MARKETING AND NEUROMARKETING APPLIED TO THE BUSINESS AND FINANCIAL SECTOR AS THE SUBJECT OF THE ACADEMIC FIELD OF COMMUNICATION IN SPAIN: AN APPROACH TO ITS STUDY FROM BOOKS AS BIBLIOGRAPHIC SOURCES

MARKETING Y NEUROMARKETING APLICADOS AL SECTOR EMPRESARIAL COMO OBJETO DEL CAMPO ACADÉMICO DE LA COMUNICACIÓN EN ESPAÑA: UNA APROXIMACIÓN A SU ESTUDIO DESDE LOS LIBROS COMO FUENTES BIBLIOGRÁFICAS

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ABSTRACT

Marketing and neuromarketing have seen a significant surge since the late last century, particularly in the realm of advertising and organizational communication. While large

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corporations are adopting these techniques, many professionals remain unaware of them. Remarkably, a quarter of universities in Spain are actively researching neuromarketing. This field focuses on understanding neural reactions to stimuli and how they influence the perception and recall of a brand. It has been found that human decisions are more emotional than rational, especially in the financial realm. Literature in this area has grown, with a notable increase in publications from Spain. Top publishers, such as Paidós, Gedisa, Sage, and Prentice-Hall, are leading the way. As neuromarketing gains traction in academia, its adoption in the financial and business industry is likely to keep growing.

Keywords:
Marketing; neuromarketing; companies; financial sector; academic field; communication; Spain.

RESUMEN
El marketing y neuromarketing han experimentado un auge significativo desde finales del siglo pasado, especialmente en el ámbito de la comunicación publicitaria y organizacional. Mientras que las grandes corporaciones están incorporando estas técnicas, muchos profesionales todavía carecen de conciencia sobre ellas. Sorprendentemente, una cuarta parte de las universidades en España están investigando activamente sobre neuromarketing. Este campo se centra en entender las reacciones neuronales a los estímulos y cómo influyen en la percepción y recuerdo de una marca. Se ha descubierto que las decisiones humanas son más emocionales que racionales, especialmente en el ámbito financiero. La literatura en esta área ha crecido, con un aumento notable de publicaciones en España. Las principales editoriales, como Paidós, Gedisa, Sage y Prentice-Hall, están liderando el camino. A medida que el neuromarketing gana tracción en la academia, es probable que su adopción en la industria financiera y empresarial siga creciendo.

Palabras clave:
Marketing; neuromarketing; empresas; sector financiero; campo académico; comunicación; España.

1. INTRODUCTION
Since the end of the last century, we have witnessed the remarkable evolution of new marketing techniques and neuromarketing as a new strategic resource in advertising and organizational communication techniques (Arrufat et al., 2022). In this context, neuroscience has provided a new way to analyze the decision-making processes of audiences (Norton et al., 2007).

However, we consider very different criteria when analyzing this discipline from a professional and academic perspective. Currently, "professionals are not aware of these techniques, and only large companies know how to interpret them" (Baños-González et al., 2020, p. 6). A very different situation is found in the academic field. Currently, in Spain, "a quarter of all Spanish universities are conducting research on neuromarketing" (Andreu-Sánchez et al., 2014, p. 156). Many researchers delve into empirical and theoretical studies on the benefits of this discipline in academic and professional contexts (Arrufat et al., 2022).
One of the main objectives of neuroscience and, consequently, neuromarketing, is to understand neuronal reactions to stimuli (Tapia et al., 2016; Tapia y Martín, 2017). Precisely, understanding and analyzing the emotional factors that are activated in the consumer allows for the identification of those that create a greater somatic impact on brand positioning and recall (Damasio, 2005; Baraybar-Fernández et al., 2023).

Furthermore, from an experimental and academic perspective, marketing and neuromarketing studies examine human behavior, emotions, and decision-making by individuals (Gani et al., 2018) through various techniques for tracking and monitoring eye patterns - eye-tracking (ET) (Wedel and Pieters, 2008) - and other technologies such as Electroencephalography (EEG) (Kumar and Bhuvaneswari, 2012), Functional Magnetic Resonance Imaging (fMRI) (Bakalash and Riemer, 2013), or Galvanic Skin Response (GSR) (Cuesta et al., 2018), among others, with the purpose of obtaining information about the consumer (Monge and Fernández, 2011).

1.1. Neuromarketing applied to the business and financial sector

The application of these techniques has changed our understanding of how our brain makes decisions:

"Now we are able to study what happens directly in the human brain when investors make their buying decisions and which behaviors and brain biases lead to their failure. Neuroscience is changing the current landscape. The latest discoveries about how humans make their financial decisions are showing that we are much more emotional and less rational than we would like" Bermejo and García (2018, p.17).

