eisenhardt (1989b)	56
31	Ring and Van de Ven (1992)	-
32	Suchman (1995)	-
33	Spender (1996)	312
33	Doz (1996)	-
35	Conner (1991b)	-
36	Mitchell et al. (1997)	-
37	Parkhe (1993)	-
38	Powell (1995)	-
39	Gulati et al. (2000)	-
40	Henderson and Cockburn (1994)	312

**Source:** the authors based on Furrer et al., 2008

Some other works that have been very influential in strategic management do not even appear in the list of works most cited in behavioral strategy: Rumelt (1974), Williamson (1975), Pfeffer and Salancik (1978), Uzzi (1997), and Thompson (1967). Their arguments on firm

organization and relation to external markets have not had any significant citation impact among the field authors.

Finally, some works which have been key in the development of behavioral strategy are not ranked among the top studies for strategic management. A

significant group of contributions to behavioral strategy have come in the new century. The number of citations they have received is small in relation to works that have been exposed for longer periods of time, as regards influence in the discipline. Also, as we discuss later, behavioral strategy is at the intersection of business strategy, economy, and cognitive sciences. Some works from the last three named disciplines have had a very influential role in the field but almost no impact on the strategy main discipline. Some missing works are less obvious. Levinthal and March (1993) about the pitfalls of learning organizations, is not in the top fifty list of strategic management in the first list and is only twenty-fourth in the second, but it sits in a prominent fifth position on the behavioral group list. Learning organizations has been a hot topic in the discipline for a long period of time, and March has been considered a key contributor.

### 2.4. The intellectual structure of behavioral strategy.

In the third step of the process we grouped the cited documents to build the map of the intellectual structure of behavioral strategy. For this purpose, we paired the cited works of the previous step according to their co-citation in the initial document's extraction. As explained in the methodology, we selected 41 papers (strongest co-citation 4) and used their co-citations for the analysis. As a result, 65 pairs of works were obtained.

Figure 2 shows the application of MDS to the selected documents, yielding excellent goodness of fit (stress = 0.032). In the Figure, we have already labeled the factors of the subsequent analysis (see Table 8).

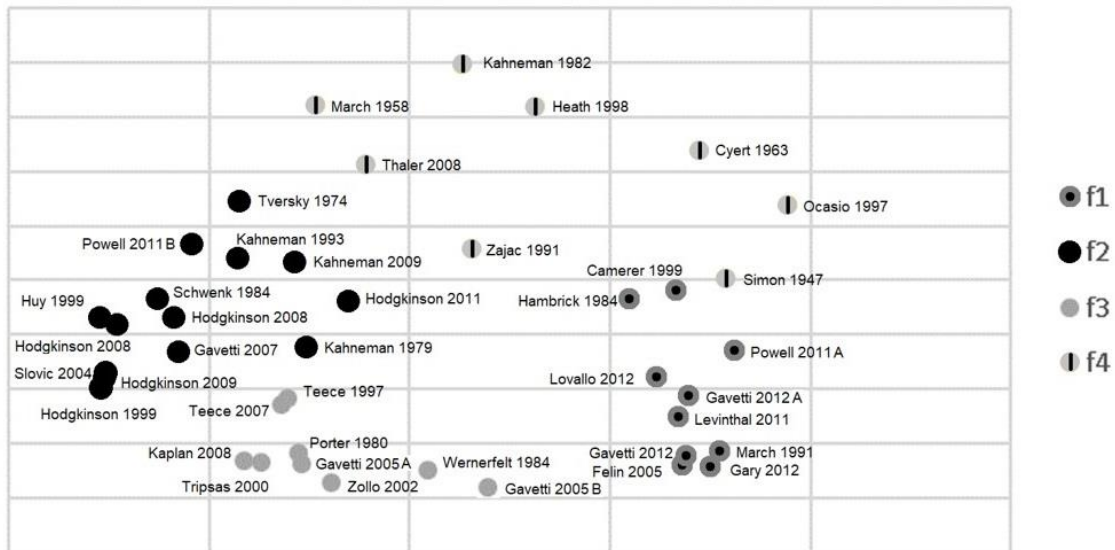


Figure 2: MDS two-component space. Source: the authors

In order to check the robustness of our results and to have a more objective method than simple visual inspection to group the documents, we conducted a factor analysis (principal component extraction method) on the co-citation matrix confined to the 41 selected papers, extracting 4 factors and applying varimax rotation. The selection of 4 factors to be extracted was also

supported on the scree plot/elbow curve (showing a dramatic drop off in the 5th eigenvalue compared to the 4th) and the total amount of explained variance reached (61%) with the four factors retained (see Appendix). Table 7 presents the rotated factor matrix.



**Table 7** Rotated component matrix

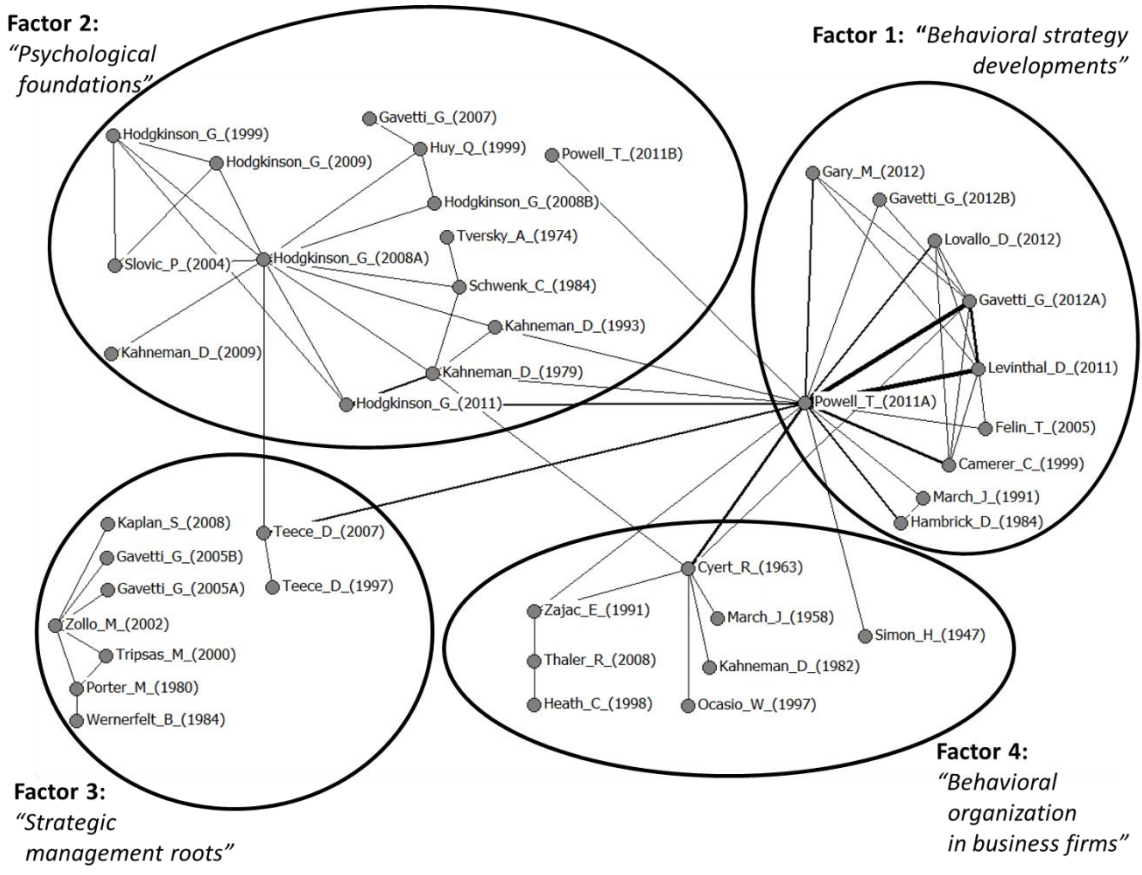
	Factor			
	F4	F3	F2	F1
Gary, M., 2012, V33, P1229, Strategic Manage J	0,849			
Gavetti, G., 2012, V6, P1, Acad Manag Ann	0,839			
Felin, T., 2005, V3, P441, Strategic Organization	0,826			
Lovullo, D., 2012, V33, P496, Strategic Manage J	0,824			
Levinthal, D., 2011, V32, P1517, Strategic Manage J	0,813			
Gavetti, G., 2012, V23, P267, Organ Sci	0,783			
Camerer, C., 1999, V89, P306, Am Econ Rev	0,755			
March, J., 1991, V2, P71, Organ Sci	0,689			
Hambrick, D., 1984, V9, P193, Acad Manage Rev	0,679			
Powell, T., 2011, V32, P1369, Strategic Manage J	0,506			
Slovic, P., 2004, V24, P311, Risk Anal		0,785		
Hodgkinson, G., 1999, V20, P977, Strategic Manage J		0,785		
Hodgkinson, G., 2009, V42, P277, Long Range Plann		0,785		
Tversky, A., 1974, V185, P1124, Science		0,780		
Kahneman, D., 1993, V39, P17, Manage Sci		0,770		
Kahneman, D., 2009, V64, P515, Am Psychol		0,757		
Powell, T., 2011, V32, P1484, Strategic Manage J		0,722		
Hodgkinson, G., 2008, V59, P387, Annu Rev Psychol		0,719		
Hodgkinson, G., 2011, V32, P1500, Strategic Manage J		0,702		
Schwenk, C., 1984, V5, P111, Strategic Manage J		0,696		
Hodgkinson, G., 2008, V99, P1, Brit J Psychol		0,682		
Huy, Q., 1999, V24, P325, Acad Manage Rev		0,635		
Kahneman, D., 1979, V47, P263, Econometrica		0,572		
Gavetti, G., 2007, V18, P523, Organ Sci		0,461		
Tripsas, M., 2000, V21, P1147, Strategic Manage J			0,800	
Kaplan, S., 2008, V51, P672, Acad Manage J			0,782	
Gavetti, G., 2005, V16, P599, Organ Sci			0,766	
Zollo, M., 2002, V13, P339, Organ Sci			0,690	
Porter, M., 1980, Competitive Strategy			0,664	
Wernerfelt, B., 1984, V5, P171, Strategic Manage J			0,632	
Teece, D., 1997, V18, P509, Strategic Manage J			0,609	
Gavetti, G., 2005, V26, P691, Strategic Manage J			0,512	
Teece, D., 2007, V28, P1319, Strateg Manage J			0,353	
Heath, C., 1998, V20, P1, Res Organ Behav				0,685
Kahneman, D., 1982, Judgment Uncertainty				0,663
March, J., 1958, Organizations				0,662
Thaler, R., 2008, Nudge Improving Deci				0,610
Ocasio, W., 1997, V18, P187, Strategic Manage J				0,609
Zajac, E., 1991, V16, P37, Acad Manage Rev				0,602
Simon, H., 1947, Adm Behav Study Deci				0,595
Cyert, R., 1963, Behav Theory Firm				0,533

**Source:** the authors



Finally, we plotted the network map with the 65 pairs of 41 documents grouped by the factor analysis and proceeded to analyze the

commonalities of each group. The graph can be seen in Figure 3.



**Figure 3 Group analysis**  
Source: the authors

In the Figure we can identify the central node of the network and the four groups of works determined by factor analysis. All four factors revolve around the central node, Powell et al., (2011), where behavioral strategy and the structure of the main areas of the field are

defined (Powell et al., 2011). Having once defined the groups' structure, we labeled and analyzed the commonalities of the factors and their contribution to the intellectual structure (see Figure 4)

