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Sustainable Marketing and Strategy

Edited by

Manuel Au-Yong-Oliveira and Maria José Sousa

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About the Editors

Manuel Au-Yong-Oliveira has an MBA (Cardiff Business School, 1993), a PhD in Industrial Engineering and Management, from FEUP (University of Porto, 2012), and a post-doc from the University of Aveiro (2016–2019), entitled “Elements that contribute to organizational competitiveness”. Manuel has lectured at a number of higher education institutions, including FEUP, where he lectured on the Master’s in Innovation and Technological Entrepreneurship (MIETE). Manuel is currently an Assistant Professor with Habilitation at the University of Aveiro, where he has been lecturing since February 2009. Manuel is an integrated researcher at GOVCOPP and also collaborates with INESC TEC. Manuel has a passion for education, and his lectures are somewhat “out-of-the-box”, whereby Manuel enjoys challenging his students to think beyond convention. Manuel has around 300 publications, on innovation, strategy, technology, research methods, and tourism. Manuel is the Director of the Master’s in Management, at the University of Aveiro, and is a member of the Executive Committee of his department—DEGEIT (the Department of Economics, Management, Industrial Engineering and Tourism). As the Coordinator of the Committee for Ethics and Social Responsibility, at DEGEIT, Manuel wants to make a positive difference, and has registered a series of brands, including with students, to that end. With numerous awards during his career, and many with students, for their joint-work, Manuel enjoys publishing by himself as well as with students from all levels of higher education, from the undergraduate level to the post-doc level.

Maria José Sousa is a University Professor and a research fellow at ISCTE/Instituto Universitário de Lisboa. Her current research interests are public policies, information science, innovation and management issues. She is a best-selling author in ICT and People Management and has co-authored over 70 articles and book chapters, in addition to being published in several scientific journals (e.g., *Journal of Business Research*, *Information Systems Frontiers*, *European Planning Studies*, *Systems Research*, and *Behavioral Science*, *Computational and Mathematical Organization Theory*, *Future Generation Computer Systems* and others). She has also organized and peer-reviewed international conferences, and is the guest editor of several Special Issues. She has participated in several European projects of innovation transfer and is also External Expert of COST Association—European Cooperation in Science and Technology and President of the ISO/TC 260—Human Resources Management, representing Portugal in the International Organization for Standardization.

Preface to “Sustainable Marketing and Strategy”

We are very happy with the reception we had to our Special Issue in *Sustainability* (MDPI) on Sustainable Marketing and Strategy. The topic is both current and challenging. Without attention to sustainability, there is no marketing or strategy to speak of. This is especially true after the COVID-19 pandemic, during which matters regarding the environment and aid to local communities have gained in prominence amongst consumers and firms alike. Corporations, large and small, may choose to ignore these issues, but they will do so at their own risk.

Peter Drucker stated that marketing and innovation were essential aspects regarding firm success. Without innovation, there can be no strategy. Without attention to markets and customers, we would have no business. Even in the case of not-for-profit firms this is true.

The range of articles in this Special Issue of *Sustainability* (MDPI) touch upon many aspects of corporate marketing and strategy, namely: the role of opinion leaders in advice networks (a Chinese travel content community); R&D investment (a sustainable development strategy); global expansion (food and beverage franchisors in Malaysia); strategic talent management (employer branding); wine tourism (holistic behaviour measurement of wine tourists); employee engagement (new ways of working and the physical environment); a systematic literature review of employer branding as a talent management tool; and case study research linked to sustainability in the coffee supply chain and purchasing policies.

Therefore, we are happy to release this book as a collection of articles from the Special Issue. We hope that the articles may encourage further debate on these themes. Despite the noise and uncertainty regarding the future, to quote Nobel Prize Laureate (in Economic Sciences) Daniel Kahneman’s work, we are sure of having learned that these themes are still strategic: leadership, R&D, the internal environment (employees), the importance of experiences (tourism is still a major sector, resurging, following COVID-19), and sustainability (regarding the environment as well as local communities). We are anxious for a new beginning after what has been a difficult two years of mayhem and isolation worldwide. Let us learn from our experience and make marketing and strategy truly green core issues.

In the future, we hope to see other new themes emerge in tandem with the above. Themes such as behavioural economics (Nobel Prize Laureate (in Economic Sciences) Richard Thaler is mandatory reading), servant leadership (whereby creativity and open knowledge exchange may flourish in organizations), as well as advanced business analytics (to aid more informed decision-making).

Finally, we would like to thank the Editorial Team at MDPI for their invaluable assistance, guidance, and professionalism throughout the whole publication process. Without their help, none of this would have gone as smoothly as it did, and in parallel with our many other academic duties, including as lecturers and managers.

Manuel Au-Yong-Oliveira and Maria José Sousa
Editors

Sustainable Marketing and Strategy

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1. Introduction

The theme of this Special Issue (SI) is Sustainable Marketing and Strategy, as in the literature, we have seen growing evidence of how sustainability efforts are increasingly bringing significant benefits to enterprises. This effect has been further witnessed following the outbreak of the COVID-19 pandemic, whereby we have seen an even more conscious consumer appear. The benefits include increased brand awareness, as those firms that stand out tend to catch attention by being keen to help and not hurt the environment as well as local communities. Consumers are thus opting for more environmentally and community-friendly firms, which is thus a means to achieving greater competitiveness. That the sustainability theme may be seen simply as a marketing tactic has also been debated. It surely makes strategic and marketing sense to be nice to the community, above what is required by law. Doing so in sincere and planned efforts will reap better returns in the age of the informed consumer. Greenwashing must be avoided at all costs, as firms will be punished for not being authentic in their social responsibility efforts. The articles published in this SI discuss how companies are managing the issues related to a new era whereby sustainability is a major goal for academics and practitioners alike.

This SI intended to explore and be an outlet of discussion regarding the following themes: sustainable marketing, digital marketing for sustainable strategies, marketing and big data to shape customer behavior, green branding strategies, marketing and corporate social responsibility, marketing ethics, marketing and sustainable decision-making, and sustainable marketing policies for a green market.

2. Discussion

In this context, eight articles were accepted for publication which discuss the topics of determinants of marketing in globalization, employer branding as a marketing tool for strategic talent management, new ways of working and the analysis of employee engagement, the sustainability of the supply chain and purchasing policies, a new strategy to measure the behaviour of wine tourists, the opinion leaders' influence on the sustainable development of corporate-led consumer advice networks, and the influence of cross-listing on the relationship between financial leverage and R&D investment.

Here is an overview of the articles published in the SI, including the focus, title, methodology of the article, and the keywords—showing how a diverse set of data (primary and secondary) and approaches (qualitative using words and quantitative using numbers) were followed:

- [1]—Focus: franchising as a strategy for business expansion. Title: Determinants of Global Expansion: A Study on Food and Beverage Franchisors in Malaysia. Methodology: qualitative (including interviews and thematic analysis). Keywords: franchising; franchisor; global expansion; case study.

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- [2]—Focus: internal human capital as a strategic asset. Title: Strategic Talent Management: The Impact of Employer Branding on the Affective Commitment of Employees. Methodology: quantitative (including a questionnaire). Keywords: employer branding; affective commitment; talent management; strategy; personal marketing.
- [3]—Focus: new ways of working as a strong predictor of increased employee engagement. Title: New Ways of Working and the Physical Environment to Improve Employee Engagement. Methodology: quantitative (including a questionnaire). Keywords: new ways of working; performance; structural equation modeling; work engagement.
- [4]—Focus: sustainable development including sustainable buying processes and practices. Title: Sustainability in the Coffee Supply Chain and Purchasing Policies: A Case Study Research. Methodology: case study based on secondary data. Keywords: sustainability; supply chain; purchasing policies; coffee business and production; Delta Cafés; Grupo Nabeiro; sustainable business; sustainable practices; food safety; buying process; agrifood products.
- [5]—Focus: rising emphasis on the employer brand (for attraction and retention). Title: Employer Branding as a Talent Management Tool: A Systematic Literature Revision. Methodology: literature review (the last ten years) relating employer branding and talent management (using the PRISMA protocol); keywords: employer branding; talent management; systematic literature revision.
- [6]—Focus: development of a wine experience scale tested in Portugal (in Porto and on the island of Madeira). Title: Developing a Wine Experience Scale: A New Strategy to Measure Holistic Behaviour of Wine Tourists. Methodology: quantitative (including a questionnaire); keywords: scale validation; SEM; wine storytelling; wine tasting excitement; wine involvement; winescape.
- [7]—Focus: a new corporate strategy - online community marketing and social media influencer marketing. Title: The Role of Opinion Leaders in the Sustainable Development of Corporate-Led Consumer Advice Networks: Evidence from a Chinese Travel Content Community. Methodology: consumer advice networks, opinion leaders and the establishment of research hypotheses (the content community of the Chinese Beijing-based (founded in 2005) “Qunar Travel” website as the research target—a standard consumer advice network); keywords: content community; sustainable marketing; SMIs marketing; consumer advice network; opinion leaders; network structure.
- [8]—Focus: investment in research and development (based on financial leveraging and the intra-industry contagion effect) as an important factor for differentiation and competitive advantage. Title: Influence of Cross-Listing on the Relationship between Financial Leverage and R&D Investment: A Sustainable Development Strategy. Methodology: quantitative; measurement of debt financing in a sample of firms, and the analysis of a sample of rival firms; keywords: cross-listing; financial leverage; R&D investment; corporate sustainability.

3. Final Considerations

We hope to have communicated a message whereby a new marketing and strategy approach is necessary. The world has become more united following recent trials and tribulations; hence, a new perspective has evolved, much to the surprise of observers, academics, and executives alike. As a result of recent hard times, consumer markets and business markets look toward new examples of ethical behaviour and seek new heroes. Often, the enemy appears unannounced and unexpectedly. In view of such occurrences, new levels need to be reached—of positive and humane human and corporate behaviour. Indeed, let us recall that corporations are run and led by people—who will be held responsible for irresponsible acts and consequences. History has shown us time and again that we as a species feel for each other and for the environment, especially when pushed to our limits and when we have had time to think beyond our immediate needs

and necessities. The recent lockdowns and imposed restrictions on our liberty, due to the pandemic, have led us down that avenue, one of introverted thought and on how we can each make a difference and a step forward towards a better life. We all in the end are mortal and accept our mortality in times of hardship. Join the new marketing and strategy generation, which seeks to create more value and benefits and less waste. It is all a question of the community—both internal and external to the firm. We hope you enjoy our SI and pass on what you learn—on strategy and about sustainable and responsible growth—to others in your network.

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Article

New Ways of Working and the Physical Environment to Improve Employee Engagement

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Abstract: Employee engagement is becoming an increasingly essential factor in organizational competitiveness. Although employee engagement is an extensively researched topic, the roles of new ways of working and physical environment factors are still under exploited. As such, this study examines the relationship between physical environment factors, the dimensions that integrate new ways of working, and employee engagement. Survey data with 126 respondents are analyzed using structural equation modeling. The findings indicate a positive significant relationship between the physical environment factors and work engagement. Furthermore, this relation is mediated by four facets regarding new ways of working. The results also indicate that, for the group where facilities were not modified, the new ways of working are a stronger predictor of work engagement when compared with the group where facilities were modified. These findings extend existing knowledge on the antecedents of employee engagement, namely physical environment factors and new ways of working. Another important contribution is related to the mediating role of several facets of new ways of working in the relationship between physical environmental factors and employee engagement.

Keywords: new ways of working; performance; structural equation modeling; work engagement

1. Introduction

In a rapidly changing society, where growth in information volume has generated profound social changes, the discussion about the future of the physical work environment gains important contours [1,2]. In parallel to these changes, there is a growing need to improve working conditions so that the reduction of the management structure can maintain or even exceed its performance [1,3]. This concern has given rise to what the scientific literature indicates as *New Ways of Working* (NWW) [4–7]. An increasing number of organizations have been looking to implement NWWs in search of a readjustment of their management practices to stay competitive in the market, reduce operating costs and increase productivity [8].

NWW encompasses five facets, which are: (i) management of output, (ii) access to organizational knowledge, (iii) flexibility in working relations, (iv) a freely accessible open workplace and (v) time- and location-independent work [1–3,6,9].

However, to encourage the adoption of NWW, organizations must also adjust their physical facilities where employees perform their activities [4,10,11]. As such, there is an increasing process of transformation in traditional environments of work. The spaces designed for individual employees have been changing in favor of large collective spaces [10,12]. At the same time, technology assumes

roles that were previously performed exclusively by individuals streamlining process execution and becoming obsolete various organizational functions [13].

In the context of the drastic changes that the world is passing through due to the COVID-19 pandemic, the relationship between the work environment's physical aspects and the NWW is even more relevant. Around the world, organizations' higher management is adapting all their structure to this new paradigm. At the same time, NWW's facets as access to organizational knowledge, flexibility in working relations, and time- and location-independent work are being heavily used in this new perspective. Even though these research findings could not be generalized, we believe that due to the exceptionality of this moment, our research may contribute to understanding the interrelationship of these two essential factors for the work environment in the XXI century. The theme of employee engagement has been an object of extensive investigation (c.f. [14]). However, the analysis of the NWW as an antecedent of employee engagement needs further research [15]. Previous research investigated only direct effects [16] or specific indirect effects considering social interaction and transformational leadership as mediators [3]. However, the direct and indirect effect of physical environment factors on employee engagement and the effect of NWW on employee engagement are still under explored. As such, the objectives of this research are (i) to investigate the relationships between physical environmental factors and NWW and employee engagement, and (ii) to assess the relationship between NWW and employee engagement.

Based on survey data analyzed using structural equation modeling, this study presents three main contributions. First, by identifying the essential role of Physical Environment Factors (PEF) in employee engagement, recognizing the direct and indirect influence through the mediating role of several facets of NWW. Secondly, the direct influence of NWW on employee engagement is also recognized. Third, the study also identifies the direct influence of PEF on the NWW, extending the existing knowledge on the antecedents of employee engagement.

This article is structured as follows. Section 2 presents the literature review and the research hypothesis. Section 4 details the methodology. The next section presents the analysis procedures, and the results are described in Section 5. Section 6 discusses the results, presents the conclusions, implications and limitations, and future research suggestions.

2. Literature Review

2.1. The New Ways of Working (NWW)

The New Ways of Working (NWW) come from the areas of human resources administration and management [4]. During the period when the subject still lacked more concrete definitions, many scholars referenced it interchangeably by terms such as telework, flexible work, and mobile work [17].