The first objections from the psychology of motivation and emotion pointed out that humans often act based on motivations and desires that do not conform to the model of rational calculation. More recent objections are more cognitive than motivational (Kahneman and Tversky, 2009). In the early days of cognitive psychology applied to decision-making, Simon’s studies (1982, 1978, and 1955) showed that human rationality is limited by memory and computational capacity. Then, in the development of their prospect theory, Kahneman and Tversky’s studies (2009, 1984, and 1979) identified various cognitive biases: inevitable distortions in probability calculations, context dependence, and the way alternatives are chosen (framing effect), inclination or aversion to risk, and other limitations of cognitive resources in searching for relevant information and consistently evaluating it.

Likewise, when analyzing decision-making applied to financial products, we must take into account behavioral economics, which is "a branch of psychology that seeks to study how we make decisions considering the role of emotions" (Bermejo and García, 2018, p. 21). This discipline is based on the theory of emotion and suggests that emotions play a significant role in consumers’ decision-making. It proposes that emotions are a quick and automatic response to environmental stimuli and can influence people’s purchasing decisions. Neuromarketing, therefore, "attempts an approach to understanding the factors or mechanisms that affect any communicative process and the effects they have on our decisions and attitudes" (Baños-González and Baraybar-Fernández, 2022, p.8).
When it comes to acquiring a particular financial product, individuals do not objectively evaluate risks; instead, they are influenced by how options are presented to them and how questions are framed. "Humans act driven by the immediate emotional impact of gains and losses, without considering long-term perspectives of wealth and overall utility" (Kahneman, 2011, p. 373). Therefore, we understand that humans are not only irrational but predictably irrational. In other words, our irrationality consistently occurs in the same way over and over again (Ariely, 2008, p.17).

2. OBJECTIVES

This article addresses the main characteristics of scientific research in marketing and neuromarketing applied to the business sector and financial products in the field of Communication in Spain, taking into account the bibliographic production that has served as the basis for high-level research consensus in recent years.

In that sense, the present research is structured based on the following research questions:

(1) What are the key characteristics of bibliographic production, particularly books, concerning marketing and neuromarketing as applied to the business and financial sector in Spain during the period 2007-2018?

(2) What are the most prevalent themes and subjects covered by these books?

(3) In which business and financial sectors do these books predominantly concentrate their focus?

The main objective of this study is to analyze the academic evolution of marketing and neuromarketing as applied to the business and financial sector as the subject of study. Additionally, as secondary objectives, we aim, firstly, to delve into the analysis topics to demonstrate the degree of applicability of marketing and neuromarketing techniques and tools in the marketing of financial products and business management. Secondly, we aim to identify the most significant sectors that receive attention from these academic materials in the Spanish context.

3. METHODOLOGY

An object of research, no matter how partial or fragmentary it may be, can only be defined and constructed in relation to a theoretical issue that allows for the systematic examination of all aspects of reality brought into connection by the problems posed to it. (Bourdieu et al., 2022, p. 54)

Following this same approach, the research focuses on the thematic features of scientific discourse, always understanding that the conceptual behavior followed by the research is directly linked to the objectives, the way of approaching the object of study, and the categories or variables of analysis, among other elements (Arrufat et al., 2022).

The temporal framework established for the analysis of the sample has been defined considering the breadth of research on the subject during the emergence of neuromarketing as a field of study in Spanish universities.

Based on the database of books cited as references in scientific articles derived from publicly funded research projects and available in open access in specialized journals in
the field of Communication between 2007 and 2008 in Spain, as published by Caffarel et al. (2023), there is a total of 41 texts on marketing and neuromarketing applied to the business and financial domain.

These texts appear as references in articles published in the nine most relevant Spanish journals specialized in Communication, according to the H Index, elaborated by Google Scholar: El Profesional de la Información, Estudios del Mensaje Periodístico, Comunicación y Sociedad, Revista Latina de Comunicación Social, Historia y Comunicación Social, Telos, Zer, Trípodos, and Comunicar.

This sample from the universe of 4042 books found represents only 1.01%. The search was conducted using terms such as marketing and neuromarketing, taking into account their presence in the titles of publications.

The variables considered for characterizing books on marketing and neuromarketing applied to the business and financial context include: the title of the text and the subject matter, the application sector, the name and gender of the first author or editor, the publisher, as well as the country, year, and language of the edition.