Group	Rank	CoCit	SM	BS	BDR	BTF	TMT	Learn	Org	HB	Journal/Book/Main	
<b>Behavioral strategy devs.</b>												
Simon_H_(1947)	28	4			X				X		Book Decision-making processes in admin. organization	
Hambreck EMason	20	9	X				X		X		Acad.Manag.R.Upper echelons: the organization and its top managers	
March_J_(1991)	21	8	X					X	X		Org.Sci. Exploration and exploitation in organizational learning	
Camerer_C_Lovallò	8	18	X	X					X		Am.Econ.Rev.Overconfidence and excess entry	
Fel'm_T_(20Foss)	21	8	X	X				X	X		Strategic Organ.Individuals and microfoundations in strategic org.	
Powell_T_(Lovallò)	1	88	X	X					X		Strategic Manag.BS definition	
Levinthal_D_(2011)	3	29	X	X					X		Strategic Manag.A behavioral approach to strategy	
Gavetti_G_(2012A)	3	29	X	X					X		Org.Sci. Behavioral theory of strategy	
Gavetti_G_(Greeve)	21	8	X	X		X			X		Acad.Manag.A Behavioral theory of the firm	
Lovallò_D_Clarke	9	17	X	X	X				X		Strategic Manag.Analogies to improve strategic decisions	
Gary_M_(20Wood)	10	13	X	X	X			X			Strategic Manag.Analogical transfer in strategic decision-making	
<b>Psychological foundations</b>												
Kahneman_D_(1979)	5	25			X						Book Prospect theory	
Tversky_A_Kahneman	28	4		X	X				X		Science Judgment under uncertainty: Heuristics and Biases	
Schwenk_C_(1984)	13	12	X		X				X		Strategic Manag.Cognitive simplification in strategic decision-making	
Kahneman_ILovallò	13	12	X	X	X				X		Manag.Sci. Cognitive perspective on Risk Taking	
Hodgkinson_Healey	10	13	X	X	X	X			X		Strategic Manag.Psychological foundations of Dynamic Capabilities	
Hodgkinson_Healey	2	44			X			X	X		Annu.Rev.Psych.Cognition in Organizations	
Hodgkinson_Brown	13	12			X			X	X		Strategic Manag.Decision making under uncertainty	
Itay_Q_(1999)	13	12			X			X	X		Acad.Manag.R.Emotional Capabilities of Organizations	
Slovic_P_(2Finucane)	13	12			X			X	X		Risk Anal. Risk and rationality	
Hodgkinson_Langans-Fox_Sadler-S.	21	8			X			X	X		Br.J.Psychol.Intuition	
Gavetti_G_(Levinthal)	28	4			X			X	X		Org.Sci. Decision centered organizations	
Kahneman_IKlein	28	4			X			X	X		Am. Psychol. Intuitive expertise	
Hodgkinson_Sadler-S.	13	12			X				X		Long Range Pla.Intuition in organizations	
<b>Strategic management roots</b>												
Porter_M_(1980)	13	12	X								Book Competitive Strategy: Analysis	
Wemerçit_B_(1984)	28	4	X						X		Strategic Manag.Resource Based View of the firm	
Teece_D_(1Pisano)	28	4	X					X	X		Strategic Manag.Dynamic Capabilities and strategic management	
Zollo_M_(2Winter)	7	20	X						X		Organ. Sci. Evolution of Dynamic Capabilities	
Teece_D_(2007)	10	13	X					X	X		Strategic Manag.Explicating dynamic capabilities	
Tripsas_M_Gavetti	21	8	X		X			X	X		Strategic Manag.Capabilities, Cognition and Inertia	
Kaplan_S_(2008)	28	4	X		X			X	X		Acad. Manag. Cognition, Capabilities and Incentives	
Gavetti_G_(Levinthal)	28	4	X		X			X	X		Strategic Manag.Strategy and Analogy	
Gavetti_G_(Rivkin)	28	4	X		X			X	X		arv. Bus. Re.Strategy and Analogy	
<b>Behavioral org. in business firms</b>												
Cyert_R_(11March)	6	22							X		Book Behavioral theory of the firm	
Kahneman_JSlovic	28	4			X				X		Book Judgment under uncertainty: Heuristics and Biases	
March_J_(1Simon)	28	4			X				X		Book Organizations	
Ocasio_W_(1997)	28	4			X		X		X		Strategic Manag.Attention-based view of the firm	
Thaler_R_(Sunstein)	21	8			X			X	X		Book Nudge theory	
Zajonc_E_(11Bazerman)	21	8	X	X	X			X	X		Acad.Manag.R.Blind spots in industry and competitor analysis	
Heath_C_(1Larrick)	28	4	X	X	X			X	X		Res.Organ.Beh.Cognitive repairs	
SM	Strategic Management				BTF	Behavioral Theory of the Firm				Org	Organizations	
BS	Behavioral Strategy				TMT	Top Management Teams				HB	Heuristics and Biases	
BDR	Behavioral Decision Research				Learn	Learning Organization						

Figure 4 Works by topic research topic  
Source: the authors

#### 2.4.1. Factor 1: Behavioral roots in business and economics

The group gathers the works which set the pillars of behavioral aspects in economics and business. On average, it is a group with an older date of publication. Half (four out of eight) are books rather than articles. It is a group with higher number of co-citations with the central node, indicating which is not specifically about behavioral strategy but can be considered as its precursor.

It is made out of three branches or subgroups. In the first, standing alone, there is the seminal work of Simon (1947) about decision-making processes in administrative organizations. It introduces the concept of satisficing opposed to the traditional economic optimization, as the criteria for decision-making. The book was of paramount influence for the Nobel Prize in Economic Sciences to Simon in 1978. The second links three top pillars of behavioral economics: Zajac and Bazerman (1991), blind spots in industry and competitor analysis, Thaler and Sunstein (2008), nudge theory and Heath, Larrick and Klayman, (1998), cognitive repairs. Finally, four key works on firm behavior are grouped around the principles of the Carnegie School: Cyert and March (1963), behavioral theory of the firm, March and Simon (1958), organizations, Kahneman, Slovic and Tversky, (1982) judgement under uncertainty and Ocasio (1997) attention-based view of the firm.

#### 2.4.2. Factor 2: Main stream strategic management influences

The group gathers the strategic management works that have influenced the developments of behavioral strategy most. The main branch is isolated and has no link with any of the other works. The other branch gathers the two main works of Teece which leads the “Dynamic Capabilities” approach in strategic management. Teece (2007) is the only work linking with the rest of the pack, but it pairs with the two most influential works of the study, the central nodes of factors 3 and 4.

The influence and some degree of interrelationship between strategic management and behavioral strategy are clear. However, the lack of pairing between this group and the central node and the remaining factor 4 works indicate that the latter should be considered more an independent topic which complements the former than a subfield of the main strategic

management stream.

#### 2.4.3. Factor 3: “Psychological foundations”

This group is the most populated. We have labeled it “psychological foundations”, as it is a group that contains the main works in the psychology discipline influencing strategic management. It is located on the left side of the chart and takes fourteen works of twenty different authors. This group has a central node (Hodgkinson & Healey, 2008) which reviews all major developments from 2000 to early 2007 in the psychological analysis of cognition in organizations. This node is co-cited with ten works of the cluster, which indicates its central role but has no direct co-citation link with the main central node of the network.

In the “Psychological Foundations” group, there are five works of G.P. Hodgkinson, and three of D. Kahneman, making these authors the key influencers of the discipline from the group perspective.

Three subgroups can be identified:

The “decision-making” subgroup covers key aspects of this cognitive process, from intuition (Hodgkinson, G. P., Sadler-Smith, E., Burke, L. A., Claxton, G., & Sparrow, P. R., 2009) to risk and uncertainty influence (Hodgkinson, G. P., Bown, N. J., Maule, A. J., Glaister, K. W., & Pearman, A. D., 1999; Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G., 2004). The three works together with the central node of the cluster are co-cited in pairs, making this a very connected and cohesive subgroup. Also, on the role of intuition in heuristics and biases (HB) and naturalistic decision making (NDM) is the article from Kahneman and Klein (2009) which is not co-cited with the members of this cluster but is with the central node.

The second subgroup applies the psychology developments to the behavior of organizations. Gavetti, Levinthal and Ocasio (2007) point out that the defining commitment to decision-centered view of organizations of the Carnegie School had given way to learning, routines and an increasing focus on change and adaptation and argue to regain the initial focus and incorporate major developments post-Carnegie both within organization theory and in the behavioral and social sciences broadly. Quy Huy takes emotional intelligence individual behaviors and links them with organization behavior specifically in change situations to

develop the concept of emotional capability (Huy, 1999). Finally, Hodgkinson, Langan-Fox and Sadler-Smith (2008) introduce intuition as a concept which was underdeveloped but had high potential in exploring behaviors.

We have named the third subgroup “cognitive process”. It includes three works that touch on some key biases of the business decision-making psychological process: simplification and judgement under uncertainty (Kahneman & Lovallo, 1993; Schwenk, 1984; Tversky & Kahneman, 1974). The first analyzes executive biases when they consider problems as unique, taking cautious or optimistic attitudes based on plans instead of considering previous experiences. Schwenk applies the simplification biases studied by psychologists to executive decision making and its implications. The last of the three is one of the most cited articles in cognitive bias used by researchers to explore behavioral sciences.

As we have mentioned, the central node of the group is not connected to the central node of the structure. This is done by three key works which act as the intellectual bridge to the rest of the discipline. Kahneman and Tversky (1979) prospect theory, already described as one of the key influencers, is co-cited with the central node of the network, linked with Cyert and March (1963) the central node of factor 4 and with four other works of factor 2 making this work a clear link between three groups of documents. Hodgkinson and Healey (2011), as previously mentioned, look at the psychological foundations of dynamic capabilities. The third link is Kahneman and Lovallo’s (1993) work on a cognitive perspective on risk taking.

#### **2.4.4. Factor 4: “Behavioral strategy developments”**

This factor groups the set of works that have developed behavioral strategy. The central node is part of the group and as stated before marks the definition of the term and sets the basic principles of the discipline. All works in the factor group are co-cited with it. Four of the works were published before the central node. Another five came out subsequently and are already under its umbrella. Six frequently cited works belong to the group, despite having been published recently.

Within the group, two stands as a separate branch: Hambrick and Mason (1984) look at strategic behavior of top management and

March (1991) at a learning organization. Both continue the research line of the behavioral theory of the firm, early pointing to the implications on the business strategy and somehow bridge with the works of factor 1 despite not being co-cited with any of them.

Building bridges with factor 3, Camerer and Lovallo (1999) work on the influence of one of the most common bias in decision-making, overconfidence, in the classic strategic decisions in new market entries. It is one of the most cited articles and it is co-cited with a few other works of the factor pointing to the strong influence exerted in the discipline.

There is another key element of this factor also published before 2011. It is an editorial essay by Felin and Foss (2005) drawing attention to the emphasis put on the organization in strategic organizational research, neglecting the role of individuals who take decisions on individual mechanisms. The focus of the essay is on the organizational capabilities-based literature in strategic management, which serves as a specific example of a more general problem: the lack of attention to individuals in the strategic organizational approach.

The other five works are all inter co-cited particularly having a particularly strong co-citation with the central node, Levinthal (2011) and Gavetti (2012), all three acting as the cornerstones of the definition of the discipline. One year later, Gavetti, with Greeve, Levinthal and Ocasio (2012), reinforced the concepts focusing on the firm ecosystem. Another two articles forming part of this group were published in 2012 (Gary, M. S., Wood, R. E., & Pillinger, T., 2012; Lovallo, D., Clarke, C., & Camerer, C., 2012). Both look at the use of analogies, a very common tool used in taking strategic decisions under uncertainties and novel situations and explore its advantages and pitfalls. As we saw in the previous factor, the cognitive process of analogies in decision-making is featured in other groups of the structure.

#### **Latest contributions**

As we will mention in the conclusions a potential limitation of this study is the influence of time in the methodology. Recent published articles may lack a number of cites according to their potential future influence.

During the last few years, a few works on behavioral strategy have been published.

However, they have not received enough citations to be part of this study. We have considered some of them have potential to be among the most influencers in the near future.

In an editorial commentary, Foss (2020) deals with the findings that COVID-19 crisis has provided to the field.

Behavioral strategy is uniquely situated in terms of providing a psychologically based interpretive lens that could lend great insight into decision making in extreme conditions. However, the disruption also points to weakness in current behavioral strategy thinking, notably with respect to the role of models vis-à-vis judgment in strategic decision making, the deeply social (political, institutional) nature of strategy making, and the treatment of fundamental uncertainty. (p. 1322)

Some of the contributions work on the linkage of psychological developments and the impact on decision making in general and strategic decisions in particular. Some examples are Menon (2018) work on strategic mental models, Healey and Hodgkinson (2017) on executive skills of emotion regulation and the real impact of strategic dissent on organizational outcomes (Samba, C., Van Knippenberg, D., & Miller, C. C., 2018).

Another significant recent development in this area is the affect-cognitive theory by Cristofaro (2019; 2020) overcoming the thinking-feeling dichotomy that has predominated in the study of management decisions. The theory is beneficial for behavioral strategy, offering the needed assumptions to intertwine human cognition, emotions, and social behavior.

Finally, there is a group of works recently published that start to be cited by behavioral strategy articles influencing the development of the discipline from the organizational behavior perspective. They do it both in strategy formulation and strategy implementation phases. These are the cases of the analysis of upward social comparison (Obloj & Zenger, 2017), the research on subsidiary performance feedback and internal governance in multiunit firms (Sengul & Obloj, 2017), mix of feelings and emotions influencing leadership (Rothman & Melwani, 2017) and the exploration on how different aspects of diversity influence constructive politics and the extent to which the latter contribute to decision performance,

namely, decision success and decision pace (Elbanna, 2018).

We conclude that the first work is a potential future candidate to Factor 1, the second group would be for Factor 2 and last group clearly will in future research with this approach be candidates to Factor 4.

## Conclusions

The objective of this article was to organize and display the intellectual structure of behavioral strategy discipline born from the integration of knowledge developed in very different scientific areas. The formulation of business strategies is about decision making, and the developments on cognitive decision making made by psychology and neuroscience researchers has been integrated in strategic management processes research as it has been done with other economic and business disciplines. Due to the youth of this research field and the complexity and variety of its sources, the effort to articulate its structure had not been carried out until now in a systematic way. This paper covers the gap using a proven objective and replicable methodology that had not been used in this area yet.

Several findings have been presented and discussed in the previous section. There are some conclusions which stem from these findings.