As far as IT evolved, the so-called "virtual world" and digital tools have reduced the need for synchronous communication and mobilization office employees to perform tasks [6,10]. At that time, it has become clear that the New Ways of Working involved aspects that went beyond the limits of technology [8,18] and the work environment and relationships between employees began to get more attention.

Several studies seek to reflect on NWW [19,20]. According to De Leede and Kraijenbrink [21], there are three main aspects: flexibility, work at home and work together at a distance.

Slagter [22] argues that NWWs consists of four facets, namely: time- and location-independent work; independent production management; access to organizational knowledge and flexibility in work relationships. Although Slagter's [22] classification is the most widely used, it does not address aspects related to the physical and mental interaction between work environments, which, even at a distance, is an indispensable facet of the definition of the NWW [23]. The first three facets have related to aspects that encourage the so-called teleworking. The fourth and fifth facets have related to aspects that are internal to the physical work environment. Regarding the fourth facet of NWW—Flexibility in working relationships—both Branine [24] and Kossek and Lee [25] reflect that employees who share

workplaces cite as advantages of this provision the transfer of experience, as well as the mutual support and help they receive from each other with their colleagues.

Regarding the fifth facet of NWW, a freely accessible workplace, it has a purpose to minimize the physical and mental distance in the workplace, stimulating meetings, and cooperation between colleagues. Table 1 contains the five facets of NWW, their respective concepts, and references.

Table 1. Facets of *New Ways of Working* (NWW) and their definitions.

NWW Facets	Definition	Authors
Time- and location-independent of work	Performing work outside the organization's physical environment and at alternate times	[7,22]
Independent production management	The employee has more flexibility to define the way and the pace of delivery of their demands.	[3,4,22]
Access to organizational knowledge	Employees have greater access to information needed to perform their duties and the ability to interact with colleagues and managers.	[2,26,27]
Flexibility in labor relations	Employee freedom to adjust work functions to those of their personal life	[7,8]
Local of freely accessible work	Permission for employees to attend workplaces and perform their duties at various times	[12,28]

Source: prepared by the authors (2019).

The following section presents the relationship between employee engagement and work performance with new ways of working.

2.2. *The Relationship between Employee Engagement and Performance at Work in the Context of New Ways of Working*

The relationship between employee engagement and work performance is widely studied in the literature [29,30]. However, most of the empirical evidence that presents performance indicators in the study of this relationship is still incipient [31]. As stated by Demerouti et al. [31], the literature on work engagement is based on pre-existing constructs. In this context, are inserted the facets of New Ways of Working, like practices to reduce stress, and at the same time promote work engagement. Ultimately, the adoption of NWW facets acts on two fronts, promoting increased work performance [27,31,32].

The studies about NWW must contemplate the interrelationship between facets and the physical environment [6,10,12]. Therefore, the following section presents the Physical Environment Factors (PEF) to be analyzed in this investigation.

2.3. *The Influence of Physical Environment Factors on Work Performance*

The importance of the quality of the physical environment can be measured by its most direct consequences for organizations. Becker and Sims [33] sought to measure the cost of so-called turnover (variation between input and output of employees), which usually has a direct link to poor physical working environments, concluding that a reduction from 30% to 15% would represent savings of USD 60,000 per employee in the USA. Similarly, Duffy and Powell [34], measuring the reduction *turnover* of a financial services firm in Australia, observed a reduction of 11% after refurbishment was carried out in its physical facilities. Table 2 presents the physical environment factors that influence employees in the workplace, their implications, and references.

Table 2. Physical environment factors and their implications for employees.

Physical Environment Factors	Implications	Authors
Air quality	Increased work engagement. Reduction of downtime and absenteeism	[9,35]
Temperature	Maintaining adequate levels reflects positively on individual aspects of work such as self-esteem, confidence, engagement, and employee satisfaction.	[36]
Ergonomics	Reduces occupational injuries resulting from repetitive stress. Contributes to increased productivity.	[37,38]
Physical environment factors	Implications	Authors
Ambient lighting	Adequate levels of ambient lighting help increase productivity, reduce employee absenteeism and well-being.	[35]
Noise Levels	Moderate noise levels promote comfort and well-being and work engagement	[35,39,40]

Source: prepared by the authors.

The physical environment factors presented can be directly influenced by the density in the workspace, affecting the comfort and the health quality in the environment [41,42]. Therefore, a constant senior management assessment is required for workspace readjustment [39]. The following section presents the hypotheses to be tested and the model proposed in this investigation.

2.4. Hypothesis Development and Conceptual Model

In the study by Ten Brummelhuis et al. [43], the authors found that the implementation of the facets of new ways of working is positively related to employee engagement. At the same time in the study by Van Steenbergen et al. [11], the authors concluded that reducing the workload and the task ambiguity and increasing autonomy of employees were related positively to reducing *burnout* and fostered work engagement.

Gerards et al. [3], in a study about the facets of new ways of working, concluded that three of them are positively related to employee engagement. They are (i) access to organizational knowledge, (ii) free access to the work environment, and (iii) independent production management. According to Vischer and Wifi [44], the constant monitoring of workers' perceptions of their working conditions is an essential tool for continuously improving their working environment. In this regard, it is necessary to periodically evaluate the physical work environment to adapt it to technological and organizational evolution [45]. Among the facets of the new ways of working, (i) time- and location-independent work, (ii) flexibility in working relationships and (iii) a freely accessible workplace, require not only changes in the management of organizations but also in the adequacy from physical installations to this new reality [10,28,46,47].

However, success in designing virtual environments to promote flexibility in time and workspace, or even implementing physical environments that adapt to more flexible forms of working relationships, depends on top management support to achieve alignment with the strategy and culture of the organization [27].

Furthermore, Ten Brummelhuis et al. [43] found NWW to play a crucial role in work engagement, with the mediate role of social interaction. In the same vein, Gerards et al. [3] also highlighted the relationship between one or more individual facets of NWW and employee behavior. As such, according to the literature review, we realize that physical working conditions play an essential role in employee satisfaction and especially in employee engagement. It was found that this factor is

also strongly linked to NWW, suggesting not only a direct relationship as a mediator in employee engagement. Therefore, we consider the following hypotheses:

Hypothesis 1 (H1): *Physical work factors have a positive relationship with employee engagement.*

Hypothesis 2 (H2): *Physical work factors environment has a positive relationship with new ways of working.*

Hypothesis 3 (H3): *New Ways of Working has a positive relationship with Employee Engagement.*

Hypothesis 4 (H4): *The relationship between the facets of new ways of working and employee engagement is mediated by the perception of physical environment factors.*

Hypothesis 5 (H5): *The relationship between the facets of the new ways of working and employee engagement is moderated by physical environment factors.*

Figure 1 shows the research model, the structural relationships between the constructs and the hypotheses to be tested.

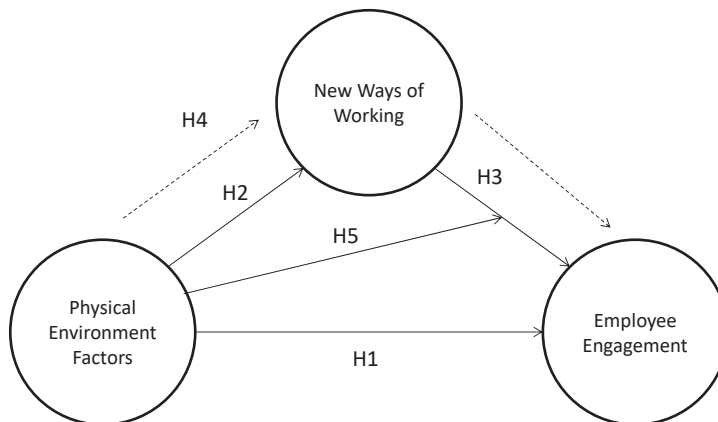


Figure 1. Conceptual Model. Source: the authors. Note: the intermittent line represents the mediate relation.

The next chapter presents the methodological path that was followed for the execution of the research.

3. Methodology

This research uses a case study research design for examining the identified problem. As suggested by Seawright and Gerring [48], case selection incorporates not only practical considerations such as time and access to information but also provides an opportunity to pursue action leading to the reach research objectives. The following protocol was followed to identify the most appropriate case. First, a list of the world’s leading companies was identified regarding their role in policymaking for government and civil society. As such, a shortlist of relevant institutes was taken from 2018 Global Go To Think Tank Index Report [49], a ranking that identifies leading policy institutes for governments and civil societies around the world. The top 10 institutes are presented in Table 3.

Table 3. Top think tanks worldwide.

1. Brookings Institution (United States)
2. French Institute of International Relations (IFRI) (France)
3. Carnegie Endowment for International Peace (United States)
4. Bruegel (Belgium)
5. Center for Strategic and International Studies (United States)
6. Fundação Getúlio Vargas (FGV) (Brazil)
7. Chatham House (United Kingdom)
8. Heritage Foundation (United States)
9. RAND Corporation (United States)
10. International Institute for Strategic Studies (IISS) (United Kingdom)

Source: McGann [49].

Second, the entities were selected in a score from 1 to 10 according to two criteria: (i) performance in varied areas of activity; (ii) occurrence of relevant changes in the physical environment; and (iii) availability and willingness to facilitate access to relevant information. Based on these criteria, the top candidate was Fundação Getúlio Vargas (FGV). The selected case study is considered as adequate to extend the relevant research in this field by exploring the relationships between physical environmental factors and NWW and employee engagement, as well as the relationship between NWW and employee engagement.

FGV was created on December 20, 1944, in Rio de Janeiro as a nonprofit entity to provide services to society. The initial purpose was to qualify professionals for public and private administration. The institution has a strong tradition in cutting-edge higher education and has helped to educate key decision makers over the years in Brazil and around the world [50]. This organization was chosen to carry out this study because it is an international reference and pioneer in the adoption of new management and work practices, revealing to be an ideal field of investigation for the subject of this study.

FGV is a Brazilian center of excellence for quality education, research, and projects. For almost 70 years, the institution is one of the leaders of the country's social and intellectual development. In numbers of 2019, FGV encompassed over 90 centers for studies and research.

According to a recent report of the University of Pennsylvania, FGV was ranked in the 5th position of the Global Top Think Tanks Index—the 1st in Latin America and the Caribbean [49]. As can be perceived by the diversity of knowledge branches, in FGV's units and staff, there is an intense interaction between scholars and practitioners. In Brazil, FGV is one of the first institutions to promote the integration of these two “separate” worlds. The collaboration between practice and scholars stimulates the use of the most recent knowledge in several areas.

For example, following recent academic studies, in the last five years, FGV's higher management has been working to improve all the units' physical installations. In parallel, FGV was one of the pioneers in Brazil to stimulate among its workers, the implementation of the termed New Ways of Working (NWW). In the year of 2019, two of the leading FGV units (in Rio de Janeiro and São Paulo) initiated the physical reformulations to improve the following aspects: (i) air quality, (ii) temperature, (iii) ergonomics, (iv) ambient illumination and (v) noise levels. According to Yin [51], a researcher may conduct a single case when there is a rare or unique circumstance to be observed. We collected the data in these two FGV units during the period in which these improvements were being carried out. Therefore, we could assess how the two groups (NMod—the group in which the facilities have not been modified; Mod—the group in which the facilities were modified) perceived the relationship of the new ways of working facets and the physical environment.

The research was carried out in a cross-sectional analysis, having as its unit of analysis the employees of Fundação Getúlio Vargas (FGV). Data from 125 respondents were collected between

June and August 2019 through a link sent to employees. This period was considered to be the time when fewer workers are on vacation, to maximize the quantity and representativeness of the sample. The questionnaire was made available on the Qualtrics platform [52]. The research sample was defined by convenience and is therefore not probabilistic. It is justified by the fact that the focus of the research is limited to the employees of FGV. The inclusion criteria were to be an employee of FGV and to have work contracts with the institution. The exclusion criterion was not having a work contract; as such, all service providers were excluded from the survey.

The quantitative research began with the development of the data collection instrument. For this, a search in the indexes was performed: Web of Science, Google Scholar, Scopus, and Scielo. The following English terms were used to search the titles of scientific articles and books: “*New Ways of Working*” and “*Performance*”. The same terms were also searched for in their Portuguese translation.

The survey questionnaire was constructed to include the following variables presented in the work of Gerards et al. [3]: “*New Ways of Working*” and “*Employee Engagement*”. The third variable, “*Physical Environment Factors*” was drawn from the literature referenced in this research.

The air quality and temperature factors were measured together, because of its nature and similarity [9,35]. The items comprising the first two constructs instrument (New Ways of Working and Employee Engagement) were translated from the questionnaire by Gerards et al. [3] to Portuguese and adapted according to the socio-cultural characteristics of the respondents. As a way to investigate the relations proposed in the objective, the facets of the new ways of working were homogeneously analyzed. Similarly, the factors of the physical environment were also gathered in one construct.

The first section of the questionnaire aimed to identify the socio-demographic characteristics of respondents: (i) age, (ii) profession, (iii) gender, (iv) educational level, (v) organizational role, and (vi) working time in the organization. Additionally, two closed questions were presented to ascertain whether the employee was aware that the organization’s facilities were recently modified or upgraded and whether they worked in the organization before this change. The statements of the questionnaire were presented on a scale like Likert of seven points. To increase the face validity of the instrument, the questionnaire was submitted to the analysis of two masters and a doctoral student from the area of the administration who made suggestions for changes. The research proposed in this research was based on primary sources.

After data tabulation, incomplete responses were discarded. The second step was to verify the responses characterized as *outliers*. For this, the following criterion was adopted: the frequency of responses of each individual for the seven points of the scale was measured. If the answers had a concentration percentage higher than 60% in only one point of the scale, the questionnaire was discarded from the analysis.

4. Analysis

Data collection involved employees working in the administrative, academic, managerial, and strategic sectors in the cities of Rio de Janeiro and São Paulo. After debugging and compiling the database, a total of 86 valid responses were obtained. The average age of respondents was 38 years. Of the total, 46.5% are male and 53.5% female. Regarding the level of education, the majority (64.70%) of respondents are postgraduates, then totaled 25.88% who have a degree. In Table 4, the data are presented in more detail.

Regarding the age of respondents, most are in the range between 30 and 35 years (21 individuals). FGV operates in various areas, from consulting to educational services. This segmentation is perceived by analyzing the position of respondents in the survey. Most of them, 26 individuals, were working in administrative positions. Next, consultants (13), coordinators (11), and managers (11). Academics and technicians totaling eight individuals in each category. In the last positions were strategic positions (five) and analysts (four).