4. DISCUSSION

The referenced texts in book format, focusing on marketing and neuromarketing applied to the business and financial context, cover a wide range of topics. These topics range from more conceptual aspects such as mirror neurons, the neurobiology of emotion and feelings, among others, to more specific issues within the field of knowledge, such as planning and control of marketing campaigns, neuroeducation and neuroeconomics in business, as well as marketing strategies and public relations in the 2.0 political landscape.

It is worth noting that many of these books employ neologisms and direct translations from English in the case of Spanish-language books to discuss these truly innovative topics. Terms like "advergaming" and "neuropolítica" are examples of this.

There is a clear interest in these books in the tourism and art sectors, as reflected in titles such as "Marketing de destinos turísticos: Análisis y estrategias de desarrollo" (Tourist Destination Marketing: Analysis and Development Strategies) or "Museum Management and Marketing."

We also find a significant niche in the business field with texts like "Neuromarketing. Neuroeconomía y Negocios" (Neuromarketing. Neuroeconomics and Business) and "Web 2.0, social marketing strategies and distribution channels for city destinations: enhancing the participatory role of travelers and exploiting their collective intelligence."

Lastly, we must highlight the importance of what is known as "neuropolítica" for these books, especially in relation to 2.0 marketing strategies and concepts like "neuroempatía" (neuroempathy).

It is evident that there are two clear periods of increased interest in marketing and neuromarketing techniques in publishing. The first came immediately after the Great
Recession or the Crisis of 2007-2008, and the second occurred in the years 2015-2016, just as Spain began to recover from the crisis with stronger growth figures.

The relationship may be due to the need to cite academic references in studies with potential applications in the sectors that were driving the Spanish economy during those years, particularly tourism. Tourism was making efforts to diversify and explore a business model closer to the world of arts and culture, trying to move away from the well-debated focus on sun and beach tourism and its limitations.

Regarding the characteristics of scientific literature published in the form of books on marketing topics applied to business contexts, especially in the financial sector, we have determined the predominance of male authors, such as the classic figures Philip Kotler and Kevin Keller, among others.

The presence of male authors in this field is three times higher than that of female authors, with only one institution, the World Tourism Organization and The European Travel Commission, represented in the authorship of these books.

**Figure 1.** Gender of the first author of the books.

At the same time, we observe a clear majority of books edited in the Anglo-Saxon world, both in the United States and the United Kingdom, with a total of 23, compared to 18 that are edited in the Ibero-American context, mainly in Spain, with one book from Argentina as well.

It is evident that bibliographic references on marketing and neuromarketing continue to primarily come from sources produced in English and published by publishers located in that context. However, in recent years, original works in Spanish and edited in Madrid, especially, have been gaining more presence in the references of scientific articles in Communication studies applied to business and financial contexts, in particular. This trend reflects the strength of the publishing industry in Madrid, overshadowing Barcelona as the traditional hub for publications in Spain.
Regarding the main publishing houses, we see many specialized in the field of Communication, but especially in Social Sciences in general, such as the cases of Paidós and Gedisa in the Spanish-speaking space, or Sage and Prentice-Hall in the Anglo-Saxon context.

Special mention among publishers with materials in Spanish language deserves ESIC Editorial, a project of ESIC University, focused precisely on business and marketing studies. Being a private initiative, it has also worked in conjunction with public universities in different cities in Spain, such as Rey Juan Carlos University in Madrid, or Rovira i Virgili University in Barcelona.

Among publishers with texts in English, two stand out: Routledge and Butterworth-Heinemann. The former, of British origin and part of the Taylor & Francis Group, specializes in areas of knowledge such as humanities, behavioral sciences, education, law, and social sciences. The latter, also of British nationality but recently linked with the Dutch company Elsevier, focuses on applied science and has a specific orientation to meet the demand for texts in higher education.

In both cases, we are talking about global publishing companies, with which competing becomes very difficult given the degree of penetration they achieve in the scientific knowledge markets.
Table 1. Most common publishers and language of publication.