There are four clear solid research pillars of the field: behavioral organization, strategic management, cognitive psychology and behavioral strategy seminal papers. Out of the four groups, strategic management is the one with a lesser degree of influence, interaction and integration. Key works in strategic management are not among the most cited in behavioral strategy reference papers and the main stream of strategic management research has a marginal influence of behavioral strategy. This field is not being even identified as part of the intellectual structure of strategic management by the key papers addressing the topic (Furrer et al., 2008; Guerras-Martín et al., 2014; Nerur et al., 2008; Ramos-Rodríguez & Ruiz-Navarro, 2004). At this point in time we can conclude that behavioral strategy should not be considered a field of strategic management but rather a complementary discipline.

Another finding of the analysis relates to the development structure of behavioral strategy.

Rather than building a solid theoretical corpus research focus has been put on particular areas and specific situations of the business strategy process of formation and implementation. The aim of researchers has pointed towards avoiding the pitfalls and mistakes caused by cognitive processes and biases. Although some works are starting to fill the gap the most influential works are very much concentrated in these lines of research. There is a wide area still open for research and development of the cognitive decision-making processes characteristics implications in business strategies. These areas include but are not limited to strategy elements such as:

- Behavioral approach to market analysis
- Strategic behavior of competition
- Behavioral competitive advantages
- Stakeholders relationships and interactions

This study has its limitations, particularly in regard to the citation methodology. However, the characteristics of the approach limited impact. Citation methodology is criticized because the value of each citation is considered the same. In our case, we worked with more than two thousand unique citations and more than one hundred and fifty thousand co-citation pairs. The sheer volume helped to soften the impact of the limitation. Moreover, we selected a reasonable number of documents with a co-citation strength 4 or above removing most of the noise created by non-significant citations.

Citation technique is influenced by time. The more recent the work the lesser the opportunities to be cited. However, as the object of this study is to determine the degree of influence, this effect correlates with the fact that influence is determined by the work being recognized and cited, and recent works have had less time to influence researchers over a period of time.

Finally, we think this work should help future research by providing the picture of the current situation of the discipline and the main pillars to build on. We also intend to extend the contribution to the practitioner's community concerned and engaged in a topic which has such a huge economic impact for firms and industries. The findings should help researchers and practitioners alike in their quest to continue the progress of one of the most impacting developments around the strategic management process.

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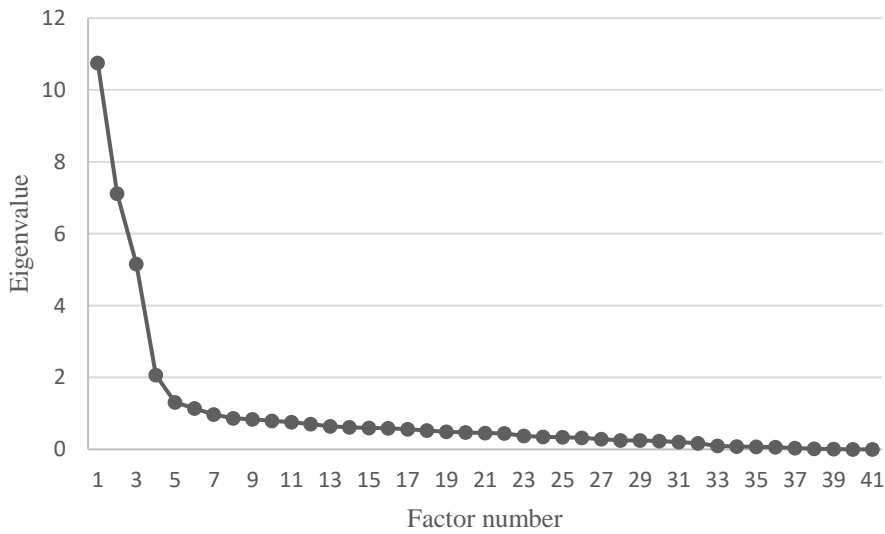
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## Appendix



**Figure 5** Scree plot / Elbow curve  
**Source:** The authors

**Table 1:** Total Variance explained.

Factor	Initial eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	% Cumulative	Total	% of Variance	% Cumulative	Total	% of Variance	% Cumulative
1	10,752	26,223	26,223	10,752	26,223	26,223	8,078	19,703	19,703
2	7,188	17,361	43,585	7,118	17,361	43,585	7,975	19,451	39,154
3	5,157	12,579	56,164	5,157	12,579	56,164	5,230	12,757	51,911
4	2,066	5,040	61,204	2,066	5,040	61,204	3,810	9,293	61,204

**Source:** The authors

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## 7.6. Letter from the journal

Santiago Urío, Raquel Palomo, Diana Gavilan:

We have reached a decision regarding your submission to Strategic Management - International Journal of Strategic Management and Decision Support Systems in Strategic Management, "The Intellectual Structure of Behavioral Strategy: A Bibliometric Study".

Our decision is to: Accept Submission

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Reviewer C:

Recommendation: Accept Submission

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Is the subject matter of the manuscript of current interest?

Yes

Comments

The paper analysis deals with a very interesting topic of Intellectual Structure of Behavioral Strategy.

The topic of analysis is up-to-date, and relevant for scientific circles dealing with the precise issue.

The paper methodology is well-set and sound, with a logical structure and well-drawn conclusions.

The list of used literature is relatively up-to-date and of good quality. The only shortcoming are the lacking references from the newer time period (last 5 to 6 years).

Only two references from the list of references falls under this category (García-Lillo, F., Úbeda-García, M., & Marco-Lajara, B. (2016). and Snyder, H. (2019)). However,

bearing in mind the specific topic of the paper, this can be tolerated.

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Reviewer G:

Recommendation: Accept Submission

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Is the subject matter of the manuscript of current interest?

Yes

Comments

The author(s) prepared a comprehensive and detailed review of the literature dealing with the selected topic. Behavioral economics has been becoming mainstream in the last 10 years. The decision of top management to undertake behavioral strategy takes effort and full commitment. It is leading to better decisions, and fully engaged managers. So it represents a highly valuable strategic journey that an organization could choose. The paper is made professionally impeccable, no comments to improve it are needed. The article when published will be a significant contribution to science and will certainly be among the most read.

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Best regards,

Assistant Editor

## 8. CHAPTER II: MODELING BEHAVIORAL INTERACTION IN THE BUSINESS STRATEGY ROOM

### 8.1. Introductory justification

As seen in section 7.4, the behavioral strategy research area is young, fragmented, and incomplete. One of the topics that requires investigation is individual and group behaviors in the process of business strategy formulation.

Previous research has focused on two aspects:

- the outcomes of the process to uncover potential biases
- the analysis of the actors to explain the reasons for the biases.

For this purpose, the methodological techniques most widely used are the analysis of data provided from the company's actions and the results of these actions, as well as the analysis of the CEOs leading the companies and their characteristics. In both cases, the analysis is carried out with quantitative tools.

However, the topic needs to be approached from other perspectives and methodologies which help to understand how the process is conducted and leads to the observed results. The second article contributes to the research of behavioral strategy with a different perspective.

### 8.2. The gap

However, the object of the study is human behavior. Qualitative research gathers participants' experiences, perceptions, and behavior. It answers the how's and why's, instead of how many or how much (Tenny et al., 2022). Qualitative techniques are required for exploring crucial aspects of the process. Largely associated with the inductive mode of research, in-depth interviews are among the qualitative techniques best suited to research questions of descriptive or exploratory nature (Johnson & Rowlands, 2012).

There is also no analysis of the strategy development process itself, or the interactions between the stakeholders involved.

All these aspects are of interest to behavioral strategy researchers and strategy development practitioners.

### 8.3. Contributions

This second article intends to cover the gap just described by contributing to the two areas, viz., **the methodology used, and the outcome pursued.**

From the methodology perspective, in-depth interviews enable capturing the emotional background of individual behaviors, as well as group dynamics. This is a significant contribution not explored by previous research.

There is a risk of the patterns varying, depending on different variables such as the company characteristics, industry, economic period/cycle, etc. However, the research shows a significant number of commonalities driving an early saturation.

From the outcome perspective, the research offers a model of the interactions between the different actors in the “strategy room”. It reveals the most common emotional and cognitive biases and social behaviors in the decision-making process leading to strategy formulation. These biases were spotted by other means in research, but this specific methodology enables putting them in context. The model helps to understand how they are triggered and makes them easier to identify and avoid or mitigate.

The model obtained is subject to test in further research but offers an interesting framework for exploration.

### 8.4. Article

# Modelling the behavioural interaction in the business strategy room: A qualitative study based on interviews to the participants

## ABSTRACT

Despite the resources and efforts dedicated to the development of business strategies, outcomes do not show the expected impact on competitive advantage and economic value. In the quest to explain the reasons for such limited results the influence of cognitive capabilities and social behaviours has been identified as one of the most damaging sources of flaws. The purpose of this study is to understand the process from the actor's behavioral perspective and explore the influence of the most common behavioural biases and social dynamics. To achieve it in-depth interviews have been conducted with members of the board of directors, executives and consultants who have participated in the formulation of the strategies of large multinational companies in key industries. We have found common patterns in the individuals behaviors and group dynamics which have been structured in an interpretative complex-system model of the interactions. In spite of the social dynamics and individuals cognition influence in strategic decisions, very few studies have used a qualitative methodology for the analysis which allows an interpretation of the outcomes. This study addresses the gap offering a wholistic model for interpretation. The model is subject to further research and analysis but provides a framework for researchers and practitioners to understand the process and mitigate potential negative effects.

**JEL Codes:** D700; M100

**Keywords:** behavioural strategy; strategic management; cognition biases; qualitative research.



## INTRODUCTION

Companies engage in strategy activity with the aim of improving the current situation and of positioning for the future. They invest significant amounts of executives' time and effort. The board of directors is involved, the participation of some key internal resources and strategy departments is required and expensive strategic consultants are hired. All of this is not in vain: the future success of the company is at stake, and a good amount of investment is deserved.

But what are the results? There are a few ways to answer the question. A key indicator of whether a company is beating the market is economic profit (what is left over after subtracting the cost of capital from net operating profit). An analysis by McKinsey & Company of average economic profit in the period 2007-11 conducted on almost three thousand global non-financial companies shows that 80% are around the average with another 10% at the end of the lowest quintile sitting on very negative results (Bradley et al., 2013). We could attribute the significant above-average results of the remaining 10% to a sound strategy. However, the analysis showed that movements to the top quintile within the period of the study had significant correlations with outside factors such as changes in economic profit by industry, suggesting that the results were not entirely due to the strategic efforts of the companies.

Strategic management researchers and practitioners have devoted efforts to help on improving the process; they have proposed a significant number of frameworks and analytic techniques and have developed theories to discern what is important from those elements that have a lesser influence. Despite these efforts, the results show a move in the opposite direction. The analysis conducted by McKinsey periodically reveals that the curve is getting steeper over the years and the number of companies that escape from "average" results is reduced as a percentage of the sample studied (Bradley et al., 2018).

In the quest to ascertain which factors influence the low level of impact on the business results of strategic management, a new research line often known as

behavioural strategy (Powell et al., 2011) has emerged. This strategy examines the biases and social dynamic concepts developed by psychologists when studying cognitive processes and their implications in an activity such as strategic management where decision-making is at the core.

This approach is not new in business research. In the middle of the last century, Herbert Simon (1957), when studying business organization behaviour proposed the construct of “bounded rationality”. Later the Carnegie school developed the “behavioural theory of the firm” (Cyert & March, 1963) which became the basis for the organisational behaviour field of research. More recently the developments of Kahneman and Tversky (1974) were used in economics (Camerer & Loewenstein, 2004), finance (Thaler, 2005) and marketing (Dobni et al., 2001). However, it has taken some time for strategic management researchers to explore the implications of psychological findings in the strategy room.

Research in behavioural strategy has focused on uncovering potential cognitive biases in the strategic-management decision processes. Exploratory approaches are followed by testing hypothesis in an experimental, controlled environment. However, designing experiments that replicate real situations in behaviour analysis can lead to reliability issues (Hantula, 2019). The issue has been a challenge for researchers, and they have drawn upon different techniques as experimentally validated surveys to overcome the difficulty (Figureau et al., 2020). It was necessary to try to enter in the strategy room using observational research to get to the reality of the processes and to have first-hand data in addition to carrying out an analysis in which the behaviours of the actors and the factors of the environment could be related. This perspective is especially important: it not only focuses on the decision-making processes to discover possible cognitive biases, but it also allows the study of the perceptions of the actors, their degree of awareness of the pitfalls, their reactions to errors and their degree of confidence in the outcome of the process.

The objective of this work is to fill the gap by interviewing a unique sample of actors that have participated in the strategy formulation of big multinational companies. From their discourse we infer the most common decision-making biases

and the social patterns that structure the outcomes. Research based on interviews is a qualitative technique particularly well-suited for this kind of analysis as it allows for the interpretation of the situations described and the development of models of behaviour (Polkinghorne, 2005).

The results will contribute not only to highlighting the main biases and social dynamics influencing the formulation of the strategy but will also articulate the system involving the actors as well as the influencing forces in a complex behavioural environment built from defined elements.