Regarding working time, the majority (37,2%) of employees are in the organization between 1 and 5 years. Then, 25.6% of respondents are individuals who are between 5 and 10 years in the organization. In a smaller percentage, 18.6% of employees had worked in the organization for between

10 and 15 years. The extreme points (less than one year and more than 15 years) presented the lowest percentages, with 9.3% in each group. The data were analyzed using SPSS statistical analysis software (version 23) and SmartPLS (version 3.2.8). Additionally, Excel was used to tabulate the database.

Table 4. Respondents' sociodemographic profile.

Demographic Profile and Use Characteristics of Smartphones		Number	Percentage (%)
Genre	Male	40	46.5
	Feminine	46	53.5
Age years	20–25	7th	8.2
	25–30	13	15.1
	30–35	21	24.4
	35–40	13	15.1
	40–45	11	12.8
	45–50	9	10.5
	50–55	3	3.5
	55–60	4	4.6
	60–65	3	3.5
	>65	2	2.3
Degree of Instruction	Second degree completed	5th	5.8
	University graduate	22	25.88
	Specialization	4	4.7
	Postgraduate studies	55	64.7
Working time in the organization	Less than 1 year to 5 years	8, 32	9.3, 37.2
	5 to 10 years to 15 years	22, 16	25.6, 18.6
	More than 15 years	8	9.3
Renovated/modified facilities	Yes	39	45.9
	Not	47	54.1
Present before renovations/modifications	Yes	38	44.7
	Not applicable	42	55.3

The validation of the instrument began in the pretest phase in which 33 answers were obtained from employees of the institution. Items that presented corrected item-total correlation indices below 0.300 were removed, following the recommendations of Pedhazur and Schmelkin [53]. In the final version of the questionnaire, nine of the 38 items did not present the recommended indexes so that it was possible to proceed with the instrument validity and reliability tests [54,55] and, therefore, were withdrawn.

The KMO test resulted in an index of 0.837. Coefficients above 0.6 indicate the appropriateness of the sample for factor analysis [56]. The presence of correlation between the items was analyzed by Bartlett's sphericity test. The test was significant at a confidence level of 99% and an index of 1,813,873 was obtained. After debugging the instrument, a new collection was performed. The final number of valid answers was 86 questionnaires, so above the minimum number of 68 respondents.

Minimum sample estimation was performed using GPower software [57] using the parameters recommended by Cohen (1992) for the multiple linear regression method. Due to the predictive and exploratory character of the research, PLS-SEM was adopted as a statistical technique to test the hypotheses proposed in the model. For the implementation of technical statistics, the recommendations of Hair et al. have been implemented [58].

Additionally, the sample normality test indicated that the data are not normalized. This second finding reiterates the choice made by the data analysis method, whereas the literature largely recommends the choice of the PLS-SEM statistical technique over the covariance analysis (CB-SEM) technique when data are not normally distributed [59].

5. Results

5.1. Measurement Model Analysis

After debugging the database and validating the instrument, the measurement model was analyzed. Considering that the model under analysis is composed of reflective items, the evaluation of the measurement model involves the respective reliability criteria: (i) item reliability, (ii) construct reliability, and (iii) internal consistency. The statistical indices used to evaluate the three criteria were:

the corrected item-total correlation (CITC), the latent and cross loads, the Cronbach's alpha (CA), Composite Reliability (CR), and the Average Variance Extracted (AVE). All items had CITC indices above the recommended parameter of 0.5 (Hair et al., 2017). The respective Cronbach's alphas also had indices above 0.7, indicating the internal consistency of the constructs.

According to Henseler et al. [60], the reliability of each reflective item is measured by its latent load about its respective construct. The authors recommend that the rates be at least 0.7. Although eight of the 29 indicators in the final questionnaire had external loads below the 0.7 index (yet all above 0.6), the results of the Average Variance Extracted (AVE) show that they contribute to the measurement of their respective constructs [60]. Therefore, they were kept in the model evaluation.

The second procedure consisted of verifying the convergent validity, estimated through the AVE. The three constructs presented indices higher than 0.50, which concludes that at least half of the variance of each construct can be attributed to the items that compose them [61,62]. Before proceeding with the discriminant validity test, the item significance test, and the internal consistency of the constructs are presented. In Table 5, latent loads of items, the composite reliability (CC), Cronbach's alpha (AC), and the average variance of the extracted constructs (AVE) are exposed.

Table 5. Latent loads, Cronbach's alpha, average variance extracted, and composite reliability of items and constructs.

Construct/Dimension/Item	Latent Loads	<i>t</i> * Values	AC ^a	CC ^b	VME ^c
Work Engagement			0.930	0.943	0.676
Work Engagement 2 (ET2)	0.886	37.957			
Work Engagement 3 (ET3)	0.878	31.898			
Work Engagement 4 (ET4)	0.889	26.595			
Work Engagement 5 (ET5)	0.867	25.396			
Work Engagement 6 (ET6)	0.745	12.810			
Work Engagement 7 (ET7)	0.764	13.455			
Work Engagement 8 (ET8)	0.652	6.055			
Work Engagement 10 (ET10)	0.864	25.761			
Physical Environment Factors			0.924	0.934	0.504
Sound Comfort 1 (ConfSon1)	0.779	13.603			
Sound Comfort 1 (ConfSon2)	0.794	12.740			
Ergonomics 1 (Erg1)	0.780	15.415			
Ergonomics 2 (Erg2)	0.810	16.893			
Ergonomics 3 (Erg3)	0.654	10.034			
Layout1 (Lay1)	0.753	12.765			
Layout2 (Lay2)	0.705	10.128			
Layout4 (Lay4)	0.797	15.129			
Privacy 1 (Priv1)	0.678	8.437			
Privacy 2 (Priv2)	0.655	7.001			
Privacy 3 (Priv3)	0.608	7.325			
Temperature and Air Quality 1 (Temp1)	0.626	8.427			
Temperature and Air Quality 2 (Temp2)	0.728	15.071			
Temperature and Air Quality 2 (Temp3)	0.733	13.950			
New ways of working			0.855	0.889	0.534
Access to Organizational Knowledge 1 (CI1)	0.690	9.942			
Access to Organizational Knowledge 2 (CI2)	0.677	9.288			
Time and Space Flexibility 2 (FL2)	0.669	8.852			
Time and Space Flexibility 3 (FL3)	0.740	12.478			
Independent Production Management 1 (GS1)	0.811	16.647			
Independent Production Management 2 (GS2)	0.774	13.095			
Flexibility in Labor Relations (SPP1)	0.742	12.285			

Note: ^a—Cronbach's alpha; ^b—Composite reliability; ^c—Average Variance Extracted; * *t*-value for two-tailed test: * 1.96 (significance level: 95%).

The discriminant validity (the extent to which items in a given construct differ from items in other constructs) was assessed by two criteria. First, according to the Fornell–Larcker criterion [63], the square root of the AVE indices of each of the constructs must be greater than their correlation with the others. The three investigated constructs met this condition. Table 6 shows the discriminant validity by the Fornell–Larcker criterion, the average and standard deviation of the constructs.

Table 6. Discriminant validity by the Fornell–Larcker criterion.

Construct	Work Engagement	Physical Environment Factors	NWW
Work Engagement	0.822		
Physical Environment Factors	0.463	0.710	
NWW	0.591	0.492	0.731
Average	5.478	4.38	4.70
Standard deviation	1.360	1.766	1.954

The second criterion used to assess discriminant validity was the straight-trait mono track correlation ratio [64]. The indices presented values below 0.85, as recommended by the literature [64].

5.2. Structural Model Analysis

After analysis of the measurement model, the structural model was examined. This stage of the analysis is to identify the strength, significance, the total variance explained by the endogenous constructs and predictive relevance of the model [59,64]. The multicollinearity analysis was performed by observing the Variance Inflation Factor (VIF). According to Hair et al. (2017), values between 0.2 and 5 indicate that there is no negative influence of multicollinearity between items. The values of the independent variables so as dependent varied between 1.6 and 3.9.

The predictive relevance of the model was calculated by the Stone–Geisser index (Q^2). The *blindfolding* test was performed, with the omission distance of seven points, according to the recommendations of Hair et al. [58]. Cross-validation of endogenous constructs showed values above zero, EIN (0.240), and NWW (0.105). The results confirm the predictive relevance of the model. Additionally, the indicators were subjected to the Harman factor test [65]. In this procedure, all constructs are analyzed by the principal component analysis method, and, if the indicators extracted in a single factor have an explained variance percentage greater than 50%, this variance can be attributed to the method used by the measurement and not by the constructs to be measured [61,66]. In the final instrument, the explained variance percentage reached 33.7%.

The PLS algorithm analysis demonstrated that 37.6% of the variance of the endogenous latent construct in work engagement (EIN) can be explained by the physical factors of the environment (PFE) and the NWW. Another result observed in the analysis was that 23% of the variance of the endogenous construct can be explained by NWW physical environmental factors. Figure 2 presents the model, its structural relationships, latent loads, path coefficients (beta), and the variance explained by endogenous constructs.

The next step in the structural model evaluation was to verify the significance of the results obtained from the standardized path coefficients (betas) of the model. The *bootstrapping* resampling technique with 5000 samples was performed following the recommendations of Hair et al. [62]. This statistical technique aims to assess the significance of the indices found in the measurement and structural model evaluation.

At a significance level of 95% ($p < 0.05$), the validity of the standardized path coefficients (β) was tested. Table 7 presents the hypotheses, the indices, and the decision about their validity.

At a significance level of 95%, Hypotheses 1, 2, 3 and 4 were confirmed. The results indicate the influence of PEF on both work engagement and NWW facets. These in turn also directly and positively influence work engagement. Hypothesis 5 was not confirmed, indicating that PEFs do not act as moderators of the relationship between NWW and work engagement.

This information provides us with evidence to support research by researchers who argue that changes in the physical work environment alone or the implementation of facets of the NWW alone are not enough to promote work engagement and employee performance [3,6]. This finding is one of the topics discussed in the concluding chapter of this document. Hypothesis 4, which was investigating the mediation of the facets of the NWW in the relationship between environmental physical factors

and work engagement, was confirmed. The mediation analysis is presented and discussed in the following section.

Table 7. Test of hypothesis relation between constructs.

Hypotheses	Ways	Path Coefficient (β)	Standard Error	Est. t ^a	p* Value	Decision
H1	PEF→Work Eng.	0.223	0.117	2.001	0.049	Supported
H2	PEF→NWW	0.489	0.070	7.231	0.000	Supported
H3	NWW→EIN.	0.485	0.117	4.215	0.000	Supported
H4	PEF→NWW→EIN	0.460**	-	-	-	Supported
H5	PEF→(NWW→EIN)	0.143	0.111	1.290	0.197	Not Supported

^a t value for two-tailed test: * 1.96 (significance level: 95%); ** total effect.

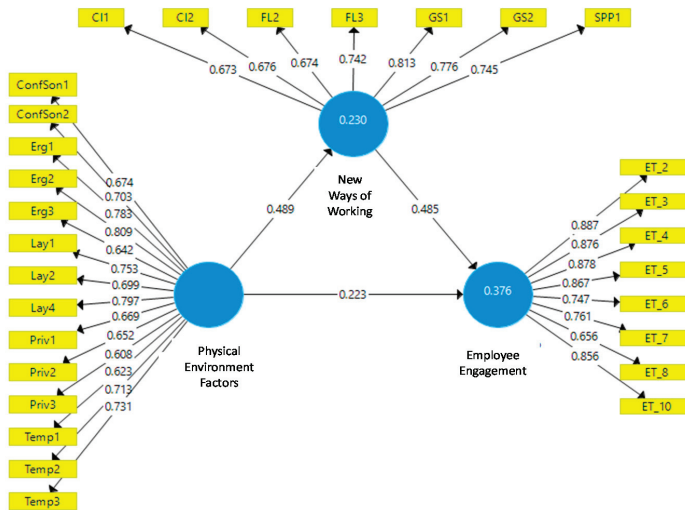


Figure 2. Model results.

5.3. Mediation Analysis

The analysis of the mediating effect of physical environmental factors on the relationship between the facets of new ways of working and work engagement was carried out following two recommendations. The first, by Hair et al. [58], consists of observing the total effect of the independent variable (in this case, physical environment factors), on the dependent variable (work engagement). The total effect corresponds to the sum of the direct and indirect effects. Table 8 shows the indices.

Table 8. Direct, indirect and total effects.

Relationship	Direct Effect	Indirect Effect	Total Effect
PEF→NWW→EIN.	0.223	0.237	0.460

Note: PEF—Physical Environment Factors; NWW—New Ways of Working; EIN—Work Engagement.

Baron and Kenny’s [67] second recommendation consists in observing four assumptions: (i) the independent variable should significantly affect the relationship with the mediating variable so that it is not null, (ii) the independent variable should significantly affect the dependent variable when removing the mediating variable, (iii) the mediating variable has a significant effect on the dependent variable and (iv) by adding the mediating variable to the model, the effect of the independent variable on the dependent variable should become weaker.

Table 7 presents the results from the direct relationships of the structural model. The results indicate that 37.6% of the variance in the construct “Employee Engagement” can be explained by the proposed model. A value of less than 50% indicates that the relationship between physical environmental factors and NWW facets has a power that lies between the “small” and “moderate” rates of employee variance explanation [68]. By withdrawing the variable mediator (NWW), the strength of the path increases ($\beta = 0.476$). This finding obeys one of the assumptions fundamental to Baron and Kenny [67] to certify the occurrence of mediation.

From the results of the analysis, it is possible to verify that the facets of the new ways of working, jointly, act partially as a mediator of the relationship between the factors of the physical environment and employee engagement. Considering that the existence of mediation depends on the significance of the relationship between the independent variable and the mediator or between the mediator and the dependent variable [69], Table 9 shows the path coefficients, the standard deviations, the t values, and the p values relations.

Table 9. Pathway Significance Test.

Ways	β	Standard Deviation	Est. t^a	p Values *
PEF→EIN	0.223	0.117	2.001	0.049
PEF→NWW	0.489	0.068	7.231	0.000
NWW→EIN	0.485	0.115	4.215	0.000

Note: ^a t -value for a two-tailed test: * 1.96 (significance level: 95%); PEF—Physical Environment Factors; NWW—New Ways of Working; EIN—Work Engagement.

In the following section, we present the analysis of the search model parameters between the groups in which the facilities were modified and what the facilities did not undergo modifications.

5.4. Analysis between Groups

The analysis of the proposed model considered the four categorical variables (gender, education, working time in the organization, and modifications in the facilities). The four control variables were tested to see if they influenced work engagement. Only the variable “Facility Modifications” showed a significant difference in multigroup analysis.