<table>
<thead>
<tr>
<th>Language/Publishers</th>
<th>Number of Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>18</td>
</tr>
<tr>
<td>Alianza Editorial</td>
<td>1</td>
</tr>
<tr>
<td>Anaya Multimedia</td>
<td>1</td>
</tr>
<tr>
<td>Crítica</td>
<td>1</td>
</tr>
<tr>
<td>Editorial Ariel</td>
<td>2</td>
</tr>
<tr>
<td>Editorial Comunicación Social, Ediciones y Publications</td>
<td>1</td>
</tr>
<tr>
<td>ESIC Editorial</td>
<td>3</td>
</tr>
<tr>
<td>Europe-World Tourism Organization</td>
<td>1</td>
</tr>
<tr>
<td>Gedisa</td>
<td>1</td>
</tr>
<tr>
<td>Gestión 2000</td>
<td>1</td>
</tr>
<tr>
<td>Katz Editores</td>
<td>1</td>
</tr>
<tr>
<td>Paidós</td>
<td>1</td>
</tr>
<tr>
<td>Pearson Education</td>
<td>2</td>
</tr>
<tr>
<td>Pirámide</td>
<td>1</td>
</tr>
<tr>
<td>Puerto Norte-Sur</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td>23</td>
</tr>
<tr>
<td>Altamira Press</td>
<td>1</td>
</tr>
<tr>
<td>Butterworth-Heinemann</td>
<td>3</td>
</tr>
<tr>
<td>Cambridge University Press</td>
<td>1</td>
</tr>
<tr>
<td>Columbia University Press</td>
<td>1</td>
</tr>
<tr>
<td>Dana Press</td>
<td>1</td>
</tr>
<tr>
<td>Information Science Reference</td>
<td>2</td>
</tr>
<tr>
<td>Irwin McGraw Hill</td>
<td>1</td>
</tr>
<tr>
<td>John Wiley &amp; Sons</td>
<td>2</td>
</tr>
<tr>
<td>Jossey-Bass</td>
<td>1</td>
</tr>
<tr>
<td>Pitman</td>
<td>1</td>
</tr>
<tr>
<td>Prentice-Hall</td>
<td>1</td>
</tr>
<tr>
<td>Routledge</td>
<td>5</td>
</tr>
<tr>
<td>Sage Publications</td>
<td>1</td>
</tr>
<tr>
<td>Simon and Schuster</td>
<td>1</td>
</tr>
<tr>
<td>The Free Press</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

Source: Author’s own work.

5. CONCLUSIONS

Since the end of the last century, marketing techniques have evolved, incorporating neuromarketing as a strategic tool, supported by advances in neuroscience. This science provides insights into how individuals make decisions. Although large companies are aware of and employ these techniques, many professionals are still not deeply familiar with them. However, in the academic field, at least a quarter of universities in Spain research neuromarketing. The main purpose is to understand neural reactions to stimuli, to identify emotional factors that influence the recall and positioning of a brand.

The study of the brain and decision-making reveals that humans are more emotional and less rational than previously thought, especially when making financial decisions. Early
analyses in motivation psychology indicated that we do not always act following a rational model, and subsequent studies in cognitive psychology, such as those by Simon (1982, 1978, and 1955) and Kahneman and Tversky (2009, 1984, and 1979), showed that our decisions are limited by our memory, computational capacity, and various cognitive biases. Additionally, behavioral economics highlights the essential role of emotions in decision-making. Neuromarketing seeks to understand how communication affects our decisions and attitudes. In this sense, when it comes to financial products, people do not evaluate risks objectively but are influenced by their emotions, the context, and how information is presented. This irrationality in our decisions is not random, but predictable and recurrent.

The literature on marketing and neuromarketing in the business and financial context covers a wide range of topics, from conceptual, such as the neurobiology of emotions, to applied, such as marketing strategies in politics 2.0. There is the use of neologisms and translations from English to discuss these innovative topics. Interest in these topics has had two specific peaks, one following the 2007-2008 crisis and another in 2015-2016, coinciding with periods of economic recovery in Spain. However, the journey in this sector is very extensive. Research and its application to how investors make financial decisions would help citizens optimize their economic resources and properly plan their financial future.

Regarding authorship, male authors predominate compared to female authors. The majority of works are published in English and are edited in the United States and the United Kingdom, although there has been a recent growth in publications in Spanish, particularly in Madrid and Barcelona. Among the main publishers in Spanish, Paidós and Gedisa stand out, while in English, Sage and Prentice-Hall are prominent. ESIC Editorial is relevant in the Spanish context, and among English-language publishers, Routledge and Butterworth-Heinemann are particularly notable.

Although it is true that there is still a long way to go in the field of literature, specifically in the publication of books on neuromarketing applied to the financial and business sector, the first steps are already being taken to introduce this technique into the advertising and marketing processes of the financial industry, first from an academic perspective and, later or simultaneously, from a practical viewpoint. It would be important to incorporate studies on gender and financial decision-making and how society can lead women and men to make different types of decisions.

Finally, the study of the decision-making process applied to marketing, communication, advertising, and the financial industry would help institutions and corporations to educate students, professionals, and citizens in general.

6. REFERENCES


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