## **COGNITIVE BIASES AND SOCIAL DYNAMICS**

### **2.1. Concept of behavioural strategy**

Behavioural strategy, as defined by Powell, Lovallo and Fox (2011) draws on research in the field of behavioural and cognitive psychology (Hodgkinson & Healey, 2008; Hodgkinson & Healey, 2011), the behaviour of organisations (Cyert & March, 1963; March & Simon, 1958; Simon & Barnard, 1947) and behavioural economics (Thaler & Sunstein, 2008). This discipline has been establishing itself as one of the most influential fields in research on strategic management with works that integrate the disciplines mentioned in order to discover opportunities for improvement in the development of winning strategies for companies (Camerer & Lovallo, 1999; Felin & Foss, 2005; Gary et al., 2012; Gavetti et al., 2012; Levinthal, 2011; Lovallo et al., 2012).

Literature divides the behaviours influencing rationality in business decision-making environments into cognitive biases and social dynamics.

### **2.2. Cognitive biases**

A cognitive bias is a systematic pattern of deviation from the norm or rationality in an assessment or decision (Haselton et al., 2016). In the field of psychology, multiple studies have been carried out on cognitive biases (Lerner et al., 2015). Some of the most prominent are associated with mental shortcuts to simplify decision-making processes (Kahneman & Tversky, 1986) as well as cover-pattern recognition bias, action bias, and stability bias associated with emotions and feelings that influence

decisions (Lerner et al., 2015). For the study, thirteen of the twenty-nine biases most frequently described in the academic literature related to the business environment have been identified in the interviews, grouped into the following types (Lovallo & Sibony, 2010):

*Action biases.*

They drive us to take quick action with little reflection (Kahneman, 2011).

*Interest biases.*

They appear when there are conflicts of interest, both monetary and non-monetary (Kahneman & Tversky, 1986; Lovallo & Sibony, 2010).

*Pattern recognition biases.*

They prompt us to recognize patterns even if there are none in order to enable focussing on a particular goal They prompt us to recognize patterns or criteria and to focus on a particular goal, even if there are none (Lovallo & Sibony, 2010).

*Social biases.*

They lead us to lean towards harmony rather than conflict (Lovallo & Sibony, 2010).

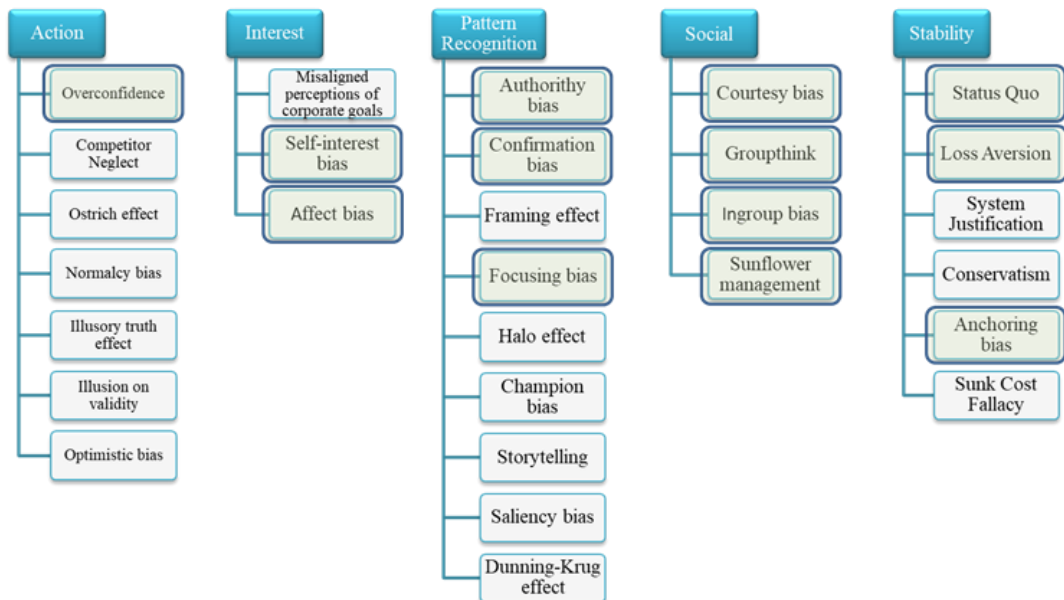
*Stability biases.*

They incline us to passivity in the face of ambiguity (Kahneman et al., 1991; Lovallo & Sibony, 2010).

Figure 1 shows the structure and biases detected and used in the study. Definitions of each of these biases are detailed in Annex I.

**Figure 6**

*Structure of common business biases*



*Note. Biases detected and used in the study shadowed*

*Source: own elaboration based on Lovallo and Sybony (2010)*

### 2.3. Social dynamics

In addition to the related biases, there are other elements that significantly affect the processes and results of the formulation and implementation of the company's strategy. They are the result of the interactions of individual group members and of the relationship between individual interactions and group-level behaviours. These elements are referred to as social dynamics, studied in sociology as a subfield of complex adaptive systems (Eidelson, 1997).

Social dynamics are frequently found in business groups in general and in the strategy room in particular. We used in the study a selection of the most commonly found in the strategy room (Bradley, 2018):

*Sandbagging.*

Setting strategic targets which are easily achievable to ensure a comfortable strategic implementation and target delivery.

*The short game.*

Setting short-term strategic horizons in line with expected decision makers tenures avoiding long-term high-risk decisions.

*My way or your problem.*

Blackmail approach by passing the responsibility of failure to other party if final decision is different to the one proposed.

*I am my numbers.*

Restricting performance evaluation to numbers.

These social behaviours are very influential in strategic decisions and particularly harmful when personal and group interests prevail over company objectives. Annex II reflects Bradley (2018) description of these behaviours.

## **METHODOLOGY**

### **3.1. Design**

We used a qualitative methodology based on in-depth interviews to be able to achieve the proposed objectives. This allowed us to investigate the most difficult aspects to recognise: those loaded with connotations not accepted as professional in the field of business.

There are several aspects of strategic decision-making in the company which cannot be collected as variables and then analysed and related. They require both capturing the point of view of the subjects involved and the context in which the process takes place (Taylor & Bogdan, 1986). There are different qualitative techniques which

facilitate the understanding of the meanings of decisions and actions. However, in-depth interviewing is the most pertinent to collect individually the elements of analysis when the subjects of the study are qualified professionals. The technique provides the point of view of the stakeholders involved in the process, what they say and why they say it (Kvale, 1996). With the information gathered, an analysis is conducted of the system and the relationships between the inputs, the process and the outcomes.

### **3.2. Sample**

The sample of the study was chosen among strategic consultants, members of executive committees and boards of directors of world-class multinational companies that had been involved in the design and formulation of business strategies. The selection was conducted carefully, considering the difficulties of attaining adequate profiles in a population reluctant to unveil the details of their professional experience. The participants were selected based on the profile sought and based on one of the main author's professional experience in senior management. Looking for the minimum direct personal relation with the researchers, an initial group of three direct-related executives and consultants were contacted, which in turn helped to select the first wave of interviewees among their networks. Five candidates were selected and interviewed based on the variety in professional careers and lack of interconnections. Subsequently, they facilitated the contact of the other interviewees. The potential initial bias was attenuated by this successive three-waves process (Heckathorn, 2011) which configured the final target group of research. The selection criteria were as follows: first, having more than twenty years of experience in the senior management of companies, boards of directors or having led strategic consulting teams in top-level firms; and second, having participated in strategic development and formulation processes, without distinction of sex or age. However, the interviewees turned out to be all males and older than forty-five years, being qualitatively representative of the reference population group. The number of interviews was sufficient given that the key objective of the study, exploring the

biases and group dynamics in the context, was saturated in the main categories (Guest et al., 2006). Table 1 summarises the profiles of the interviewees.

**Table 2**

*List of interviewees*

	<b>Career path</b>	<b>Informant current position</b>	<b>Industries</b>
<b>E1</b>	Executive and Consultant	Partner	Finance and others
<b>E2</b>	Board member and Consultant	Board member	Various
<b>E3</b>	Strategic Consultant	Partner	Finance
<b>E4</b>	Executive	Head of strategy	Utilities
<b>E5</b>	Executive	Head of strategy	Utilities
<b>E6</b>	Executive	Head of strategy	Finance
<b>E7</b>	Executive	COO	Various
<b>E8</b>	Executive	CFO	Various
<b>E9</b>	Executive	CEO	Utilities
<b>E10</b>	Executive	CEO	Technology
<b>E11</b>	Executive	CEO	Technology
<b>E12</b>	Executive	CEO	Technology

*Source: own elaboration*

### **3.3. Process**

The interviews were conducted in person by the main author, in a place chosen by the interviewee, were recorded on audio and transcribed verbatim, offering the interviewees their review for accuracy. They were carried out from November 2019 to January 2021. They lasted ninety minutes on average although the length had a significant variability related to the character of the informant. The type of interview was semi-structured with a common introductory part and another to collect all of the impressions of the interviewee. A basic script was followed, structured in six blocks: experience and professional trajectory of the informant, basic information of the target company, strategy development process, individual and group dynamics, main results, and implications in the subsequent performance of the company.



Participation was voluntary. In order to maintain anonymity, the names of the interviewees have been replaced with pseudonyms. Possible identifications of companies and their circumstances have also been avoided. The interviewees were informed of the objectives of the research and the use of the results, providing a written informed consent. The interviews carried out were supervised by an external researcher in order to guarantee the criteria of rigor and quality, credibility and reliability (Lincoln & Guba, 1985), correcting aspects that could skew the responses of the interviewees through auditability.

### **3.4. Data analysis**

An interpretive, categorical, and circular analysis was proposed (Creswell & Poth, 2018) with the help of NVivo plus 12 software. Starting from the study objectives, the research questions and the reviewed literature, some initial analytical categories were created, which were later completed from the inductive analysis of the interview content interpretation. (Ryan & Bernard, 2003). Subsequently, the categories were outlined until they were saturated and closed and then went on to coding. The segments coded in the analytical categories were extracted to perform the interpretation of the interview's texts. The main categories of the analysis were biases, social dynamics, actors in the process / stakeholders and business context. The analysis was initiated and carried out by the main author and supervised by an external researcher to point out possible biases in the analysis, to ensure that the interpretations made were based on the data collected and did not go beyond them, to see that the categories were appropriately awarded and studied for interpretation, and to make certain that there was consistency throughout the analytical process (Miles et al., 1994).

## **RESULTS AND DISCUSSION**

This study confirms the existence of the behavioural elements described by the literature in the strategic decision-making process of companies. In analysing the interviews, a set of biases and social dynamics emerge as defined in the literature

concerning dynamics determined according to behavioural patterns that we will describe. However, the patterns that emerge configure an interactive system of this elements which is unique and specific. This finding is important because it allows us to relate the behavioural elements with the process and their triggering elements. This, in turn, allows us to draw and analyse a concrete, coherent, consistent, and common situational framework that occurs globally.

In the next paragraphs, the four triggering factors are analysed, and an integrative framework of the mechanics of the process is proposed.

#### **4.1. The “threat” factor**

Although the cases analysed during the interviews extend over a long period of time within the professional experience of the participants, one of the elements that appears most frequently is what we have called the threat factor. The analysis of the interviews show that perception of threat tends to be a common trigger of behaviour: above all, threats concerning how decisions may affect companies and/or themselves. This perception occurs both in situations where companies were in boom periods and in those where they were experiencing serious difficulties; however, it is in the latter cases that they stand out most clearly. Although the nature of the threats is different in each sector, the analysis shows that the impact from the behavioural point of view in the development of strategies is similar. The threat factor triggers in the mind of the interviewees behaviours clearly-identified as biases such as risk aversion, self-interest, status quo, and anchoring. In addition, there is a strong incidence of the dynamics that we have called "the short game" in which executives, especially the older ones, focus on saving the situation during the period for which they will bear responsibility by deferring risk decisions to their successors.

**Interviewee:** ...I think we have to put into perspective the special circumstances in which... this idea of a new strategic plan was developed, right? and I speak above all of a bank in serious financial difficulties...

**Interviewer:** Was his motivation (that of the CEO), to seek the best strategy for the company? ...improve the results?... What in your perception was the ultimate motivation?

**Interviewee:** No, my perception is that they were personal motivations, and above all his objective was to try to reach the shore alive, he personally or well positioned for..., for his next step ... (E6)

The causal relation between the perception of threat and specific cognitive biases that emerge from the discourse analysis is a biological reaction of survival described by evolutionary psychology (Haselton & Nettle, 2005; Haselton et al., 2016; Livermore et al., 2021; McDermott et al., 2008). In these circumstances, there is a strong perception and feeling of threat stressing the negative connotation over the positive view of the opportunity it represents, described in other empirical studies (Jackson & Dutton, 1988). From the interviews it emerges a feeling of insecurity and disorientation which is generated in the face of change in sectors with a tradition of stability. The factor also triggers in many of the cases related in the interviews, the development of conservative strategies in which changes are made in marginal areas of the company as a kind of test, without involving the core of the activity aiming to minimize risk in the short term.

The analysis also shows that the threat factor also exist in industries where companies were not going through a difficult situation. However, the approaches are of a very different nature. In these cases, the appearance of complacency behaviours emerge, and strategies formulated are biased towards business continuity, stability and lack of short-term changes. In these cases, the interviewees identify a risk in the lack of analysis of scenarios and potential disruptions that generate alerts and alternatives to the current approach. The predominant cognition biases identified in the analysis of these situations were Confirmation, Focusing and Overconfidence.