Initially, the two groups were analyzed separately. Then, the difference between the groups was analyzed using the PLS-MGA method. In the group of total respondents, the Physical Environmental Factors (PEF) have a path force of magnitude 0.223 (β) in work engagement. We compared if the result with the group mod (where facilities have changed) shows the weight change in the physical environment (PEF). In this group, the same path had a coefficient of 0.437 (β); therefore, the effect was almost twice as strong as that of the group of total respondents.

On the other hand, the parameters of the NMod group (in which the facilities did not undergo modifications) show the weight that these employees give to the new work practices (NWW) when the physical environment factors (PEF) are not yet noticed as ideal for the execution of their functions, in the employee engagement (EIN). For this group, the structural coefficient of the PEF→EIN ratio was only 0.093. This index is put into perspective by comparing the same indices for the group of total respondents and the group in which the facilities were modified (respectively, $\beta = 0.223$ and $\beta = 0.437$).

Table 10 presents indexes to verify the significance of the paths. As a way of facilitating the interpretation of the results, the red indices indicate that the statistical significance of the structural coefficients (β) in the respective paths has not been proven. The green indices demonstrate the statistical significance of the paths.

Table 10. Analysis of model parameters by modifications in the physical environment.

Ways	β NMod	β Mod	Dev NMod Standard	Dev Mod Pattern	t NMod Values	t Values Mod	p Values NMod	Mod p Values
PEF→EIN	0.093	0.437	0.149	0.211	0.625	2.069	0.532	0.039
PEF→NWW	0.475	0.640	0.090	0.083	5.284	7.717	0.000	0.000
NWW→EIN	0.676	0.171	0.116	0.201	5.846	0.850	0.000	0.395

Source: Research Data (2019). Note: PEF—Physical Environment Factors; NWW—New Ways of Working; EIN—Work Engagement. β —Standardized path coefficient; NMod—Group in which the facilities have not been modified; Mod—Group the facilities were modified.

Another conclusion that can be drawn from the individual analysis of the two groups is that the PEF→NWW path was significant in both groups. In the Mod group, the coefficient was 0.640 and in the NMod group, the coefficient was 0.475.

By analyzing the difference in path effects between the two groups (NMod and Mod) it is possible to make additional inferences. Observing Table 11, it can be observed that of the three structural relationships of the model, the only way that showed a difference statistically significant effects on the strength among groups was on the relationship between NWW and the work engagement (EIN). In this way, the difference of effects was 0.506 (β).

Table 11. Analysis of path effect differences between groups.

Ways	β (NMod-Mod)	p Values (NMod—Mod)
PEF→EIN	0.344	0.908
PEF→NWW	0.165	0.925
NWW→EIN	0.506	0.012

Figure 3 summarizes the relationships prevailing in both groups.

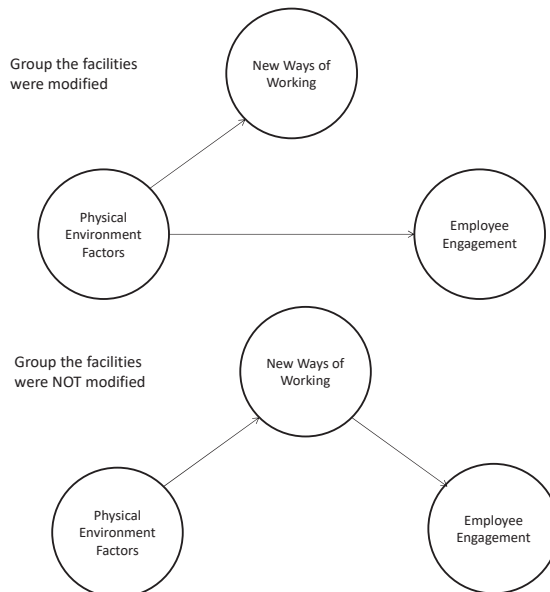


Figure 3. Group comparison summary.

6. Discussion and Conclusions

The implementations of the facets of New Ways of Working involve changes in the physical environment, in IT, in management and culture organizations [8,47]. The purpose of the research was to achieve this. It has been shown empirically that changes in the physical environment directly and positively influence work engagement. However, this influence also occurs indirectly, using the adoption of practices of the facets of NWW.

By analyzing the NMod group separately, engagement is attributed to the facets of the NWW. On the other hand, in the Mod group, this relationship is reversed, work engagement is attributed to physical environment factors. When comparing the difference of the effect of the structural coefficients between the groups, there is a difference of 0.506, a significant 95% ($p < 0.05$) for the path NWW→EIN.

This result indicates that, for the NMod group, the facets of NWW predict with greater force the work engagement (EIN) than the group Mod. The investigation of Meulenstein et al. [70] is placed in perspective. In a work that focused on public office work facilities in the Netherlands, the authors concluded that the more employees realized that the work environment was comfortable, the greater the work engagement.

This interdependent relationship found in the results of the present study is in line with the opinions of Van Heck (2010) and corroborates the findings of Gerards et al. [3] that proper planning of both physical spaces and work forms is essential for increased work engagement and organizational performance.

The above observation aims to contextualize how the present investigation can help practice and academia. For practice, the results show that organizations that want to implement facets of New Ways of Work should assess the perception of its employees to identify the weight of the factors of the physical environment in the benefits that the NWW can provide. Moreover, when making changes to the physical workspace, they should consider how the implemented NWW practices will be influenced by such changes.

The role of New Ways of Working in employee engagement is still investigated by several scholars such as Gerards et al. [3] and Baudewijns et al. [71]. However, the investigation of the influence of physical environmental factors on this relationship still lacked studies of the research content presented in this document.

The empirical demonstration of the interrelationship between changes in the physical environment and the facets of the new ways of working (this partly mediates the relationship between NWW facets and work engagement) has the potential to extend the benefits of investments in the reformulation of physical workspaces and the management of organizations themselves.

Our results present important findings for human resource managers. First of all, they realize that it is not necessary to implement the full range of NWW to increase engagement. Betting on these facets all have very high costs, being important to select only one or two options to obtain interesting results.

Another important issue is related to management skills. The implementation of NWW requires new knowledge and skills from the managers. It will then be interesting to conduct a diagnosis that allows knowing the manager's level of knowledge and preparing the necessary training actions.

Thirdly, there is the aspect of physical working conditions that has a direct effect on engagement, which is enhanced by the mediating effect of the NWW facets. In this context, investments made in physical working conditions may bring better results if accompanied by the implementation of one of the facets of the NWW. In the current pandemic situation resulting from COVID-19, it will be interesting to implement changes in working conditions that favor distance working.

As a limitation of the research, it is possible to mention that even though the sample obtained was statistically valid to achieve the proposed research objectives, a larger number of respondents would allow for more in-depth testing of structural equation modeling analysis and proceed in one-step confirmatory research.

As a major suggestion for future research, it is recommended to test a structural equation model in which each of the five facets of the new ways of working is positioned as a mediator of the relationship between physical environment factors and work engagement.

Future investigation of the relationship between the physical environments, the facets of new ways of working, and work engagement can shed light on how technology and human capabilities can be combined with the physical environment in which work takes place. For this next step to be taken, further research is needed.

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Article

Developing a Wine Experience Scale: A New Strategy to Measure Holistic Behaviour of Wine Tourists

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Abstract: This study develops a scale to measure wine tourism experiences and was tested in Portugal, in two of the main wine tourism centres: Porto and Madeira. The wine experience scale combines experience traits with the traditional approach to scales related to wine tourism. The development of the scale follows the most recognised validated procedures. Data were collected from a total of 647 international wine tourists in the wine cellars of the two main fortified wine tourism regions visiting areas: Porto and Madeira. Structural equation modelling (SEM-AMOS) was used as the main analysis and validation tool. The resulting 18-item wine experience scale comprises four major dimensions: (1) Wine storytelling, (2) wine tasting excitement, (3) wine involvement, and (4) winescape. All these showed reliable and validated indicators. This new scale presents a valid new tool to better measure and evaluate experiences in a wine tourism setting. This study offers a broad range of use for academics, managers, planners, and practitioners. It shows how a new measurement tool focused on the wine tourism experience in terms of several outcomes and applications, addressing important practical managerial implications, can have an impact on academic research. Most previous tourism scales still fail to measure the specifics of wine settings. This is the first scale that comprises the dimensions of experience with wine senses, applied in a relevant wine destination where research is still limited. The results are relevant in boosting the increasingly recognized awareness of Portugal as wine tourism, as well as bringing experience scales to the body of knowledge.

Keywords: scale validation; SEM; wine storytelling; wine tasting excitement; wine involvement; winescape

1. Introduction

Portugal is recognised as a wine tourism destination and has growth potential. In 2019, the tourism revenue contributed 8.7% of the national GDP, with an increase of 8.1% in tourism revenue growth [1,2]. Wine tourism directly contributes to the wine regions' economic development [3]. The 4th UNWTO Global Conference on Wine Tourism (2019), themed 'Co-creating Innovative Experiences', sought to further explore issues related to wine tourism experience for international comparability between destinations. Although Porto and Madeira wines are internationally renowned, there is still limited empirical research on its experience-based wine tourism. It is noteworthy that the Porto wine vines in Douro became the first wine-growing area in the world to be legally regulated in 1756, although the name Porto was already in use from at least 1619. The history of Madeira wine is at least 200 years

old, although vines had been planted since the fifteenth century by order of Henry the Navigator. This makes these two wine regions the most historically significant regions for fortified wines not only in Portugal, but also globally. They are both fortified wines, which means that they are wines to which brandy was added during its winemaking process, normally for conservation and strengthening purposes. They are part of a broader family that includes Sherry, Marsala, Vermouth, and the also Portuguese Moscatel de Setubal. Portugal is the 11th biggest wine producer but the 9th wine exporter in 2018, with an increase of 5% in volume (3 million hl) and an increase of 11% in value (0.8 billion €) [4]. The Porto wine, after some years of declining sales, had, in 2019, an overall increase in sales of 2.5% in volume, although in value it decreased -1.5% . In the domestic market, it had an increase of 3.6% in value despite a decrease of -0.5% in volume. However, in 2020, in the midst of the Covid-19 pandemic crisis, between January and June, it declined -12.4% in volume and -15.4% in value, compared with the same period last year [5]. The Madeira wine also had a decrease of -15% in volume and -19% in value over the same period. This wine had its best year ever in 2018 with over 19.2 million € in value, but with a decrease of -2.9% in value and -6% in volume already in 2019 [6].

In the context of wine tourism, wine-related experiences are a central concept in which the determinants of the success of a wine region emerges through the selection of the customer hedonic concept as an indicator [7]. Wine products offer a wide range of different experiences including wine-related travel, known as an indicator of the wine tourism experience. Wine tourists may travel in search of specific wine tourism experiences, such as visits to the cellars, wineries, vineyards, wine tasting rooms, and/or wine hotels in order to experience an amalgam of different wine-related activities. Therefore, the wine tourism experience comprises the interplay of many factors such as wine tastings, staff, cellar door visits and sales, entertainment, education, and aesthetics [8].

As Hall et al. [9]. argued, wine is seen as an imperative component of the attractiveness of a wine destination. These activities include a set of opportunities in different life domains based on lifestyle and personal experience [10] (p. 152) the opportunity to purchase wine and to learn more about wine [11]. and other wine related matters [12,13]. opportunities for social interaction [11], and communing with others and the opportunity to relax [12,13]. "A favourable winery experience eventuates when a wine tourist engages in a positive interaction with these wine attributes [14] (p. 1). Wine tourism consists of a wine-related activity that integrates wine culture and heritage, providing a dynamic and versatile experience through the visit context [15]. A visit to a wine cellar includes an aesthetic appreciation of the natural atmosphere, the wine cellar, the cultural and historical context of the wine region, production methods, the search for education and diversity, a sense of belonging to the cellar, and the search for authenticity [16]. To Brás, Costa, and Buhalis, "wine regions can establish themselves as destinations through the full integration of different products combining main attractions: from wine and food to accommodation, events and entertainment activities and many other regional services" [17] (p. 1625).

Globally, the dominant literature still has some research gaps in the field of the wine-related tourism experience as the central product and activity of wine tourism. Despite frequent references to the wine tourism experience, when it is associated with the wine experience construct, it remains fragmented. Within the literature, there is still no universally accepted scale that encapsulates all the dimensions of the wine experience. This makes it difficult to examine what attributes and variables should form it. The proposal of a wine experience construct containing the following dimensions: (1) Wine storytelling, (2) wine tasting excitement, (3) wine involvement, and (4) winescape, appears to demonstrate how wine-related experiences occur simultaneously in the context of a visit. This is the first study that demonstrates the combined used of wine experience dimensions to construct a useful measurement tool, applied to wine experience in wine tourism destinations and wine regions. This measurement approach extends the scope of the existing literature, as there is no scale that measures the wine experience of wine tourists. For instance, there is a lack of consensus about how the wine experience occurs and is perceived in the context of wine tourism activities. Hence, there is an emerging need to develop and validate a new scale addressing the wine experience [18]. The original

contribution of the paper is to showcase the dimensions that form the wine experience construct, providing its associated originality and the value added. A literature review related to the wine experience constructs follows, and an overview of the construction, development, and validation of the wine experience scale is described and discussed. Finally, the results, implications, and future research directions are discussed.

2. Literature Review: Wine Tourism Experience and the Domain of Constructs

2.1. Wine Tourism Experience

For tourists, food-and-wine activities are a component of their tourism experience while travelling [19]. and a wine tourism activity involves the participation of a group of individuals seeking experiences related to wines and wineries within wine tourism destinations [20]. Charters and Ali-Knight suggest that “the wine tourism experience can be provided in many ways, the most notable being events and festivals, cultural heritage, gastronomy, hospitality, education, tastings and wine houses, wine sales at cellars/wine houses and winery tours” [21] (p. 312). To Pikkemaat et al. [22], the wine tourism sector has the potential to create experiences for the tourist, especially those looking for historical and cultural values in iconic places, who appreciate genuine experiences, and who are interested in wine, vineyard crops, wine houses, and what the landscape offers [23]. The creation of a tourism experience can be combined through food and culture, for instance in music festivals within wineries [24]. A holistic wine experience occurs mainly in the context of a winery visitation, where the tourist experience has a positive effect on their future behaviour intentions [25,26]. The importance of wine tourism and a hedonic experience is supported by Bruwer and Rueger-Muck [7], who advanced that five wine tourist drivers: (1) Taste wine; (2) buy wine; (3) experience the atmosphere; (4) learn more about wine; and (5) find a unique wine, work to achieve a memorable wine tourism experience at a winery cellar door. Thanh and Kirova [3]. also concluded that experiences are globally positive, and that education and entertainment are relevant when comparing aesthetics and escapism. It is also highlighted that a holistic perspective focuses on the visitors’ experience in relation to wine tourism activities and wine regions. Wine tourism is recognised as a holistic experience comprising of a set of wine region features [27]. provided mainly by tasting, cellar door, cellar door sales, and winery tours, among others [21]. Creating memorable experiences, especially in a new wine region, is the culmination of a several unique experiences [28].