Whether the existence of an external threat is perceived or not, a tendency towards “short-termism” emerges. This trend has been studied previously in relation to the evaluation and incentive systems of management teams (Lavery, 2004). We found however, that in those companies in which there is professionalized ownership

(Venture Capital), this trend is dampened or even disappears with an alignment of the interests of the ownership with those of the management team. We are going to analyse this effect at a later point.

An specific approach aiming to deal with this factor is described by some informants. The traditional process of strategic development, typically punctual or periodic, is transformed by a continuous one. This approach would take the evolved model of "lean start-up"(Collis, 2016). Small-scale alternatives are tested. If they do not work, they are discarded. If they do work, they are implemented on a large scale. This is an approach that allows managing risk aversion and taking controlled risks in threatening situations. However, the accounts of the interviewees convey that large companies do not manage these processes well and that cases considered successful in their subsequent implementation are exceptional. Even so, in the interviews carried out, this approach can be seen in the financial sector, controlling companies or Fintech-type initiatives with the hope of integrating them if the results are successful, or in the telecoms managing dot-com initiatives to add to their portfolio of services if the results are positive.

#### **4.2. The "leadership" factor**

In the discourse of the interviewees, a second effect emerges: the leaders in the process and their effect on group dynamics. It is not a surprise that leadership is a key ingredient in a group activity where there is pressure to reach a clear outcome. However, the discourse of the participants shows a sometimes decisive influence of the leader-followers relation on the outcome of the process. Although the groups involved in the process could be extended inside and beyond the boundaries of the company, there is a close interrelationship in the central group consisting of the President/CEO, the members of the board of directors and the executive committee. This three-part relationship is deeply configured by the years of working together and the roles that have been developed throughout that time.

**Interviewee:** I'd say the president was much more aggressive than those in the division. Although he was a bit questioned. We have the division, the

number two that was going to be number one in the future and then we had the ‘presi’ (CEO), the ‘rasputin’ and corporate development. (E3)

The CEO’s leadership, personality, power and prestige are determining factors in the way to proceed.

He has been an innovative person who has taken risks, that is, many of the things that have been done in retail banking in the countries where the bank operates, have arisen as a result of the decisions taken ..., led by this man. He was apparently a person who did not care to take risks, the impression from outside is that this man felt very comfortable in the driving seat, and felt comfortable making decisions that other banks did not dare to take (E1)

In these dynamics, the analysis identifies pattern-recognition biases such as authority bias and champion bias. Higher influence is attributed to the opinion of the authority figure or the history of the person presenting rather than it is to the supporting facts. There is a lack of evaluation of alternative courses of action.

Due to the emotional impact of the two previous factors, there is also a tendency towards a conservative and short-term approach. Actors protect themselves from the impact on their image and their professional careers by focusing on the short term even when the optimal positions and courses of action for the company could be the result of an analysis with a longer term horizon.

#### **4.3. The relationship between the secondary actors (board of directors and the executive committee)**

Within the dynamics described in the interviews, a common characteristic emerges: the role of the board of directors falls into two possible binary situations. Either it has little participation and relevance in the strategic development process, or it leads it and allows little initiative to the executive counterpart. Analysing the discourses of the interviews uncovers that the knowledge of the business of the directors compared to the executives is identified as one of the main causes of the different dynamics. This power imbalance triggers social biases such as the courtesy bias or sunflower management. In these cases, there is a tendency to respond in a socially

acceptable and positive way regardless of what participants with a low level of involvement believe.

**Interviewee:** It was done reasonably well. If I have a complaint with any of these processes it is when the proposal comes to the board from below. The downside is that your capacity for influence is very limited because it has already been very elaborated, very determined. The proposal does not come to give you options and tell you the advantages and disadvantages, they do not ask you what you want to do. What comes next is: 'option A is the one that seems the best to us', but they do not show you in detail the rest of the options. (E2)

The interviewee raises this process as a "complaint", as something that could be improved. Other interviewees acknowledge the situation of the board as being left outside the strategic processes and raise the possibility that the board was just used for seeking political support rather than as active participants in the development of the strategy.

**Interviewer:** How much does the board influence the strategy?

**Interviewee:** Well, sincerely, formally in what was the day-to-day of the board and the strategic management of the company, little, rather nothing; It was presented in one of the board meetings: "Board members, we have been working on a strategic plan. This is the strategy." Maybe there was a meeting of the strategy committee of the board a day before, practically nothing. That is what I lived in a formal way; another thing is what the president did informally with the 'reference shareholders'. I have no doubt that the president made sure they were aligned. Formally nothing, but of course informally, on the backstage, I assume so. (E3)

In this situation of imbalance in the knowledge of the business, "My way or your problem" emerges as a strong social dynamic, weakening the role and the contribution of the stakeholders. The executive team tends to marginalise the board of directors in decisions regarding the future course of the company.

This effect prevents the full practice of one of the objectives of the board of directors as the control body of the owners over the company: to ensure that the management of the company as well as the medium and long-term decisions are aligned with the interests of shareholders. The impact of this factor is very important because the advice of the board should be an instrument for balancing and correcting the biases that ultimately stem largely from the agency problem. The interviewees who have had such experience show that a professionalised ownership (Venture Capital) contributes to the reduction of this negative impact. However, in these cases the short-term effect increases since the investment period of these tends to be relatively short.

There is also an imbalance of power between the CEO and the executive team because of the hierarchical relationship despite the intention to build trust and open debate.

**Interviewer:** Looking at it a posteriori, do you think that the process was open enough to your contributions? ...If he (the CEO) could have a preconceived strategy, could have been substantially modified in the process?

**Interviewee:** I think that there... there was a game, ...on the part of the CEO... there were certain comings and goings regarding the model or how to materialise the model... At the beginning the CEO ...used brainstorming a lot to try to form an opinion and, and see ... with what idea he could feel more comfortable ... but, as the process evolved, ...he began to limit or condition ...as he was getting to know ... the context ... when he began to have more reliable information eh ... he began to reduce the discretion of the executive team when providing opinions, and ... he tried to attend the meetings with part of the group controlled, managed, dominated, anticipated ...(E6).

This dynamic prevents the evaluation of alternatives which in turn decreases the chance to optimise the outcome of the process with the corresponding impact of poorer economic results.

#### **4.4. The increasing usage of data**

The interviewees reveal that in the historical evolution of the processes in which they have participated, there is a clear trend towards greater use of data. The effect of the data analysis revolution (data mining, data analytics and big data) is strongly felt in the development of business strategies.

... those of us, some, who were the strategic consultants, nobody could do without us and everyone loved us, we were the bedside, the emotional ones.

... We were talking about things that if today I pass it on to a client he laughs. It's amazing how much the world has changed. The old consultancy, the one that paid high fees, was the strategic consultancy with a very large emotional component, because what we did was thinking a lot about the company, the president, the Board, to see how we influenced, who got involved, how the storyboard was presented...

... nowadays, forget about it ... what they expect from us is different, less from the vision ... and more and more consultants are going to a very execution logic, very much to provide the tool, the analytics. (E1)

This pattern confirms an evolution in the strategic process, moving from valuations with a large qualitative component, based on applying the experience of the participants, to a highly quantitative approach in line with the current data analysis that permeates the contemporary business world. The interviewees describe the change without clearly defining themselves as supporters or detractors of the new paradigm. While executives seem inclined to value the approach, long-standing strategic consultants maintain the benefits of the previous model.

This paradigm shift could be interpreted as a positive move towards objective assessments and decision-making. However, in most of the occasions when it is mentioned by interviewees, it come across that data is used more to support decisions made in advance (confirmation bias) than to discover and evaluate alternative courses of action that might increase the future value of the companies.

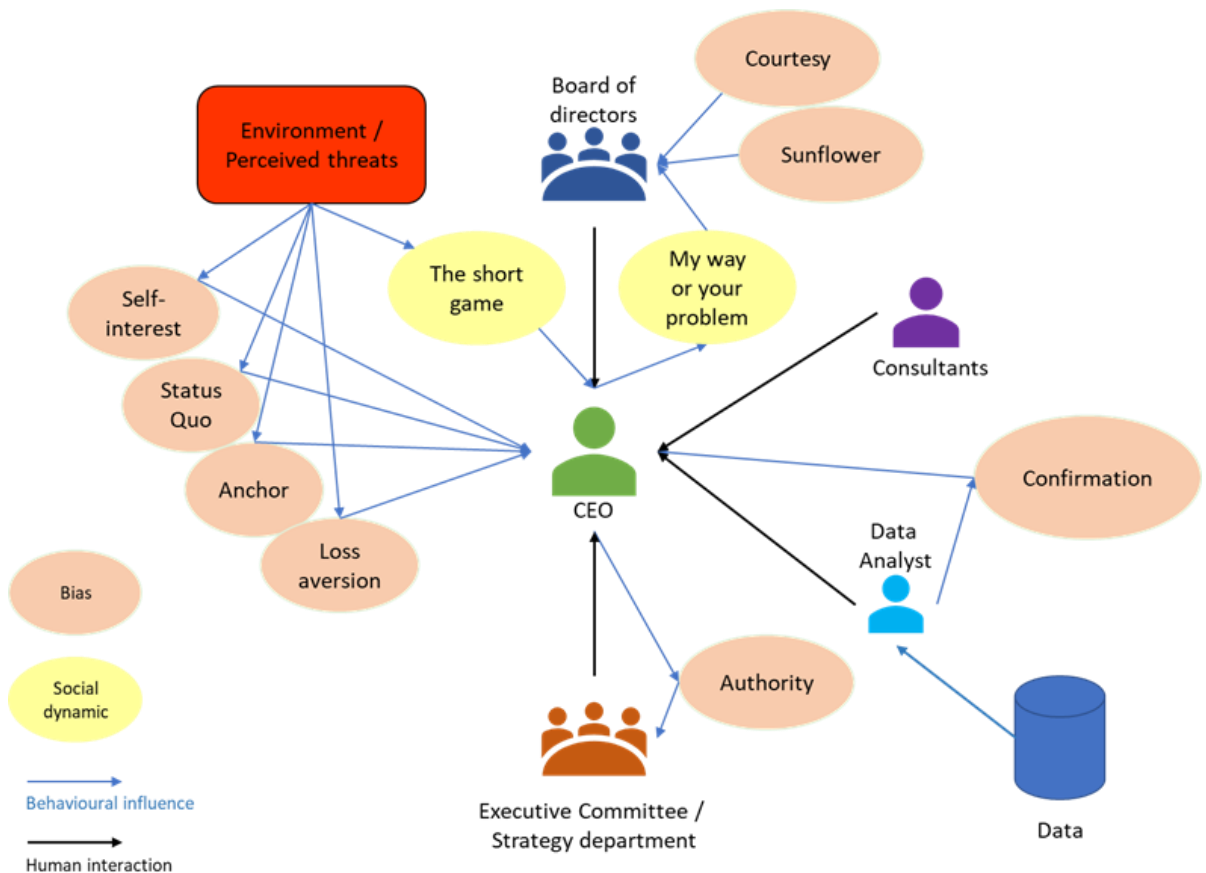
#### **4.5. Interpretative model**



The analysis carried out previously on circumstances, biases and intervening agents provides us with the basis for the construction of an explanatory model. In Figure 2, the main elements of the model and their relationships are schematically presented.

**Figure 7**

*Interpretative diagram*



*Source: own elaboration*

The model summarizes the findings regarding the main biases that distort the corporate strategy-development process. There is a key group of stakeholders involved in the process: the CEO, the executive committee, and the board of directors. The CEO is the central figure, and the biases in the form of threats triggered by the economic environment and / or the industry in which the company is framed

fall on him. As he leads the process, his biases as well as the social dynamics in which he is involved are determinant in the outcome. His leadership role and skills are also of particular importance as we have seen in the discourses. He exerts an influence on the other stakeholders that play a subordinate role. The other participants are mediated by their less-central role, suffering their own biases in most cases triggered by the imbalance of power with the central figure. The analysis shows that both the board of directors and the executive committee are mere instruments for the leader to reach generally pre-conceived objectives.

There is a fourth figure with a very significant role in the process: the strategic consultant. The information provided by the interviewees, including the consultants themselves, reflects a trend to replace the influence of the traditional strategic consultant with the analysis and interpretation of data. However, despite the considerable amount of relevant data, the capacity analysis of available tools and the existing skills of data analysts, there is no significant evidence of a real utilisation of this lever to provide alternative courses of actions. Rather they are used to support the preferred proposals in a classic display of the well-known confirmation bias. This trend has been driven by the advances in data management that have been developed in recent years.

The biases and dynamics here described greatly diminish the objective of strategic planning: to adopt courses of action that allow the company to be prepared and to be successful both in the medium- and long term. Furthermore, they affect in a similar way all the actors participating in the process. The consequences to the companies are not easy to establish although they have been detected in longitudinal analysis that link this type of behaviour with results over a long period of time (Miller, 2004). The studies carried out also indicate that one of the main advantages of family-owned companies is precisely the correction of this short-term phenomenon given their special characteristics (Le Breton–Miller & Miller, 2006). Comparative studies of incentive systems for participants have also been carried out aiming to mitigate the behavioural impact (Bebchuk & Fried, 2003).

## CONCLUSIONS, LIMITATIONS AND FURTHER LINES OF RESEARCH

This work has highlighted the influence of individual and group behaviours in the development phase of companies' strategies. It makes an original contribution on an empirical basis that has not been used previously in studies on behavioural strategy. The most frequent biases and social dynamics that unconsciously occur in strategic decision-making processes are offered in context. From the analysis of the discourses and the experiences conveyed by the informants, an explanatory model of the interaction between these biases, social dynamics and the main actors of the companies that make the decisions is built. In addition, it provides an experience of using qualitative methodology rarely used with senior executives in an area as sensitive and confidential as business strategic decisions.

The analysis of the discourses of the interviewees and their content shows that the impact of biases and social dynamics is determinant in the outcome of the strategy-development process. We have considered the contingency nature of the strategic development processes, the environment largely determining the behaviours of the actors and the results of the processes. However, environments are changing; therefore, there is a risk of generalizing results obtained in specific circumstances. To mitigate this limitation, the study has focused on the patterns that can be traced in most of the processes and situations described by the informants.

Another limitation stems from the fact that, although informants have been involved in the formulation of strategies of big multinational enterprises, they are either headquartered or have a subsidiary in Europe. This could introduce a cultural bias in the results. Further research should be conducted to validate and complement the results in other cultural environments.

Although the number of people and their roles and contributions vary among companies and processes, this work focuses on the relationships of internal stakeholders: the CEO, the board of directors and the executive committee as the key performers. A fourth contributor, the strategic consultant, has been included as his influence and the role of facilitator exert a significant influence in the dynamics and the outcomes.

The study shows that the most frequent biases are triggered by three factors that have been named as the “threat factor”, “the leadership factor” and “the relationships between the secondary actors”, namely the board of directors and the executive committee. These determining factors do not act in isolation but interact with each other in a complex combination. The factor “increasing use of data” can be considered another significant ingredient which has only peaked with recent developments in data processing.

Other few potential lines of research stem from the analysis. As noted in the discussion, Venture Capital-owned companies seem to reduce the effect of the low influence of the board of directors in the business strategy development process while increasing the short-term effect. It would be interesting to delve into future research on the degree of influence of this specific factor on the performance of companies that have this specific capital structure. Another finding is the model transition from traditional strategic consultancy to a more data-based approach. It will be of interest to examine the impact of this trend in coming years.

As a result of the analysis, an interpretative model of the process is proposed. The model summarises the findings including the roles and interactions of the actors involved, the influence of the factors described, the key biases emerging in decision making and the social dynamics in which the participants engage.

The model proposed contributes a first attempt to describe the dynamics of a complex system as the top decision makers take on the most influential process for business performance. It builds the next level in the study, integrating pieces already studied separately as cognitive biases and social dynamics. The model requires further validation and extension with other elements that could have passed unnoticed in our analysis. It is, however, a step in the direction of further analysis of the complexity of the process by shedding light from the perspective of the actors involved.

This work is intended also to be a powerful tool for strategic-development practitioners in that it can help them avoid pitfalls that can lead to unwanted outcomes. As we have seen, research in the field shows a low contribution to

strategic management in the quest of companies to reach extraordinary results in terms of potential business and economic impact.

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## ANNEX I

**Table 3***Biases used*

BIAS	% (*)	DEFINITION
Self-interest bias	15%	Non-monetary (such as reputation) and monetary personal incentives that conflict with the perception of corporate strategy.
Loss aversion/Risk aversion	9%	Concept related to the Prospect Theory, in which individuals tend to feel losses more intensely than gains, even though they represent the same amount, which makes us more risk averse than would suggest rational calculation.
Confirmation bias	9%	The bias of seeking, interpreting, and recalling data that confirm preconceptions.
Focusing bias	7%	The tendency to give too much importance to a particular aspect of a case. Given the capacity limitations, the heuristic bias processes the information to make an easy judgment and in accordance with the emotional and interest biases. The mental process tends to focus on the most relevant points.
Inappropriate attachments/ Affect bias	6%	Emotional attachments that humans have towards another or towards a place or possession. This creates a misalignment of interests.
Overconfidence	4%	Individual expectations of future results that are based on past actions and neglect the role of chance.
Authority bias	4%	The tendency to attribute greater precision to the opinion of an authority figure and to be more influenced by that opinion.
Courtesy bias	4%	People have a tendency to respond in a social and positive way, regardless of what they really feel, avoiding the truth.
Groupthink	4%	The individual's inclination to seek consensus at the cost of a realistic evaluation of alternative courses of action.
Ingroup bias	4%	The tendency of individuals to give preferential treatment to others they perceive as members of their own groups.
Sunflower management	4%	Groups (divisions or departments) have a propensity to align themselves with the views of their leaders, whether expressed or assumed.
Status quo	4%	Tendency to prefer the current baseline, taken as a reference point and perceiving any change over that point as a loss.
Anchoring	4%	The tendency to "anchor" to information, which are commonly initial estimates and estimates based on extrapolation from history, while adjustments based on later estimates are disregarded or underestimated.

(\*) Percentage of total biases identified in the interviews

(\*) *Percentage of total biases identified in the interviews*

*Source: own elaboration based on Loballo and Sybony (2010)*

## ANNEX II

Definition of the social dynamics used in the study (Bradley, 2018):

***Sandbagging:***

" I'm only going to agree to a plan that I know for sure I can deliver. My reputation is on the line, and I can't risk being the one division that misses budget."

***The short game:***

"Someone else will be running this division in three years, anyway. I just need to milk performance for the next couple of years, get a good bonus and the next promotion—or maybe get poached by our competitor."

***My way or your problem:***

"I know this business and industry better than the CEO and better than the board. They'll just have to believe what I tell them. If I don't get the resources I ask for, then there's my excuse for not delivering."

***I am my numbers:***

"I get judged by my numbers, not by how I spend my time. I'm just going to work hard enough to hit my targets, but not a lot more."

## 8.5. Letter from the journal

06-Dec-2022

Dear Professor Urio,

On 6th Dec 22, the manuscript entitled "Modelling the behavioural interaction in the business strategy room: A qualitative study based on interviews to the participants" by Santiago Urio, Raquel Redondo Palomo, and Diana Gavilan was approved by the author.

The manuscript has been assigned the Paper #: HSSCOMMS-10247.

You may check on the status of this manuscript by selecting the "Check Manuscript Status" link under the following URL:

<https://mts-palcomms.nature.com/cgi-bin/main.plex?el=A5Cd2ERA3A3RXI7F7A9ftdPYScP36YZQWEp7aQRNkPMAZ>

(Press/Click on the above link to be automatically sent to the web page.)

Sincerely,

The Editorial Office

Humanities & Social Sciences Communications

Note: This journal uses an Open Access model including an Article Processing Charge (APC) for papers accepted for publication. You can learn more about our policies here. If you have any questions, please let us know.

## 9. CHAPTER III: MOVING FROM BEHAVIORAL STRATEGY TO EMOTIONAL STRATEGY

### 9.1. Introductory justification

Among the gaps found in the first article and described in 7.4, there is one that particularly stands out. All approaches in behavioral strategy research explore emotional and cognitive biases as human psychological faults due to the limitations of the human brain. Due to these limits when we make decisions, we seek satisfactory, rather than optimal solutions. This behavior has been labeled as bounded rationality (Simon, 1990).

Biases have been viewed in behavioral strategy research as pitfalls in the strategic management process. As such, the research aims to uncover these biases and propose ways to overcome them. Even while trying to look for a positive approach, the aim is an understanding of the situation to develop successful strategies. In the words of the editors of the special issue on the behavioral strategy of the *California Management Review* (Sibony et al., 2017),

The main obstacle to progress is behavioral strategy's emphasis on individual cognitive biases. Experience has shown that people cannot easily address any of the known cognitive biases—*status quo* bias, confirmation bias, the planning fallacy, and such—no matter how much they learn about them. What managers really need is not a long list of “Thou shalt nots” but a positive set of tools for designing a behaviorally informed decision architecture of the firm. (p. 6)

There is not a single influential work in the discipline uncovered by the first article that deviates from this pattern.

In the third article, a new approach is proposed. Starting from the fact that firm stakeholders, the target that business strategies aim to satisfy, are human beings too, we explore the requirement to consider cognitive biases and emotional needs to develop successful strategies. As we demonstrate, these needs have already been considered in partially different interactions with stakeholders such as customers, employees, and investors. A new integrated approach is proposed.

### 9.2. The gap

Neither business strategy formulation nor behavioral strategy research is addressing the emotional and cognitive biases of business stakeholders from a strategy formulation view.

Behavioral strategy is focusing on the strategists' behaviors. Research on stakeholders' needs has focused on their emotions at an individual level. However,

there is a growing interest in considering from a strategic perspective not only the financial results but the full impact of the company in its extended environment (stakeholders and society). There has so far been no strategic approach that takes a holistic view of stakeholders' emotional needs.

This is the gap the third article intends to bridge.

### **9.3. Contributions**

This article, which adopts a conceptual exploratory approach, proposes a new complementary path to business strategy formulation. Besides the traditional approaches aiming to optimize business financial results, the proposal considers the emotional needs of the business stakeholders: customers, employees, investors, suppliers, and distributors.

First, the basis of human motivations and emotional needs is reviewed as the pillar of the proposal. Then, an extensive review of the academic literature on the individual stakeholder's emotional needs is conducted. This shows that the researchers have thoroughly described and are already aware of the impact on the success or failure of companies that address these needs. The article ends by proposing a framework that considers all these needs in the formulation of business strategies.

### **9.4. Article**

## **From Behavioral Strategy to Emotional Strategy: It is time to use emotions as a competitive advantage**

**Keywords:** *strategic management, business strategy, behavioral strategy, emotional strategy, business stakeholders, cognitive bias*

### **Abstract**

This paper reviews relevant research from various disciplines: business stakeholders, behavioral strategy, and stakeholder motivations to propose a holistic and integrative approach to the discipline of business strategy formulation.

The purpose is to propose a holistic view of the formulation of business strategies focused on fulfilling the emotional needs of business stakeholders and provide a framework for future research.

There is an opportunity to develop successful business strategies by considering two dimensions: On the one hand considering the motivations and aiming to fulfil the needs of all company stakeholders not purely economic return. On the other hand, among these motivations, emotional needs have an increased role particularly in the developed world where a significant part of the physiological needs are already covered.

The article opens a new avenue for future business strategy research. By delivering socioemotional value to stakeholders, companies can complement the current economic based approach and create additional sustainable competitive differentiation.

### **Strategy, stakeholders and social strategy**

The field of strategic management and business strategy has evolved over the years putting the focus on related but different aspects. One of the first attempts to define the term strategy was proposed by Chandler (1962) focusing on the determination of actions and resources to achieve the long-term goals of the company. In the definition it is not explicit what the long-term goals should aim to although in his work he deals with the terms performance and financial outcomes as the ones to pursue.

Competition was soon introduced and the comparison with competitors considered as a key element for success. The main advocate of the focus on the external environment of the company and industries was Michael Porter. In his attempt to define strategy



introduces the element of competitive advantage which becomes a basic concept in the field.

“Companies are aiming to win in the market place. A company can outperform rivals only if it can establish a difference that it can preserve. It must deliver greater value to customers or create comparable value at a lower cost, or do both.” (Porter, 1996)

The aim of business strategy at this stage was satisfying customers’ needs which in turn would delivery financial performance leading to the satisfaction of investors/owner’s needs. Both groups, customers and investors, were assumed to have an economic interest in the products and services delivered by companies. It is the “homo economicus” perfect rational behavior individual approach prevalent as the basic assumption in neoclassic economic theory at the time. It assumes that agents always act in a way that maximize utility as a consumer and profit as a producer. Strategy is a tool to maximize the value for these two groups.

“Strategic management is a process of building capabilities that allow a firm to create value for customers, shareholders, and society while operating in competitive markets.” (Nag et al., 2007)

Two lines of research reacted to cover the weaknesses of the approach. First, as an extension of the developments of behavioral economics, behavioral strategy line introduced the advances in cognitive psychology in decision making. Bounded rationality shows that human brain has limitations and can not cope with the amount of data and the speed of process to make optimal decisions. Satisficing decisions are taken instead, those which are good enough as optimum can not be determined. As a consequence of the mental processes’ biases come to the scene and there is a real possibility that decisions made are far from optimal leading to failures.

The emergence of corporate social responsibility as the result of Enron financial failure and the ecological concerns on sustainability, provided the basis to include additional stakeholders in the strategy equation. Employees, suppliers, competitors and the community among others were considered in the attention and decisions of executives and directors. Also, legal, ethical and philanthropic goals were added to the pure economic and financial contemplated as objectives to achieve (Carroll, 1991). The change is significant as there have been attempts to relate corporate social responsibility and financial performance with inconclusive results. Actually, the traditional approach has viewed social responsibility and business strategy as two separate goals to achieve each one contributing to either the economic and social objectives of the firm (Husted & Allen, 2001).