The inclusion of wine experience dimensions (wine excitement, wine sensory appeal, winescape, wine storytelling, and wine involvement) is justified as other measurements of wine experience are not just centred on a holistically transversal and also aggregating approach, but encapsulate various stages during a wine tourism visit, allowing a clearer vision of the wine experience. The experiential perspective of wine tourism [23,29] can be enhanced through hedonistic components that characterise wine [9]. In addition, Gómez, Pratt, and Molina [30] revealed that there has been an increase in theory building which highlights the complexity underlying the wine tourism experience and, by extension, to the experiential wine tourist. As such, for the final achievement of the following described dimensions, some of the dimensions derived from the dominant literature were included, others disregarded, and others added, considering the underlying holistic component. The dimensions of existing scales are not directed towards the nature of the wine and wine tourism experience. Consequently, a new scale is necessary, as no current scale objectively measures the wine experience. Within this context, this new scale establishes the most effective symbiosis of the dimensions that mirror the various stages of a wine tourism visit. Accordingly, the scale intercepts the main inherent dimensions for a better acquaintance of the holistic and hedonic perspectives of wine and wine tourism experience, which will yield a richness to both conceptual and theory-building research in this field and prove to be useful in wine tourism.

2.2. Wine Excitement

Eating experiences, including the drinking of wine, may convey emotions such as excitement and attract tourists who desire excitement and novelty [31]. Fields [32] and Kim, Eves, and Scarles [33] have indicated that eating local food for the first time is an exciting experience within a destination. Fields [32] demonstrated that physical motivators may also be associated with the opportunity to taste new and exotic foods, and thus local wines may also be part of this experience. Additionally, the exciting experience, while considered as one of the key physical motivators, can be regarded as an event that has excitement as the crucial feature in a leisure activity setting [34]. The place experience is determined by the relationships that exist between tourists, in terms of place excitement and engagement [35]. Kim and Eves [36] also assumed excitement as a motivation to taste local food. Within this context, wine tourists are wine consumers looking for pleasurable winery attractiveness [37], which forms part of the memorable wine tourism experience described by Bruwer and Rueger-Muck.

2.3. Wine Sensory Appeal

Customer experience in tourism also comprises sensory components [38]. The literature highlights multi-sensory stimuli and impressions to understand tourist experiences, and that tourists may be attracted towards a destination by visual elements [39–41]. Brochado, Stoleriu, and Lupu [42] suggest that wine tourists accord great value to the multisensory aspect of wine, and they identified twelve themes of sensory experience within Douro wineries: (1) Wine, (2) view, (3) staff, (4) room, (5) hotel, (6) food, (7) restaurant, (8) pool, (9) service, (10) Douro, (11) delicious (food and wine), and (12) comfort. Wine tourism indulges the senses in the wine product itself primarily, involved through the very nature of wine tourism, and influences consumer attitudes and purchases within wineries [43]. Bouzidine-Chameeva and Durrieu [44] suggest sensory stimulation originates in the wine tasting and the winery design. Ali-Knight and Carlsen [45] state that consumer engagement is achieved by novelty and sensory activities in winery settings and was confirmed by Santos et al. [18] where sensory impressions impacted on the winery visit experience.

2.4. Winescape

The winescape is described as the synergic interaction of “vineyards, wineries and other physical structures, wines, natural landscape and setting, people and heritage, towns and their architecture and artefacts within them” [46] (p. 277). Alebaki and Lakovidou [47] (p. 123) describe winescape as “the whole region and its attributes”. Thomas, Quintal, and Phau [14] also conceptualised seven key attributes of the winescape: (1) The winescape cluster, (2) the atmosphere, (3) the wine product, (4) complementary products, (5) the signage, (6) the layout, and (7) service staff attributes. Dimensions of the winescape include: (1) Nature-related; (2) wineries and vineyards; (3) wine and other products; (4) ambient factors; (5) signage and layout; (6) service staff and locals; (7) heritage-related towns; and (8) fun-based activities [48]. The winescape is also the primary driver of motivations for the wine tourists’ hedonic experience [23] where much importance is placed on the winescape during the visit [49]. Bruwer and Gross [50] advocate that a winescape framework for wine tourism is conceptualised by five major dimensions: Infrastructure, natural setting, atmosphere, layout, and people. The winescape attributes shown above are considered in a multi-layered macro-context of a wine region.

2.5. Wine Storytelling

Moscardo [51] states that central themes and stories impact on tourists and their behaviour. Winery visits by tourists provide wine producers with a communication platform for their brand’s stories, while also showcasing their product portfolio [52]. Winemakers may tell many stories about the wine production: Their families, their heritage, and their winemaking approach. The wine tourist may also evaluate the stories when deciding which wine to buy [53]. Wine-related stories become

part of the wine experience and may be relived by repeating the story [54]. As storytelling allows consumers to integrate the story of a wine brand or property [55] and enhance their wine experience, this element should also be measured, as storytelling value adds to the wine tourism experience.

2.6. Wine Involvement

According to O'Neill and Charters [52] winery visits increase the direct involvement with the tourist. The relationship between consumers' travel and their involvement with wine proves their strong dependence [11,56]. Wine tourism and involvement with wine are described as a consumer experience with a high hedonic charge [11]. Brown, Havitz, and Getz [57] found that the particular interest in a product (wine) has the effect of creating the desire to travel to the place where the product is made. Wine consumers' product involvement is also equated with their own personal involvement with wine [58]. Yuan et al. [59] maintain that wine consumers' feelings of importance and relevance towards a product, as well as their genuine level of interest in wine, are determined through a high level of product involvement. Bruwer and Alant [23] offer the view that the wine tourist is drawn to be involved with the wine and region where the wine is produced. Engagement by individuals in wine tourism is related to a desire to become better acquainted with the wine product and to enjoy an indulgent experience [23]. Sthapit et al. [60] attest that involvement is one of seven experiential tourism factors, significantly influencing the memorability of the tourists' experience.

Wine and wine tourism provide and drive a set of authentic and genuine experiences for wine tourists, which are increasingly differentiated and personalised [61]. Thus, the wine tourism experience is an amalgam of components and features related to wine, with dimensions such as wine excitement, wine sensory appeal, winescape, and wine involvement, which play a crucial role in the wine tourists' experience.

3. Research Method

3.1. Scale Development Process

Scale validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure, while reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure [62]. Consequently, to ensure the reliability and validity of the methods used to construct and validate the scale in this study, four aspects were taken into account: (1) Domain of construct, (2) item generation, (3) purifying the measurement, and (4) finalising the measurement [62,63], comprising the scale development process through the major methodological stages which focus on the scale development process.

3.2. Item Generation

Derived from several studies (Table 1), an initial pool of 20 items was constructed and generated. The initial items were then refined and edited for content validity by six experts in related academic or practical fields. With the intention of classifying the items into construct groups, a sorting procedure was used by the experts to refine items that were considered redundant or ambiguous. The items were not grouped or sequenced, and only one conceptual change resulted from the process where the experts found it difficult to distinguish between 'wine sensory appeal' and 'wine excitement', this being replaced by 'wine tasting excitement'. The process resulted in 18 modified measurement items, classified into four categories: Wine tasting excitement, winescape, wine storytelling, and wine involvement (Table 1).

The 18-item instrument was pretested with a convenience sample of 65 participants who had a wine experience at Porto and Madeira wine cellars, as wine tourism destinations, during July 2019. The goal of this pre-test was to identify possible weaknesses, ambiguities, missing and redundant questions, and poor reliability [62]. As Netemeyer et al. [64] argue, the construct validity can be supported by this process, as the exclusion of items that may be conceptually inconsistent is allowed.

To determine the scale dimensions, exploratory factor analysis (EFA) was performed, which is a preliminary technique in the scale development process and construct validation [65]. An inspection of the strength of the relationship between the items is necessary to assess whether a particular data set is suitable for factor analysis [66]. It was found that no items had factor loadings lower than 0.4 or cross-loaded on more than one factor. A Cronbach's alpha reliability score higher than 0.7 indicated that the variables exhibited moderate correlation with their factor groupings and were regarded as internally consistent and stable [66]. As a result, no items had factor loadings lower than 0.4 or cross-loaded on more than one factor, and therefore no item was eliminated [66]. A total of 18 items with four constructs remained: Wine tasting excitement, winescape, wine storytelling, and wine involvement. A confirmatory factor analysis (CFA) analysis was then performed to confirm the structure of the scale. Moreover, CFA also evaluates the relationships between observed measures or indicators and latent variables or factors in detail [65]. CFA was applied, allowing free correlations for the whole sample and for a randomly split subsample. Convergent and discriminant analysis were used to test the scale as well as model fit. The last steps were to test a second-order factor analysis and then the multigroup analysis was applied.

Table 1. Initial scale items of wine experience.

Dimensions	Scale Items Adjusted to Wine Experience	Support References
Wine Tasting Excitement	1. Tasting this wine in its original wine cellars makes me excited	[41,67,68].
	2. Tasting this wine on holidays helps me to relax	
	3. Tasting this wine makes me feel exhilarated	
Winescape	4. Tasting this wine on holidays makes me stop worrying about routine	[14,23,56,68,69].
	5. This winery landscape has a rural appeal	
	6. These buildings have historic appeal	
	7. There is an old-world charm in these wine cellars	
	8. This architecture gives the winery character	
Wine Storytelling	9. Stories told about the wine positively influenced the value I attribute to it	[53,54,70].
	10. Stories told about the wine positively influenced the value I attribute to the wine tasting	
	11. Stories told about the wine positively influenced the value I attribute to this visit	
	12. Stories told about the wine enabled me to have an enjoyable time	
Wine Involvement	13. Stories told about the wine enabled me to learn ancient facts about wine that I did not know	[57,71].
	14. I like to purchase wine to match the occasion	
	15. For me, drinking this wine gives me pleasure	
	16. I enjoyed these wine activities which I really wanted to do	
	17. For me, these wine tastings are a particularly pleasurable experience	
	18. My interest in this wine makes me want to visit these wine cellars	

3.3. Purifying the Measurement

The list of resulting measurement items was verified with 379 wine tourists who had visited Madeira and Porto wine cellars, and these items were measured using a seven-point Likert scale, varying from 1 (strongly disagree) to 7 (strongly agree). The final survey (multilingual: English, Spanish, French, and Portuguese) was administered by the researcher to a convenience sample of wine tourists visiting Porto and Madeira wine cellars between July and September 2019. The data analysis was carried out in two stages: An (1) EFA, followed by a (2) confirmatory factor analysis (CFA), using SPSS (version 26) and AMOS (version 26). An exploratory factor analysis (EFA) using the generalised least squares as extraction method with a varimax rotation and Kaiser normalisation was undertaken

on the data collected to determine the dimensions of the scale. The criteria used to extract factors was an eigenvalue > 1. The EFA was run separately for each factor.

The EFA identified four dimensions, explaining 58.94% of overall variance, labelled: (1) Wine tasting excitement, (2) winescape, (3) wine storytelling, and (4) wine involvement. Both Bartlett's test of sphericity (a statistical test for the presence of correlations among the variables) and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy were measured to assess data factorability. A KMO value of 0.942 exceeds the acceptable minimum value, which is 0.6 [66]. Bartlett's test of sphericity was found to be significant ($p < 0.000$), within the recommended boundaries (Table 2). The findings presented Cronbach reliability scores ranging from 0.86 to 0.92. In addition, during the factor extraction process, no items were removed. Factor loadings were not revealed to be cross-loaded on different factors, and therefore no item was eliminated.

Table 2. Exploratory factor analysis results for the initial measurement scale (wine tourists $n = 647$).

Dimensions and Items	Factor Loading	Mean	SD	Total Variance Explained (%)	Cronbach's Alpha
Wine Tasting Excitement	-	-	-	16.662	0.887
1. Tasting this wine in its original wine cellars makes me excited	0.697	6.23	1.074	-	-
2. Tasting this wine on holidays helps me to relax	0.688	5.90	1.281	-	-
3. Tasting this wine makes me feel exhilarated	0.725	5.91	1.256	-	-
4. Tasting this wine on holidays makes me stop worrying about routine	0.658	5.88	1.414	-	-
Wine Storytelling	-	-	-	15.952	0.888
1. Stories that the wine tour guide/winemaker/wine producer told about the wine positively influenced the value I attribute to the wine	0.819	6.30	1.014	-	-
2. Stories that the wine tour guide/winemaker/wine producer told about the wine positively influenced the value I attribute to the wine tasting	0.770	6.15	0.977	-	-
3. Stories that the wine tour guide/winemaker/wine producer told about the wine positively influenced the value I attribute to this visit	0.703	6.21	0.882	-	-
4. Stories that the wine tour guide/winemaker/wine producer told about the wine enabled me to have an enjoyable time	0.689	6.22	0.916	-	-
5. Stories that the wine tour guide/winemaker/wine producer told about the wine enabled me to learn ancient facts about wine that I did not know	0.691	6.30	1.029	-	-
Wine Involvement	-	-	-	14.442	0.876
1. I like to purchase wine to match the occasion	0.626	6.16	1.071	-	-
2. For me, drinking this wine gives me pleasure	0.677	6.33	0.886	-	-
3. I enjoyed these wine activities which I really wanted to do	0.689	6.19	0.926	-	-
4. For me, these wine tastings are a particularly pleasurable experience	0.699	6.34	0.857	-	-
5. My interest in this wine makes me want to visit these wine cellars	0.534	6.27	1.012	-	-
Winescape	-	-	-	11.880	0.793
1. This winery landscape has a rural appeal	0.570	6.20	1.017	-	-
2. These buildings have historic appeal	0.642	6.40	0.846	-	-
3. There is an old-world charm in these wine cellars	0.705	6.27	0.868	-	-
4. This architecture gives the winery character	0.585	6.32	0.855	-	-

KMO: 0.942, Bartlett's test of sphericity: 7860.099, Sig.: 0.000

4. Results and Discussion

4.1. Sample Profile

The sample (Table 3) was balanced in terms of gender, with most visitors from the United Kingdom, France, Portugal, or Germany, and the majority being adults between 25 and 54. The sample had high education levels and a medium- to high-level job standard, and represented the main market in Portugal.