In spite of the growing interest in these new avenues of strategic management, few attempts have been done to develop and integrate them in the main stream of research. Behavioral strategy intellectual structure still has few common roots with strategic management and it is considered as a separate discipline rather than part of the main

field (Urío et al., 2022). Corporate social strategy is still a discipline which is in a process of setting the basis for a model that can be used to integrate corporate social responsibility into the strategic management processes of companies (Husted & Allen, 2001). We are going to explore a holistic view to contribute to the task.

### **Behavioral strategy**

Behavioral strategy is a term proposed to describe the efforts of strategic management researchers to explain the influence of cognitive biases on the strategic decision-making processes. In the proponent words,

“Behavioral strategy applies cognitive and social psychology to strategic management theory and practice. It aims to strengthen the empirical integrity and practical usefulness of strategy theory by grounding strategic management in realistic assumptions about human cognition, emotion, and social interaction.”  
(Powell et al., 2011).

The research line follows the advances in research on economy which compares individuals' behaviors with the expected rational behaviors predicted by classical economic models. The influence of cognitive psychology developments and the proposal of psychologist's models of decision-making under risk and uncertainty (Kahneman & Tversky, 1979) triggered the interest in the field. The jump into strategic management was inevitable as strategic decisions are a prototype of the ones taken in a risky and uncertain environment.

The focus of behavioral strategy has mainly remained in analyzing the influence of cognitive biases in strategic decisions. Most of the most influencing works on the subject follow this approach (Urío et al., 2022). However, biases are not the only factor in the complex world of behavioralism in the different actors involved in strategic decision-making and most importantly in the stakeholders to whom business strategies are addressed to. There are other developments brought by psychology that have to be taken into account if we want to have a full view of the needs and interactions between these stakeholders if we want to have a holistic view of the process.

### **Stakeholders motivations**

Little research has been done on the motivations, needs and expectations of stakeholders as a whole. It is true that their characteristics and relationship with the company is very different. However, there are also commonalities that should be explored in more detail in the future.

For our purposes, there is one area that is of special interest. Stakeholders are made up of individuals who are addressed by different motivation-focused theories. Motivation as a psychology area could have been subsumed by newer research areas such as

neuroscience and cognition but with different labels and approaches is needed to understand behaviors and relationships. Motivation research has been addressed from different perspectives as it is of use in many different situations.

Attempts have been made of integrating these theories particularly from the evolutionary perspective which is a good common psychological root (Bernard et al., 2005). All of them summarize their findings in a list of goals very often ordered in hierarchical order by priorities determined by the environment in which the individual finds himself. One of the initial proposals was Maslow's theory of motivation summarized in a pyramid of needs. Although criticized because of the individualistic approach, operationalization factors and too simplistic reduction of the layers (Fallatah & Syed, 2018; Navy, 2020), it is considered a solid basis for motivation of individuals analysis.

According to Maslow, the needs are arranged in a hierarchical order of importance (physiological, safety, social, esteem and self-actualization) (Maslow, 1943), needs which claims to be universal. This last statement has been questioned claiming that the application scope is mainly western cultures (Navy, 2020). Once the needs of a level are satisfied, the individual turns gradually to focus on attaining the goals of the next level.

At this point, I would like to explore the links between needs, motivation and emotions. We have already seen that needs constitute one of the most important elements to explain motivation in individuals. However, despite its importance to educational psychology, prominent theories of motivation have mostly ignored emotion (Turner et al., 2003). However, in Maslow's pyramid, levels above physiological and safety are considered as driven by emotions (Brown & Marshall, 2001; de Rivera & Grinkis, 1986). Often, they are the most influential in developed countries where a significant percentage of the population has already satisfied the basic needs.

“In today's developed-world workplace, physiological and safety needs are, for the most part, already met. Salary and benefits can enhance motivation, but organizations shouldn't focus on them disproportionately because emotional experiences can matter equally, if not more.” (David, 2014).

The influence in stakeholder's decisions of motivations and emotions has been addressed by scholars. This influence is analysed in each of the groups creating fruitful research avenues for business success. However, they are rarely integrated in business strategies that contemplate holistically all the stakeholders.

### *Customers*

The management of customer's emotions as drivers of customer's decisions has been the focus of scholars and practitioners in the last decades. Research has been done to define customer motivating emotions and their impact on customer behavior (Chou & Sawang, 2015; Madjid, 2014; Magids et al., 2015; Urio et al., 2014; Zhao et al., 2018) and conclude that there is a relationship between emotions and customer satisfaction and customer

loyalty. The consequence is that there is high economic value attached to the management of customer's emotions (Barlow & Maul, 2000; Rich, 2000).

The research has been divided according to the focus on services or products. In the first case, it has been grouped under the customer experience denomination. Many service companies design their services to arouse positive emotions. The efforts crystallize in customer journey maps which are service designs largely intended to manage customers emotions throughout the service receipt. Several themes around this subject have appeared, showing the relevance that this concept has acquired in the last decade (Tueanrat et al., 2021). In the second case, product development techniques have also been worked on to integrate the utilitarian functional part of the products with the satisfaction of the emotional needs of the users (Norman, 2004). The line of research is called emotional product design and has produced extensive literature in recent decades (Fink & Eibl, 2021; McDonagh-Philp & Lebbon, 2000; Mugge et al., 2008; Straker & Wrigley, 2016).

In summary, to the utilitarian approach to deliver products and services to customers, it has been added the emotional approach to fulfill their emotional needs. The value generated by this approach and the sustainable competitive advantages created call for its inclusion as one of the key elements in the formulation of business strategies.

### *Investors*

The influence of biases in financial markets and investors usually referred as behavioral finance has been part of the financial literature for some time (Baker & Nofsinger, 2002; Statman, 1995) and being consistently the focus of research (Muradoglu & Harvey, 2012; Poteshman & Serbin, 2003). However, as the case of behavioral strategy approach, behavioral finance considers the influence of these biases from a negative perspective. Influences that have to be identified and mitigated to avoid wrong decisions that can cause economic damage (Chang & Lin, 2015; Nofsinger, 2018). However, accepting the fact that financial decisions are prone to biases, researchers turned their view to the potential positive side: understanding the behavioral mechanics (Caporin et al., 2019; Pompian, 2012), could help to make better financial and investment business decisions (Pompian, 2011). Extensive academic literature has explored this angle suggesting how investors could take advantage of it (Pompian & Longo, 2004; Puschunder, 2017).

The link between financial biases and investors emotions has been part of behavioral finance research (Duxbury, 2015), sometimes as a branch of the field called emotional finance (Taffler, Richard, 2014; Taffler, Richard J. & Tuckett, 2010). New avenues of research of emotions as shareholder's drivers and how companies can manage them are being proposed (McConvill, 2020). The traditional view of market efficiency and investors pure rational behavior is not valid anymore. This has implications for company management. In particular, company strategies formulation which has financing

requirements (difficult to find situations in which this is not in the case) has to include these considerations in the analysis.

As we have seen, investors in general and shareholders in particular make decisions based on emotions. Satisfying their emotions should be therefore a key element to take into consideration when developing business strategies. The capital structure and the costs of financing, the shareholders reaction to merger and acquisitions operations, the issue of securities, the communication with shareholders and investors and many other corporate actions with an impact in company value should be viewed from the emotional perspective too. Strategic management decisions have not considered sufficiently this perspective alone or in combination with the management of other stakeholders.

### *Employees*

Employees are often considered as the most significant non-shareholding corporate stakeholding group even claiming they are part with shareholders of ownership of the company (Lynch-Fannon, 2004). In spite of the growth in automation in industrial companies, and the rise in influence in productivity of capital/technology and management, labor is still one of the major variables of company performance. Considering management as part of employee's stakeholder, employees are the major contributor to the annual increase in productivity.

Organizational management research has produced theories on employee's motivations and satisfaction, job and workplace design and learning organizations among others with the aim of understanding and improving the management and the performance of the company workforce. The approach is very much aware of the individual nature of employee's behavior even when they are part of an organization.

Employees' emotional bond to their organizations, sometimes called in academic literature affective commitment has been considered an important determinant of dedication and loyalty. This creates a sense of belonging and identification that increases their willingness to pursue the organizations goals. The perceived organizational support, the extent employees believe the company values their contributions, cares about their well-being and fulfills their socioemotional needs (Eisenberger et al., 1986) is directly related to their affective commitment (Rhoades et al., 2001). The way company strategy formulation and implementation considers the perceived organizational support would be valuable for the business success.

### *Supply chain management: Suppliers & distributors.*

The relationship of a company with its suppliers and distributors is a business-to-business (B2B) buyer-seller interaction. The comparison performed by numerous empirical studies conducted at the last decade of the century between Japanese production and supply

practices with those of the rest of the world led to a reinforcement of relationships with external companies conceptually moving from a buyer-seller approach to strategic partnerships. To avoid the costs to develop, nurture, and maintain them, others propose at least managing a portfolio of relationships (Bensaou, 1999). In one way or another, all recognize that on top of the economic relation, there is a social or emotional satisfaction need to fulfill which very often is key for the success of the pair (Geyskens & Steenkamp, 2000).

Although the relationship is established and maintained at a business level, personal relations play an important role. Emotions management and trust emerge as the main factors to reach the objectives of both partners in a medium or long-term relationship (Andersen & Kumar, 2006; Geyskens et al., 1998). Attitudinal and emotional variables such as helpfulness, friendliness, uniqueness, and flexibility are identified as primacy attributes that can aid suppliers in attaining economic necessity, relational ties, and emotional connections with buyers (Clauss & Tangpong, 2018). Buyer's opportunism and relationships based on buyer bargaining power which used to be the basic approach has become marginal and triggered by the violation of general standards, relational norms and/or contractual agreements (Gelderman et al., 2020).

Supply chain management has been seen as a key element of strategy implementation. In spite of its relevance in business success, the influence in strategy formulation has not had a prominent role though and has not raised it to the consideration it deserves as creator of sustainable of competitive advantage (Li et al., 2006). However, suppliers and distributors are key company stakeholders. Their motivations and needs have to be fulfilled and as we have seen, they are driven by emotions in a buyer-seller relationship that has to be managed by individuals.

### **A holistic approach: Emotional strategy**

The consideration of a company as a basic unit of analysis making decisions with limited rationality dates back to the proposal of the concept of bounded rationality (Simon, 1955) and the behavioral theory of the firm (Cyert and March). They acknowledge that firms aim at satisficing rather than optimizing because the environmental conditions particularly uncertainty and limitations in capacity influenced business decisions. In this model goals are not set to maximize relevant magnitudes such as profits, sales and market share. Instead, goals are compromises negotiated by the groups (Ahuja, 2019, p. 955). These compromises address different goals through coalitions that represent temporary compromises between the different goals in a quasi-resolution of conflict approach (Gavetti et al., 2012).

The behavioral theory of the firm has had a significant influence in the development of organizational and strategic management theories (Gavetti et al., 2012; Urío et al., 2022). However, when the theory was proposed, it referred to the behaviors of individuals as part of an organization that contributes directly or indirectly to their personal, mainly

economic, goals. The broader concept of stakeholders including external stakeholders was not in the scope. Also, although they stated that their behavior was not purely rational, the aim was to achieve economic goals. These two elements should be reviewed in the light of new advances in business research.

Corporate governance research has been based on three dominant academic theories: the agency model (Jensen and Meckling, 1976; Berle and Means, 1932) addresses the division and balance between the owners (shareholders) and agents (management) in the governance process. A similar view is taken by the shareholder's view of the corporation (Shleifer and Vishny, 1997). Finally, the stakeholder's theory opens the scope to include a wider group of stakeholders including customers, employees, suppliers and others (Weiss, 2021). The stakeholder view adds complexity since it creates even more masters to serve and conflicting agendas to satisfy (Isaac Mostovicz et al., 2011). Very often CSR has been seen more as a constraint than a benefit that could be integrated in business strategy. Porter and Kramer (2006) made a good attempt to integrate CSR with business strategy by looking to the intersections and focusing on areas where businesses and the community will benefit from coordinated actions. As a result of this and other works supporting and contending the approach, the stakeholder corporate governance theory has taken a prominent space in business strategy. Although the economic end objective of the business is not disputed, the link between satisfying the needs and motivations of stakeholders and the economic return for the business is established.