Table 3. Socio-demographic profile of the sample—whole data ($n = 647$).

Gender	Age	Education Level	Country of Origin	Job
Male (49.7%)	18–24 years old (7.1%)	Less than high school graduate (3.7%)	Portugal (8.3%)	Businessperson/manager (16%) Freelancer/self-employed (17.9%)
	Spain (5.6%)			
Female (50.3%)	25–34 years old (21.3%)	High school graduate (18.5%) Degree (43.8%) Master's degree (27.2%) Doctorate (6.8%)	France (24.7%)	Middle/senior employed management (17%) Civil servant (11.4%) Worker (17.4%)
	35–44 years old (21%)		Germany (7.7%)	
	45–54 years old (27.8%)		United Kingdom (25.9%)	
	55–64 years old (16%)	Other countries (27.8%)	Pensioner/retired (4%) Domestic/unemployed (1.5%) Student (6.5%) Other (8.3%)	
	65 or > years old (6.8%)			

4.2. Finalising the Measurement

Further robust and consistent data collection was carried out to assess the reliability and validity of the measurement scale. Likewise, the data gathered from the sample of wine tourists recruited in Madeira and Porto wine cellars ($n = 647$) was used to accomplish the CFA, because the development sample must be sufficiently large [62,64]. In total, 323 responses were collected in Madeira wine cellars and 324 responses were collected in Porto wine cellars between late July and September 2019 (the high season). Therefore, a total of 647 self-administrated questionnaires were considered valid and usable for data analysis.

The confirmatory factor analysis (CFA) was conducted using the generalised least squares method [72,73]. to assess the validity and reliability of the constructs. As result, 18 indicators were retained for inclusion in the final scale (Table 4). The adjustment results improved significantly, yielding the values in Table 4 and the adjustment values expressed. As concerns validity and reliability, for the average variance extracted (AVE), the value obtained also exceeds the reference cut-off value (≥ 0.50) according to the literature [66,70] (Table 5).

The overall goodness-of-fit index (Table 5) displayed a suitable level of fit: $\chi^2 = 406.302$; $df = 129$; $p = 0.000$; $\chi^2/df = 3.15$; $GFI = 0.93$; $AGFI = 0.907$; $RMSEA = 0.058$, with the result in keeping with what is suggested in the literature [66], confirming the scale's goodness of fit. These results suggest that the proposed model fits well with the empirical data. This study represents one of the first major efforts to propose wine experience factors at wine tourism destinations and, following the accepted scale development procedure [62,64]. developed a measurement scale for wine experience. The final analysis to validate the scale comprises wine storytelling (5 items), wine involvement (5 items), winescape (4 items), and wine tasting excitement (4 items).

Table 4. Confirmatory factor analysis results for final measurement scale (wine tourists $n = 647$).

Constructs and Indicators			St. Regression	S.E.	C.R.	p
Stories that the wine tour guide/winemaker/wine producer told about the wine enabled me to learn ancient facts about wine that I did not know	←	Wine Storytelling	0.798	-	-	-
Stories that the wine tour guide/winemaker/wine producer told about the wine enabled me to have an enjoyable time	←	Wine Storytelling	0.848	0.042	23.778	***
Stories that the wine tour guide/winemaker/wine producer told about wine positively influenced the value I attribute to this visit	←	Wine Storytelling	0.826	0.044	22.402	***
Stories that the wine tour guide/winemaker/wine producer told about the wine positively influenced the value I attribute to the wine tasting	←	Wine Storytelling	0.88	0.05	22.376	***
Stories that the wine tour guide/winemaker/wine producer told about the wine positively influenced the value I attribute to the wine	←	Wine Storytelling	0.891	0.045	25.063	***
Tasting this wine on holidays makes me stop worrying about routine	←	Wine Tasting Excitement	0.84	-	-	-
Tasting this wine makes me feel exhilarated	←	Wine Tasting Excitement	0.808	0.046	23.441	***
Tasting this wine on holidays helps me to relax	←	Wine Tasting Excitement	0.874	0.043	25.592	***
Tasting this wine in its original wine cellars makes me excited	←	Wine Tasting Excitement	0.79	0.035	22.06	***
My interest in this wine makes me want to visit these wine cellars	←	Wine Involvement	0.773	-	-	-
For me, these wine tastings are a particularly pleasurable experience	←	Wine Involvement	0.846	0.044	21.931	***
I enjoyed these wine activities which I really wanted to do	←	Wine Involvement	0.833	0.05	21.069	***
For me, drinking this wine gives me pleasure	←	Wine Involvement	0.837	0.048	20.021	***
I like to purchase wine to match the occasion	←	Wine Involvement	0.841	0.056	21.02	***
This winery landscape has a rural appeal	←	Winescape	0.75	-	-	-
These buildings have historic appeal	←	Winescape	0.78	0.052	17.594	***
There is an old-world charm in these wine cellars	←	Winescape	0.805	0.056	17.29	***
This architecture gives the winery character	←	Winescape	0.82	0.055	17.62	***

Notes: *** p -value < 0.01.**Table 5.** Goodness-of-fit indexes for the measurement.

Dimensions	CR	AVE	MSV	ASV	Wine Involvement	Wine Storytelling	Wine Tasting Excitement	Winescape
Wine Involvement	0.915	0.683	0.594	0.570	0.826	-	-	-
Wine Storytelling	0.928	0.721	0.527	0.479	0.726	0.849	-	-
Wine Tasting Excitement	0.897	0.687	0.594	0.537	0.771	0.690	0.829	-
Winescape	0.868	0.623	0.590	0.521	0.768	0.659	0.735	0.789
GOF Indexes	-	X2	Df	p -value	X2/df	GFI	AGFI	RMSEA
Whole sample ($n = 647$)	-	406.302	129	***	3.15	0.93	0.907	0.058

Notes: *** p -value < 0.01.

The structural equation model and values of standardised structural coefficients are shown in Figure 1. It was proven by the statistical analysis that all dimensions contribute to the definition of the wine experience construct. The evaluation of the significance of a regression coefficient was performed by an analysis of the *t*-test [74]. The existence of a significant regression coefficient (the value of *t* exceeds 1.645) assumed that the relationship between the two latent variables was demonstrated empirically [66]. In addition, the case of a positive or satisfactory evaluation of adjustment measures confirmed the predictive validity of the model [74]. In this study, it was assumed that in unilateral cases (direct and positive influence), significant relations would present a *t*-value of greater than 1.645. Overall, the data supported that wine experience was explained by the four latent factors: Wine storytelling, wine involvement, winescape, and wine tasting excitement.

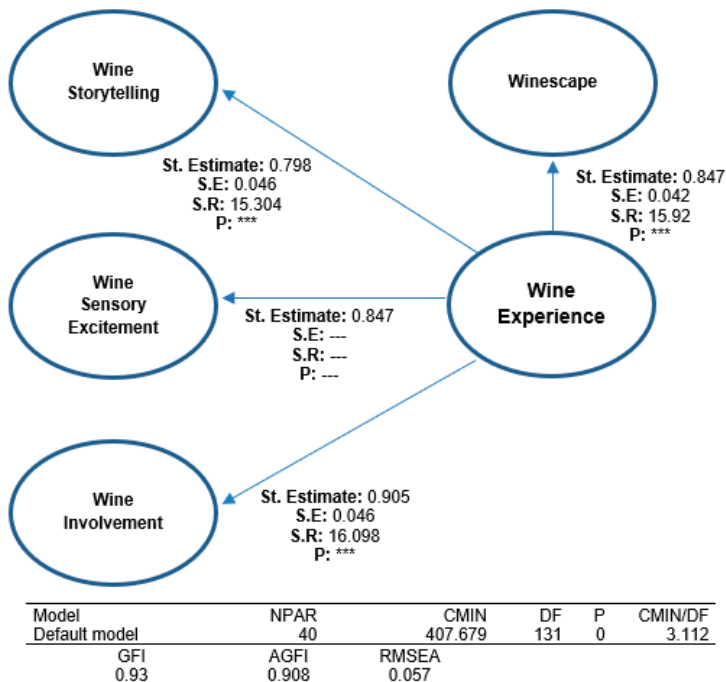


Figure 1. Structural equation model of final measurement scale. *** *p*-value < 0.01.

Following the SEM analysis, variable correlations were tested for invariance among two different groups of wine tourists. A multigroup analysis (Table 6) highlighted how the Porto and Madeira wine cellars differ from each other from the wine tourists’ perspective within these two wine tourism destinations, based on the proposed scale. Overall, the findings supported all the hypothesised relationships in both tourism destinations, which reinforces the consistency of the wine experience scale. The two main differences were wine storytelling and winescape. Wine storytelling by the wine tourists was more evident in Madeira (0.718, *p* < 0.05) than in Porto (0.574, *p* < 0.05). It is expected that this discrepancy was related to greater personalisation of the guided wine tours in Madeira wine cellars as compared to Porto wine cellars. The winescape was more evident in Porto (0.696, *p* < 0.05) than in Madeira (0.655, *p* < 0.05), probably due to the cellar landscape, scenery, ancient architecture, and panoramic views around the cellars.

Table 6. Multi group analysis.

Dimensions and Constructs			Porto Wine Cellars		Madeira Wine Cellars		-
-	-	-	Estimate	<i>p</i>	Estimate	<i>p</i>	<i>z</i> -Score
Wine Storytelling	<—	Wine Experience	0.574	***	0.718	***	1.72 *
Wine Involvement	<—	Wine Experience	0.720	***	0.696	***	−0.273
Winescape	<—	Wine Experience	0.696	***	0.655	***	−0.501
Wine Tasting Excitement	<—	Wine Experience	1.000	-	1.000	-	-
Wine Storytelling 5	<—	Wine Storytelling	1.000	-	1.000	-	-
Wine Storytelling 4	<—	Wine Storytelling	1.137	***	0.949	0.000	−1.942 *
Wine Storytelling 3	<—	Wine Storytelling	1.092	***	0.977	0.000	−1.149
Wine Storytelling 2	<—	Wine Storytelling	1.314	***	1.050	0.000	−2.273 **
Wine Storytelling 1	<—	Wine Storytelling	1.327	***	1.011	0.000	−3.027 ***
Wine Tasting Excitement 3	<—	Wine Tasting Excitement	1.000	-	1.000	-	-
Wine Tasting Excitement 2	<—	Wine Tasting Excitement	1.124	***	1.011	0.000	−1.349
Wine Tasting Excitement 1	<—	Wine Tasting Excitement	0.807	***	0.718	0.000	−1.261
Wine Involvement 5	<—	Wine Involvement	1.000	-	1.000	-	-
Wine Involvement 4	<—	Wine Involvement	0.991	***	0.953	0.000	−0.423
Wine Involvement 2	<—	Wine Involvement	1.031	***	1.091	0.000	0.589
Wine Involvement 2	<—	Wine Involvement	0.885	***	1.045	0.000	1.652 *
Wine Involvement 1	<—	Wine Involvement	1.240	***	1.086	0.000	−1.326
Winescape 1	<—	Winescape	1.000	-	1.000	-	-
Winescape 2	<—	Winescape	1.058	***	0.668	0.000	−3.895 ***
Winescape 3	<—	Winescape	1.074	***	0.693	0.000	−3.587 ***
Winescape 4	<—	Winescape	0.944	***	0.850	0.000	−0.906
Wine Tasting Excitement 4	<—	Wine Tasting Excitement	1.076	***	1.040	0.000	−0.400

Notes: *** *p*-value < 0.01; ** *p*-value < 0.05; * *p*-value < 0.10.

Advancing these results, meaningful conclusions were drawn and explained, and confirm that the dimensions focus on experiential wine tourism in a holistic way, directly demonstrated by the nature of their corresponding items. Thereby, the wine experience is shaped by four dimensions (wine storytelling, wine tasting excitement, wine involvement, and winescape), directly correlated between them in a composite way, justifying their inclusion on the same scale. Moreover, the results identified dimensions with stronger relevance and impact; foremost was wine storytelling, followed by wine involvement and wine tasting excitement (both very close), and finally winescape. These statements underline the premise value of holistic and hedonic wine experience and yield valuable insights through the increased participation of the wine tourists in the visits. Asero and Patti [75] regarded wine as a decoy that attracted visitors, considering it the soul of the wine tourism, and that it is an experience derived from the hedonic nature of wine tasting [76]. The wine experience dimensions (wine storytelling, wine tasting excitement, wine involvement, and winescape) fulfil a congruent logic that is undoubtedly justified by the relationship between them as the results suggest. The research results highlight the relevance of these dimensions to provide and guarantee an immersive experience to offer a “best holistic wine experience” to wine tourists and potential visitors. It is noteworthy that the wine tourists appreciate a holistic tourism experience due to interactions with other wine visitors and winery staff [76]. Moreover, these findings align with several studies [3,7,19,22,39,77,78].

5. Conclusions

If tourism is to succeed and expand in the future, new paradigms have to be brought into the field [79]. Wine tourism as a form of tourism may make a great contribution to the tourism industry and to the development of new experiential paradigms. Such experiences are often offered in small-sized, rural establishments that are linked to nature and offer social distancing. This study has established a reliable and valid 18-item scale composed of four dimensions to measure the wine experience within a wine tourism context. This was applied in two different environments and with both national and international wine tourists. The research clearly highlights the major finding that the wine experience construct is formed by the four dimensions proposed (wine storytelling, wine tasting excitement, wine involvement, and winescape) that simultaneously and accurately depict the wine-related tourism experience as being justified by the significant relationships between dimensions. Wine storytelling

appears as a most significant dimension due to the fact that visits to the wine cellars begin and end with the wine tour guide/winemaker/wine producer, where there are authentic stories related to wine and wine tourism, which are much appreciated by wine tourists. The tasting of the wine also creates delight through a wine sensorial excitatory stimulus. It is also common for wine tourists to be involved during the visits where wine tourists appreciate the wine scenery in the cellar winescape.