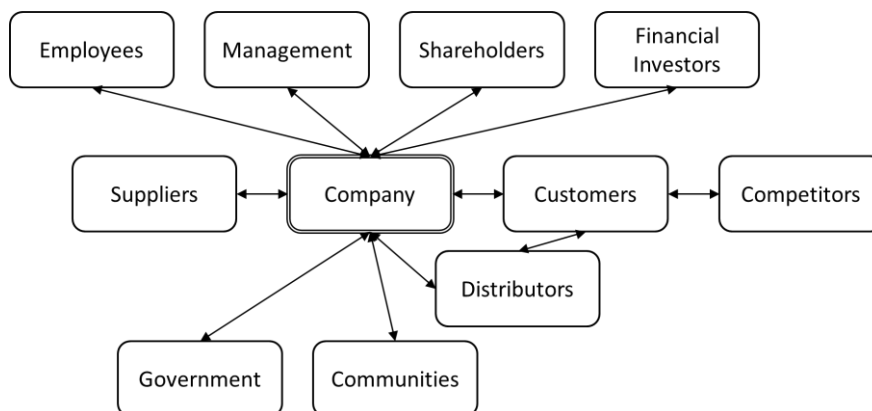


Figure 8: Business stakeholders

But, which is the nature of the needs and motivations of stakeholders that business strategy has to fulfill to reach competitive advantages and superior economic return? We have already gone through each of the primary stakeholders' expectations. And we have concluded that a significant stake of these needs are *emotional needs*. Research, so far, has produced evidence of them. Also, the influence of emotional needs increases as individuals satisfy the physiological needs located at lower positions in the hierarchical order. However, they have been treated individually by stakeholder. There seem to be no connection across them. Some could have an appearance in the business strategy

formulation but rarely take a prominent role on it and definitely not in an integrated body across all stakeholders needs. A framework for the analysis of business firms' stakeholders' emotional needs that integrates them in business strategy formulation is required. The framework should first consider the key stakeholders for the particular business as shown in Figure 1. Then there should be an analysis of their emotional needs. The framework resembles with similar purposes but from a completely different perspective Porter's five forces analysis. The next step from the analysis to the business strategy formulation is key for extracting the maximum value from the framework. The objective is producing a business strategy which aims to satisfy the different needs of the groups. As in the traditional process, there should be ingredients that like market positioning, technology, innovation and others that contribute to the delivery of a potentially successful strategy. Once the strategy has been formulated, the concept and its premises must be extended to the rest of the strategic management process including setting the appropriate goals, adequate implementation with ad hoc company structure and control and feedback process. The result is a holistic approach to business strategy based on emotions of stakeholders as their most important motivator factors in their decisions.

An important fact of the approach is that integrates all the ingredients to be considered for a successful strategy as after all, economic return is also in the analysis as part of the needs of all stakeholders. The emotional approach provides the modulation of the weight in importance that each of the actors assigns to the items in the list of their needs. Brand management is the best representation of the integration of the emotions of stakeholders that companies aim to address (Rosenbaum-Elliott et al., 2018).

## Conclusions

The introduction of behavioralism in the field of strategic management aims to address and avoid the pitfalls in strategic decision making (Lovallo & Sibony, 2018). According to this approach, cognitive biases introduce a negative influence in strategic decisions which depart from the rational path to reach sub-optimal business strategies and even in some cases damaging potential economic results.

The "emotional strategy" approach proposed, looks at the field from a different angle in two dimensions. On the one hand business strategies should take into account the motivations and aim to fulfill the needs of all company stakeholders not purely economic return. On the other hand, among these motivations, emotional needs have an increased role particularly in the developed world where a significant part of the physiological needs are already covered. After all, stakeholders' groups are made of individuals which are prone to behavioralist decisions. Instead of putting the focus on the strategic manager decisions and studying their emotions and biases as something negative to avoid, we turn to the recipients of the strategies to better fit their needs by uncovering their emotional side.



This perspective is based on advances already done in the research on the impact of emotions in the management of stakeholders. However, by proposing an integrated and holistic formulation and implementation of business strategy, provides new avenues to create sustainable competitive advantages. New products and services, market positioning, taking advantage of globalization and many other strategies sooner or later can be imitated by competitors. Taking a space and the image to satisfy unique emotional needs of stakeholders can be mimicked too but once the space is filled is much more difficult to get into it. Following Simon Sinek's view leading strategies should start with the why of stakeholders, their core motivations (Sinek, 2009).

It is a complex endeavor. On top of business considerations, understanding and managing human emotions it is a challenge in the psychology field. As we have seen, there has been progress in understanding the impact of emotions on the decisions of business stakeholders. Integrating them into a single business strategy formulation is an even greater challenge. There is a need to develop frameworks that facilitates the task (Falchetti et al., 2022). The proposal can be compelling for researchers and practitioners alike.

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## **9.5. Submitted to journal**

06-Dec-2022

The paper has been submitted to the Open Journal of Business and Management.

It is currently under review.



# SECTION THREE

## 10. GENERAL CONCLUSIONS

This chapter will conclude the study by summarizing the key research findings concerning the research aims and questions and discussing the value and contribution thereof.

As stated in the introduction, the objectives of the thesis were first, to delineate the academic body of the research concerning behavioral strategy, second, to find potential gaps in this nascent research field, and third, to address them and contribute to its development. They were developed in sequence, providing a concatenated set of findings and contributions. The research questions are:

- 1) What is the intellectual structure that has been the basis for behavioral strategy?
- 2) What are some of the gaps in the development of the field that should be filled to contribute to the approach?
- 3) Is there a holistic model that could explain the interactions of the different actors participating in strategy formulation in and out of the strategy room?
- 4) Is it possible to develop strategies that consider the behavioral aspects of the company stakeholders?

The research to define the intellectual structure of behavioral strategy was conducted in the first article (The intellectual structure of behavioral strategy) with some expected findings and some new contributions. They are as follows:

The behavioral strategy seemed to be a branch of strategic management. However, this study shows that they share few common research lines. The relationship between them can be more accurately described as complementary, rather than as a hierarchical subsidiary.

Behavioral strategy roots originate in three different disciplines: psychology and in particular cognitive psychology, behavioral organization in business firms, and some areas of strategic management.

A fourth element in the intellectual structure uncovered is the group of seminal articles in the discipline.

This fourth element shows, however, a basic unstructured approach. Powell et al. (2011) set the positioning work but the other works in this block are a collection of contributions whose commonalities are just that all are interpretations of the influence of biases in business strategy decisions and how to mitigate them. There is no structure with predecessors and successors

or clearly connected lines of research typical of theory building. This fact is also pointed out in the editorial article that acts as an introduction to the last published special issue on the topic (Cristofaro et al., 2022).

Related to the previous finding of this first research effort, it shows a focus in current research on the discipline related to two topics: the biases of a specific and singular stakeholder in the company (management in general and top management and non-executive directors in particular) and how to mitigate them. Despite the literature which analyzes the biases impacting the decisions of other stakeholders, these outcomes have not been considered in their strategic influence on the company and in the formulation of business strategies. Moreover, biases in the decision-making of the management group have been considered only as an element required to be mitigated to avoid the development of unsuccessful strategies. This is a gap uncovered in this study. A company's stakeholders are human beings who make decisions concerning the organization subject to biases and emotional judgments that cannot be avoided and have to be considered for the formulation of business strategies. This is one of the gaps addressed in this thesis, as part of the answer to the second and fourth research questions.

Finally, another finding of this first part of the research concerns methodologies. The literature review shows that the most prominent articles on behavioral strategy use either quantitative and/or conceptual approaches. However, this is a discipline dealing with human behaviors. Qualitative methodologies are well suited for the study of human individual and group behaviors. In particular, we should not forget that these behaviors happen during a relatively short period in the interaction of relatively few actors. This gap is addressed in the second article. The environment where these behaviors take place is called the business strategy room. This research and the model developed aim to respond to the second and third research questions of the thesis.

Once the intellectual structure of the field was drawn and some gaps found, the research focuses on addressing the two identified gaps.

The key conclusions in the research of the gaps are:

By interviewing the actors in the strategy formulation process and analyzing their discourses, it is possible to find patterns in the interactions. Specific biases and social behaviors created in the system emerge. Around

the central figure in the process (typically the CEO), there is an individual and group behavioral system of the members of the executive team, members of the board of directors, and external consultants. Besides the model shown in the second article, four relevant and prominent factors emerge in most processes in the qualitative analysis of the interviews:

- **The threat factor:** Strategy formulation is always risky, as there is a level of uncertainty over the future. This means a perceived threat for the main actors and they react by trying to mitigate the potential undesired outcomes. The most important fact is that what the actors try to mitigate is not only the risks for the company but mainly their personal and professional risks which are not always aligned with those of the company.
- **The leadership factor:** During the process, there is a leadership figure, usually the CEO, who exerts an influence over the rest of the actors, preventing a real and rational group decision-making process.
- **The relationship between the board of directors and the executive committee:** The study shows a frequent imbalance in their power of influence in the process. Among the main reasons, the asymmetry of knowledge and information between the groups hinders the capacity of the board of directors to exert due influence on strategic decisions.
- **The increasing usage of data:** Fueled by data availability and big data techniques, the traditional conceptual process has turned into data analysis. However, the evidence shows that the confirmation bias (data is used to confirm established hypotheses rather than for a real data analysis) is preventing the potential benefits that technology brings to the field.

The third gap indicates a strong focus on one of the aspects of behavior decisions: the strategic decisions taken by the top management of companies. Most of the research in the field has concentrated on the different biases in this decision process and ways to mitigate them.

A literature review of the decisions of business stakeholders shows the cognitive biases and emotions involved. The literature so far has dealt with the study of individual stakeholder's decisions. However, the motivations of the stakeholders' decisions are very important for a business strategy that aims to develop competitive advantages to better satisfy stakeholders' needs. So far, there has been no research that integrates all these elements in a holistic approach in the same way as Michel Porter's five forces analysis integrates the different elements of an industry in an analysis for business strategy formulation.

The conclusion is that an integrated and holistic approach that considers not only the economic needs but the emotional needs of stakeholders is necessary.

## 11. FUTURE LINES OF RESEARCH

As seen in the previous section, this thesis intends to contribute to different aspects of the field of behavioral strategy. At the same time, each of these aspects provides the basis for future lines of research. The most important ones could be:

- As stated, the behavioral strategy field requires further structural effort. The first article should be just one of the contributions to help with this effort.
- Behavioral strategy has several gaps that would definitely be filled in the future. All three articles and the thesis in general deal with these gaps. In particular, article 2 provides the basis for further use of qualitative research for the discipline. The methodology should be very fruitful because of its suitability to the processes analyzed (biases and behaviors).
- Article 2 also proposes a model that requires further testing in various situations (different cultural environments, evolution over time, etc.) for robustness and completeness.
- Article 3, based on the other two, launches a new avenue for research that has to be developed in several details. Based on it, a concrete framework that helps researchers and practitioners develop successful business strategies is an interesting line of research. Further, the analysis of successful companies and their strategies from this perspective could offer some explanations that could complement the current studies.

In summary, apart from endeavoring to provide research outcomes, this thesis also provides a wide range of new potential lines of research which will hopefully be part of a fruitful contribution.

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## ANNEX I: Consent form for interviewees in article 2



# Formulario de consentimiento para Entrevistas

Proyecto de Investigación: Behavioural Strategy

Investigador principal: D. Santiago Urío

Participante en la investigación:



La entrevista tiene una duración estimada aproximada de una hora y treinta minutos. No anticipamos que haya ningún riesgo asociado con su participación, pero usted tiene el derecho de detener la entrevista o retirarse de la investigación en cualquier momento.

Gracias por aceptar ser entrevistado como parte de este proyecto de investigación. Los procedimientos éticos para la investigación académica requieren que los entrevistados acepten explícitamente ser entrevistados y cómo se utilizará la información contenida en su entrevista. Este formulario de consentimiento es necesario para que podamos asegurarnos de que comprende el propósito de su participación y de que acepta las condiciones de su participación. Por lo tanto, rogamos lea y firme el presente formulario para certificar que aprueba lo siguiente:

- La entrevista será grabada y transcrita.
- Se le enviará la transcripción y se le dará la oportunidad de corregir cualquier error que considere se haya podido cometer.
- La transcripción de la entrevista será analizada por D. Santiago Urío como investigador.
- El acceso a la transcripción de la entrevista se limitará a D. Santiago Urío y a los colegas académicos e investigadores con quienes pueda colaborar como parte del proceso de investigación.
- Cualquier contenido resumido de la entrevista, o citas directas de la entrevista, que estén disponibles a través de publicaciones académicas u otros medios académicos serán anonimizados para que no pueda ser identificado y se cuidará de asegurar que cualquier otra información en la entrevista que pueda identificarle no será revelada.
- La grabación real será destruida
- Cualquier variación de las condiciones anteriores solo se producirá con su posterior aprobación explícita

Se puede utilizar todo o parte del contenido de su entrevista;

- En trabajos académicos, documentos de política o artículos de noticias.
- En nuestro sitio web y en otros medios que podamos producir, como presentaciones orales
- En otros eventos de retroalimentación.
- En un archivo del proyecto como se señaló anteriormente.

Al firmar este formulario estoy de acuerdo con que:

1. Estoy participando voluntariamente en este proyecto. Entiendo que no tengo que participar y puedo detener la entrevista en cualquier momento;
2. La entrevista transcrita o extractos de la misma pueden usarse como se describe anteriormente;
3. He leído la hoja de información;
4. No espero recibir ningún beneficio o pago por mi participación;
5. Puedo solicitar una copia de la transcripción de mi entrevista y hacer las modificaciones que considere necesarias para garantizar la efectividad de cualquier acuerdo realizado sobre la confidencialidad;
6. He podido hacer cualquier pregunta que pueda tener, y entiendo que soy libre de contactar al investigador para cualquier pregunta que pueda tener en el futuro.

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**5 de Febrero de 2020**

**D.**

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**5 de Febrero de 2020**

**D. Santiago Urío**