This is the first study demonstrating the combined use of wine experience dimensions in constructing a useful measurement tool. This measurement approach extends this scope because a scale had never been developed to measure the wine experience of wine tourists. Hence, there was the emerging need for development and validation this new scale—the wine experience scale. The study also reinforces the growing literature on wine experience by establishing representative constructs which address research gaps in terms of the lack of a validated scale to evaluate the wine experience. Therefore, the measurement tool proposed in this study provides a procedure for further examination in future wine tourism research. The wine experience dimensions within the wine tourist experience are an important topic in wine tourism research, and thus these dimensions are considered key wine experience drivers, derived from empirical evidence and a holistic approach, understood as essential to more successful and memorable wine experiences for all kinds of wine tourists. It is recognised that wine tourists expect the “best wine experience”. The consistent relationship between the four underlying dimensions was demonstrated, and it was proven that, as a whole, they form the wine experience construct. The main management implications imply that managers should understand how a wine tour experience can be improved across a range of wine dimensions in a highly immersive wine experience, as is the case and example of wine and cultural heritage [80]. Wine tour guides should take full advantage of their close contact with wine tourists during the visits and should be monitored and more customized, first to reflect on better performance in wine guided tours, and thus achieving a better wine engagement in the future. Hence, exclusive and memorable wine experiences can be promoted as follows: Wine tours, wine tastings, wine events, and wine courses, among others, taking full advantage of the kind of wine tourist profile (e.g., wine lovers, wine interested, and wine curious), according to other studies similar to this one [81].

The results further underline the importance of wine as the main core product in wine tourism experiences. In addition, wine tourists in Madeira and Porto wine cellars retain quite strong, distinctive impressions of each wine cellar-related travel. Notably, there is a growing potential for managers, stakeholders, players, opinion makers/leaders, and marketers to extract benefits from this managerial point of view [82]. In summary, wine potentiates a multi-experience for wine tourists, so managers can get better results by designing wine and wine tourism products and communication strategies around the main themes linked to each dimension of the wine experience explained in this research, all of which appear to contribute to more complete wine experiences.

Regarding the research limitations and suggestions for future research, the period of data collection (during the summer) was short, although it is the time when there is the largest number of wine tourists, which leads to the suggestion for a cross sectional evaluation of wine experience of the wine tourists, for instance every season, and a comparison with other cellars of the new- and old-world wine tourism destinations. In this way, high coverage of the population can be achieved in order to establish the generalisability and consistency of this newly developed and validated scale.

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Article

Strategic Talent Management: The Impact of Employer Branding on the Affective Commitment of Employees

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Abstract: In a globalization context, underlined by the speed of technological transformation and increasingly competitive markets, the perspective of human capital, as an asset of strategic importance, stands out in differentiating human resource practices. Under this reality, the employer branding (EB) concept gains more and more importance as a strategic tool to attract, retain, and involve human capital, given that this has become a source of competitive advantage to companies. Within this context, this study aimed to evaluate the relationship between employer branding strategies implemented by organizations, as well as their impact on the employee's affective commitment, evident in certain organizational cultures, which are sustained over time. The methodological framework applied to this study is quantitative, and the data collection was carried out with the application of an employer branding and an affective commitment questionnaire. To achieve a good representation of the active population, the sample of the quantitative study was composed of 172 individuals, working in the public and private sectors in Portugal, exercising different positions in the different sectors of activity. Results obtained with these techniques indicate a high level of affective organizational commitment (AOC) of employees in the organizations surveyed, suggesting that affective commitment develops when the individual becomes involved and identifies with the organization.

Keywords: employer branding; affective commitment; talent management; strategy; personal marketing

1. Introduction

This research focuses on the role of Human Resource Management strategies applied in the employer branding (EB) process, highlighting their importance in talent retention through affective commitment as a source of competitive advantage for organizations. Talent management is, today, the critical factor for organizational performance, and, according to this, the corporate sector is increasingly applying talent management programs and practices in their day-to-day management [1].

The organization's ability to attract, develop, and retain talent will be its biggest competitive advantage, both in times of turbulence, and stability [2]. The need for employers to be seen differently has intensified in recent years, mainly due to the increased availability of employment opportunities

and the lack of talent in the labor market. Thus, EB has quickly emerged as a tool used not only to communicate to potential employees in the labor market but also to communicate to the internal customer what the employer's value proposition is, as well as in what respect it outweighs competing companies [3].

Albeit, what is true today of organizations is not entirely new, as history has shown us. "They must hear only morally sound stories, which will help them gain the appropriate social attitudes" stated Reference [4] (p. 60), in his interpretation of Plato's *Republic*, a treatise on the "life of a community" [4] (p. xi), which could well be that of a firm. To be sustainable over time, organizations should therefore highlight the unique aspects of the company in job vacancies and, in communication with the external and internal environment, establish the identity of the organization as an employer [5] with the right values [6]. In this sense, an EB strategy aims to create an "employee value proposition", that should combine not only what employees want, but also what is expected of them in return. Again, to be sustainable, firms must adhere to the reciprocity principle—give first so that you may receive later—"people repay in kind" [7] (p. 75). An employee value proposition is defined by the organization's policies, procedures, and culture—the term culture referring to that which endures and is sustainable over time, in terms of the necessary knowledge about how to behave in a community and even in the absence of direct supervision and leadership [6]. Hence, a sense of loyalty will be created among employees which, in turn, will help as a retention factor, while it will also create a positive impact on the attraction, involvement, commitment, and motivation of collaborators [8].

Our study was in effect also about "what remains when that which has been learned is entirely forgotten", as Selma Lagerlof framed the definition of culture [9] (p. 16), a concept which is linked to commitment and which evolves over time and is molded by the firm, including in affective terms.

Affective commitment is considered the most effective approach to measuring organizational commitment [10]. According to Biswas and Suar [11], EB has been gaining importance due to the growing focus on factors, such as the power of branding, the commitment of employees, the fight for talent, and the role of human resource management in business. In this context, a talented workforce with inimitable and sustainable characteristics, contributes to competitive advantage and to organizational success. "The role and impact of employer branding takes on a new statement in talent management and in the career management of employees" [12] (p. 118).

However, there are few empirical studies in the literature that relate the perception of EB strategies to the affective organizational commitment (AOC) of employees. Although branding is a well-developed concept in the marketing literature, perspectives on EB are still evolving [5]. According to Almgren [13], no research was found on the distinct connection between internal branding and its relation to the dimensions of commitment. This makes evident a potential gap in the research literature. It is in this context that the present research aimed to evaluate the impact that EB strategies have on the affective commitment of employees. Another reason for the present investigation comes from the fact that there are many studies that focus on the impact of EB on potential employees, but few have their focus on the impact on current employees, that is, within the internal universe of organizations [8,11]. The present research aimed to fill this gap, while intending to understand the relationship between EB and AOC. The present investigation focused on furthering the conceptualization of Sezões [14], which seeks the integration of human resource management (HRM) and organizational behavior theories. Therefore, it was necessary to review human resource strategies and their application to EB in order to provide a comprehensive picture of antecedents and consequences of EB, more specifically, the consequences towards the creation of AOC. Based on the previous research of Sezões [14], the theoretical basis of this investigation assumes that the employees' perception of the HRM dimensions of an organization is correlated to their AOC to the firm. This causal model makes it possible to move from a mere satisfaction assessment to an effective assessment of emotional connection and commitment. The dimensions of affective commitment were not evidenced in the research of Sezões [14], as they were in the present investigation.

The study follows the general objective of evaluating the impact of EB strategies on the employees' affective commitment, therefore, it only aims at the universe of individuals in the internal environment

of organizations. Considering this problem, the following research question was raised: “What is the impact of employer branding strategies, implemented by organizations, on the affective commitment of employees?”

The hypotheses of this investigation are based on previous research [15]. The study by Reference [15] was not able to prove the relationship between the variables, and it did not use a quantitative scale to measure commitment. The role of sociodemographic variables in affective commitment was not studied; neither was the combined effect of EB strategies and sociodemographic variables on AOC, and the study was limited to a small company. Additionally, the inverse relationship of the variables under research was not tested. To address the gaps identified, the present investigation carried out data collection with the application of a questionnaire with sociodemographic questions, an EB scale, and a scale of AOC. Furthermore, it was decided to extend the scope of the field of study to the entire active population of Portugal. As for the approach, quantitative field research was the methodological framework applied in this study.

This study is divided into four parts. The first part corresponds to a literature review on EB, as well as on AOC and on talent management. The second part is the methodological approach presenting the research model developed from the literature review of each variable under investigation. In the third part, we summarize and discuss the results, and, in the last section, the main conclusions are highlighted, which integrate the research and methodological contributions, the implications for management, and the limitations of the research, as well as the suggestions for future research.

2. Literature Review

2.1. Employer Branding

EB is a concept defined as a set of economic, functional, and psychological benefits that organizations offer to their employees, establishing a coherent management model with the purpose of focusing on the highest priority objectives, while increasing productivity, improving the recruitment process, developing greater employee loyalty, and reducing the turnover rate [10]. Additionally, both Edwards [16] and Gray and Balmern [17] described EB as a sum of corporate identity and reputation that influences the individual’s perception of an organization. Hatch and Schultz [18] defined strong branding as a link between an organization’s vision, culture, and image.

Over time, the initial concept of EB has been redefined. Backhaus and Tikoo [5] defined the term EB as a set of several attributes that distinguish the organization from others, so the concept evolved from being just a simple definition of factors that an organization has, to finding what makes the organization unique. EB is the communication of a unique and attractive image of the organization as an employer—involving a distinct employer identity [4].

As EB intends to define the unique attributes of the organization, it can be seen as a long-term strategy, an oriented process, with the objective of ensuring that the best talents remain within organizations [19]. In this communication process, all stakeholders (clients, suppliers, media, the general public) are influenced, and, at the same time, they also shape the employer’s brand with their behavior, identification, and attitudes [20].

Currently, EB is concisely described as a strategy to win the “war for talent”, which strives to retain current employees and attract potential employees [21]. Considering that EB serves as a communication tool through which an organization presents its offer, its attributes, consequently, trigger in the target individuals the desire to apply themselves more in their work in the organization [22].

The core component of EB, the employer brand, is a valuable resource for an organization and, therefore, its management should be an organizational priority [5,23]. Comparably, Ambler and Barrow [15] believe that an employer brand is like the traditional brand, with a personality and positioning. Personality and brand positioning, together with the differentiating brand, forms what is called the essence of the brand. The brand’s personality is reflected through communication style and authenticity, while the positioning and differentiation are distinguishing factors compared to

competing employers [24]. The brand identity is created and designed by an organization to segment an audience through different channels. In comparison, the brand image is the consequence of this projected identity, that is, how it is really perceived by everyone [25]. In conclusion, a strong employer brand has all these characteristics clearly defined [26].

2.2. Affective Organizational Commitment

Affective commitment is interpreted as the employee's emotional connection, identification, and involvement with the organization where he or she works [27]. This type of organizational commitment refers to the emotional attachment that the individual has with the organization, the identification, and the involvement he or she has with it, with there being an emotional relationship that connects the worker with the organization [28]. Moreover, affective commitment is considered to be the most effective approach for measuring organizational commitment [10].

Affective commitment is driven by positive feelings towards the organization and is believed to be the result of a sharing of feelings between the organization and the employee. The employee develops affective feelings towards the organization in response to the correct way in which he or she is treated, showing a high affective commitment towards the firm [29]. In addition, it can then be said that affective commitment is considered to be high when the employee feels that he or she is a part of the organizational "family". This will create a personal meaning and a sense of belonging, and, when this happens, the employee will be enthusiastic about the work that he or she performs. This, in turn, will contribute to the organization's success [30]. Similarly, in the perspective of Meyer and Allen [31], affective commitment is developed through previous work experiences that mainly satisfy the employee's psychological needs, leading him or her to feel comfortable within the organization and competent in the performance of his/her position.

Gelens et al. [32] studied the relationship between being designated as a talent and affective commitment, as well as the impact of receiving this designation. This differentiated management of employees helps in the allocation of crucial professionals in relevant positions. This will increase the possibility of adaptation between the professional and the organization and, consequently, promotes the employee's emotional commitment. Therefore, they recommend implementing human resource practices focused on affective commitment as the best human resource strategy for employees designated as talents [32].

2.3. Talent Management and the Importance of Employer Branding for Affective Commitment

For Michaels et al. [2], talent can be conceptualized as the sum of an employee's capacities, namely his/her skills, experience, intelligence, knowledge, character, and intrinsic commitment, as well as his/her capacity for development. In contrast, Ulrich and Smallwood [33] understand that the concept of talent concerns high potential specialists and future leaders, so investing in talent means investing in the next generation. Ulrich and Smallwood [33] describe a profile indicating four characteristics that determine whether a professional has a high potential and can therefore be considered as a talent for the organization: to be ambitious and be willing to invest their energy, dedication, and personal time to succeed in the organization; demonstrating the necessary skills and the ability to learn from past mistakes and experiences; revealing agility at various levels, whether it be mental agility, agility in the face of change, or agility in relating to others; and demonstrating that you have a history of achievements and success, as well as the ability to respond to new challenges.

Schiemann [34] presents a more inclusive concept of talent, presenting a vision of talent as being a collective effort, as opposed to the previous view, of the sum of potential and individual performances; that is, this author considers that all employees have the necessary skills to provide value to the organization. In this sense, Schiemann [34] defines talent as being collective knowledge, combined with the set of experiences, capacities, skills, values, habits, and behaviors of the entire workforce used to fulfill the organization's mission.

Furthermore, Cappelli [35] defines talent management as the anticipation of human capital needs by organizations and the development of a plan that satisfies those needs. The above is in opposition to Schiemann [34], for whom talent management is seen as a function that encompasses all activities and responsibilities related to the talent life cycle. In contrast, Altememi and Almashhadain [36], in their recent study, concluded that talent management strategies, to be effective, should be created to work proactively instead of being reactive to the market. In this framework, talent management is more and more related to EB models and practices as a tool for retention and proactivity.

Additionally, Tansley and Tietze [37] understand that talent management encompasses the support processes for an organization's strategy, from attraction, recruitment, and selection, to training and development, to resource retention practices that add value to the organization. This is in order to ensure that the right person will be in the right role when the organization needs him/her.

According to Collings and Mellahi [38], strategic talent management must contribute in a sustainable way to the competitive advantage that organizations need to be strategically positioned in the market.

Talent management refers to the process of developing and integrating new employees, retaining the current workforce, while trying to attract new highly qualified talents to the organization [8]. EB is quickly emerging as a long-term human resource management strategy to attract and retain talent [39]. Talents are fundamental elements of an organization. Talent management implies developing the necessary actions to attract new talent, retaining, and developing existing talent, in order to respond to business requirements [40].

The expression "war for talent" was coined in 1997 by McKinsey, an international human resource consultant [41]. Since then, EB has become a priority in the fight to conquer the best talent present in the job market. The increase in demand for highly qualified professionals alongside the ever-smaller talent pool presents a challenge for companies. An effective EB strategy can attract the attention of potential candidates by creating the desire to apply for work in the organization [8].

Once we find ourselves in a knowledge economy, the intellectual capacities of individuals become much more valuable than physical resources, since human resources become assets that contribute to the development and differentiation of organizations [42].

Correspondingly, Holland and Scullion [43] defend that, in a globalization and competitiveness reality, talent retention is one of the biggest challenges in Talent Management, considering that substituting talented and valuable HR has high associated direct and indirect costs. Costs such as inactivity in the position, the period of recruitment and hiring, the training of the new employee, loss of organizational memory, and a decrease of strategic knowledge and productivity.

In order to retain talent in organizations there are factors identified as being critical, including the following: security, location, relationships, recognition, contribution, salary, flexibility, learning, responsibility, and innovation. Albeit, the new generation's demands and the aging of the population is also affecting talent policies, forcing companies to pay more attention to development and engagement, while also focusing on outcomes, such as job satisfaction, motivation, commitment, and also on the performance of the firm [44]. Furthermore, we should consider that retention and attracting have a direct relation, that is to say: it is important to hire employees that share the same values of organizational cultures [45].

Fernandez-Lores et al. [46] highlighted that companies are trying to engender affective commitment, defined as the "identification with, involvement in, and emotional attachment to the organization" in their best employees to guarantee talent retention and to ensure sustainable competitive advantage. Similarly, for Thakur and Bhatnagar [47], affective commitment is an important way to retain talent in organizations. When talents are engaged, they are less inclined to leave as work does not feel like "work". On the other hand, internal branding corresponds to an organization's identity, aimed at retaining current employees [48].

The importance of creating a marketing strategy and a brand, as an employer, to communicate the principles, values, and talent management policies of an organization is increasingly evident.

This whole process, called EB, materializes in the creation of an assumed and shared brand image that must encompass the attributes that the organization wishes to value as an employer and promoter of excellence policies in terms of human capital management. The employer's brand must promote the global image among the stakeholders, such as, for example, its employees, customers, suppliers, the media, and the public [49].

In addition, the work of Fernandez-Lores et al. [46] demonstrated that affective commitment to the Employer Brand refers to enthusiasm with the employer brand (positive emotions of being energetic, active, and relatively invulnerable to trouble or worry), emotional attachment to the employer brand (emotional component in the employee-employer relationship; affection, belongingness, and support towards the employer brand), and long-term orientation (refers to the employee's implicit intention of maintaining his or her bond with the employer and thus remaining loyal to the brand),

Comparably, Michaels et al. [2] defend that there are five imperatives that must be assumed by the organization in order to win the battle for talent and make human capital a competitive advantage: implement a "talent mindset"; create a winning employer value proposition; redefine the recruitment strategy; implement development strategies; and differentiate your employees.

Based on the list above, many companies are developing EB models as a method to attract and retain talent [50]. Finally, attention has been drawn to affective commitment and employer brand relations as being important factors, as it has been recognized that committed employees to a brand are a decisive matter [46].

2.4. Hypotheses

In carrying out this study, it was intended to understand the relationship between EB and AOC constructs. This study intends to focus on current employees in order to know their perceptions regarding the brand of their employer, with the general objective of evaluating the impact of EB strategies on the employees' affective commitment. Considering this problem, the following research question was raised: "What is the impact of employer branding strategies, implemented by organizations, on the employees' affective commitment?"

Once the research question has been formulated, specific objectives that guide the line of investigation must derive from it: identify the general perception of employees regarding EB strategies; identify the EB strategy with a more positive perception by employees; identify the employer branding strategy with a less positive perception by employees; identify the general perception of employees regarding their level of AOC, that is, if employees feel committed, at an affective level, to the organization; identify which EB strategy has the greatest positive impact on AOC; identify which EB strategy has the least positive impact on AOC; analyze if AOC has a positive impact on EB strategies; analyze if there is a correlation between EB and AOC; and analyze the effect of sociodemographic components on AOC.

The hypotheses of this study are as follows:

Hypothesis 1(H1). *EB strategies have a positive impact on the employees' AOC.*

Hypothesis 1a(H1a). *EB strategies related to the function have a positive impact on the employees' AOC.*

Hypothesis 1b(H1b). *EB strategies related to compensation and incentives have a positive impact on employees' AOC.*

Hypothesis 1c(H1c). *EB strategies related to the mission, vision and values have a positive impact on employees' AOC.*

Hypothesis 1d(H1d). *EB strategies related to the team have a positive impact on the employees' AOC.*

Hypothesis 1e(H1e). *EB strategies related to career development have a positive impact on the employees' AOC.*

Hypothesis 1f(H1f). *EB strategies related to culture and the work environment have a positive impact on the AOC of employees.*

Hypothesis 1g(H1g). *EB strategies related to management processes have a positive impact on the employees' AOC.*

Hypothesis 1h(H1h). *EB strategies related to communication and image have a positive impact on the employees' AOC.*

Hypothesis 2(H2). *AOC has a positive impact on EB strategies.*

Hypothesis 3(H3). *Sociodemographic variables have a positive impact on the employees' AOC.*

Hypothesis 3a(H3a). *The age group has a positive impact on the employees' AOC.*

Hypothesis 3b(H3b). *Gender has a positive impact on employees' AOC.*

Hypothesis 3c(H3c). *Educational qualifications have a positive impact on AOC.*

Hypothesis 3d(H3d). *Seniority has a positive impact on employees' AOC.*

Hypothesis 3e(H3e). *The employment relationship has a positive impact on the employees' AOC.*

Hypothesis 3f(H3f). *The activity sector has a positive impact on the employees' AOC.*

Hypothesis 4(H4). *The combined effect of sociodemographic variables with EB strategies on AOC is positive.*

Therefore, four groups of hypotheses were defined (Figure 1). The first group was formulated to identify the impact of EB strategies on the AOC and then of each EB strategy on the AOC; these results will allow to proceed with the objectives of identifying which EB strategy has the greatest positive impact on AOC and identifying which EB strategy has the least positive impact on AOC. With this purpose, the impact of EB strategies on the affective commitment of individuals was tested. According to Punjaisri and Wilson [51], the various human resource management strategies must be integrated into the EB process, covering all areas of the organization, namely: communication and image, operations management, marketing, culture, mission and values, and training and development, as well as recruitment processes. According to Biswas and Suar [11], EB has been gaining importance due to the growing focus on factors, such as the power of branding, the commitment of employees, the war for talent, and the role of human resource management in business.

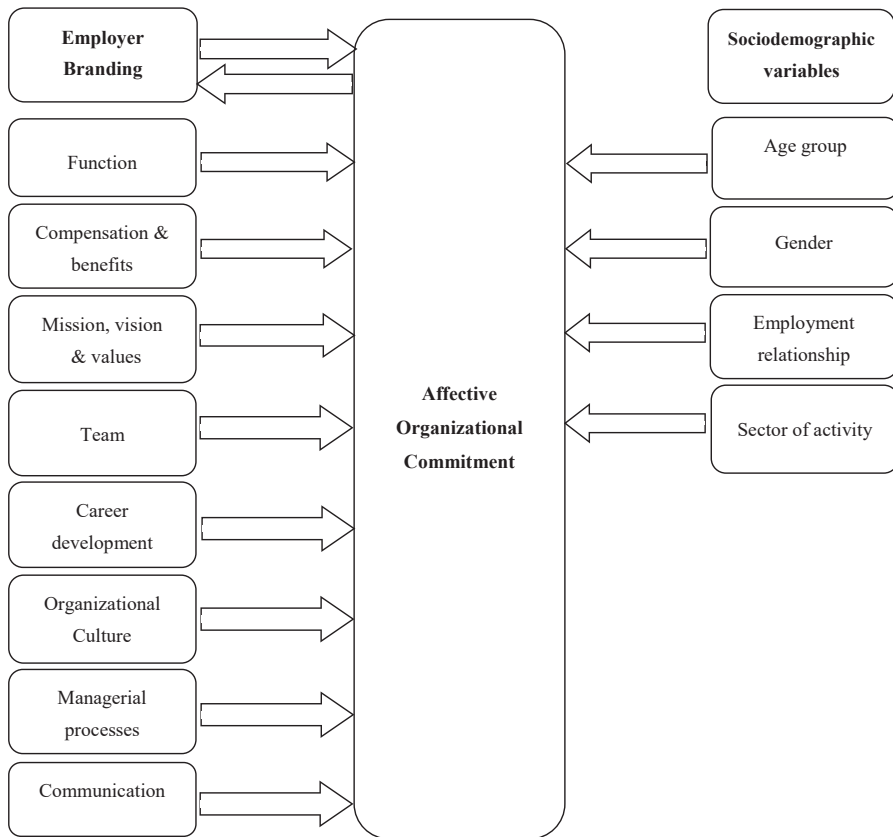


Figure 1. Conceptual model.

In the second group of hypotheses, it is intended to test whether the affective component of organizational commitment has a positive impact on EB strategies in order to achieve another specific objective of the study: to verify whether there is a positive and significant association between the dimensions that measure the EB strategies and the affective component of organizational commitment. In the literature, there is evidence that the perception of organizational commitment in all of its components, including the calculative and normative components, in addition to the affective component, has a positive and significant association with the dimensions of human resource management, such as those applied in EB strategies. According to Across [52], a greater perception of organizational commitment is associated with a greater perception of dimensions, such as: remuneration, career, communication, supervision, and nature of the function.

In the third group of hypotheses, it is intended to verify the effect of sociodemographic and labor components on the AOC, both in its entirety and individually. Meyer et al. [53] claim that certain sociodemographic variables, such as age, seniority, or gender, influence AOC. To test the effect of sociodemographic variables on AOC, Mann–Whitney U non-parametric tests (bilateral significance) and the Wilcoxon test were performed to test the effect of gender on variables. As for the remaining sociodemographic variables, the Kruskal–Wallis non-parametric H test was performed.

In the fourth group, the combined effect of sociodemographic variables, with EB strategies on AOC will be tested. The chi-square test of independence (descriptive analysis with a cross-reference table) will be performed to verify if there is a relationship between the variables EB and SDV (sociodemographic

variable). The results actually indicate that $p = 0.093$, therefore, it was not significant ($p \leq 0.05$). The variables EB and SDV are not dependent on each other, from which we can conclude that they are independent in the way they relate to AOC. Gouldner [54] affirms that there is reciprocity between individuals and the organization and understands that this relationship of reciprocity is related to the valuation and perception that employees have of organizational practices. On the other hand, the association between organizational practices and affective commitment will change with age [55], and the antecedents of AOC differ with sociodemographic variables [56].

3. Methodology

Based on the literature review of each variable under investigation: EB and affective commitment, the hypotheses were raised, the research model was developed, and previously validated questionnaires were tested. The present investigation is characterized by being a field research study. As for the approach and the methodological framework applied to this study, it is a quantitative research effort. Data collection was carried out with the application of a questionnaire with sociodemographic questions, an EB scale [9], and a scale of AOC [28]. The sampling process was non-probabilistic. The online questionnaire link was placed using the snowball sampling method.

This study included several sectors from the most diverse areas, existent in Portugal. Anonymity of respondents and organizations was preserved. The sample consisted of employees from medium and large organizations, and from the public and private sectors. The questionnaire was created on a platform specialized in online questionnaires. The sampling process was non-probabilistic and convenient, given that the online questionnaire was distributed to several contacts, who work in organizations from different sectors and dimensions. Initially, a pre-test was carried out on six individuals from different work areas and functions, in order to detect possible gaps. The questionnaire was then perfected and, with nothing to add, it was then applied.

The online questionnaire link was distributed using the snowball sampling method, whereby the link was sent to several people who work in organizations where the concepts of talent management and EB are well-known, among which were: Grupo Nabeiro, Sonae, Altran, Farfetch, CaixaBI, Navigator, BNPParibas, REN, TVI, Philip Morris International, and CUF Saúde. Public sector officials were also contacted in various areas, such as: internal administration, education, health, and justice.

The snowball sample selection is a nonprobability sampling method, where existing study respondents recruit future subjects from among their acquaintances who meet the eligibility criteria and who could potentially contribute to the specific research. To ensure that the questionnaire was well understood and that the individuals in the sample represented similar characteristics, two criteria for inclusion in the sample were created: (1) that the respondent is employed at a national firm and (2) that the respondent is familiar with the concepts of EB, AOC and talent management.

The pool of 35 initial participants were as diverse as possible, in order to represent the active population of Portugal. To ensure that the respondents met the eligibility criteria, they were selected from the pool of companies within "Talent Portugal", a community focused on talent management and EB in Portugal. There is no data available to characterize this community, which has 251 companies as members, representing numerous sectors of activity. For that reason, it was not possible to determine the statistically adequate sample size for this empirical research.

The self-completion questionnaire held no risk of non-response as all questions were marked as mandatory, so 100% of the questionnaires were considered valid. Due to the global pandemic, this research was limited by the availability of time and resources, and the sample size was prone to be affected by these circumstances. As all 172 responses in the time frame were valid, all were accepted.

Questions of a demographic and occupational nature were asked, such as age, gender, educational qualifications, and seniority in the organization, for sample description and characterization purposes. Employees' perception of the EB strategies implemented by the organization was measured by applying the EB questionnaire prepared by Sezões [9], within the scope of his duties as an engagement and employer branding consultant of "Stanton Chase Portugal". The EB questionnaire has been applied in

national and international companies to diagnose improvement needs and was validated in Sezões' master's thesis on human potential management. This questionnaire assesses eight dimensions, namely: function, compensation and benefits, mission, vision and values, team, career development, organizational culture, managerial processes, and communication. Each of the dimensions has four items, adding up to a total of thirty-two items that make up this questionnaire. The questionnaire is rated using a 5-point Likert rating scale (from 1 "Strongly disagree" to 5 "Strongly agree"). Therefore, there are five answer options to each statement, and the results of each dimension result from the sum of the scores of the items that compose it, and, the higher the score, the more positive the employees' perception of the respective dimension.

AOC was measured through the 6 items that make up the affective commitment dimension of the instrument developed by Meyer and Allen [28]. This questionnaire is rated on a 5-point Likert rating scale (from 1 "Strongly disagree" to 5 "Strongly agree"). Therefore, there are five answer options to each statement, and the results of this dimension result from the sum of the scores of the items that compose it, and the higher the score, the more positive the employees' perception of their AOC. The model by Meyer and Allen [28], assumes that the three dimensions that compose it (normative, affective, calculative) are independent of each other, so they can be applied independently. Affective commitment is considered the most effective approach to measuring organizational commitment [10]. According to Meyer and Allen [31], the affective component of organizational commitment is the strongest predictor of the organization's exit intentions, which underlies the option to further study this component in particular, in order to contribute to the talent retention and management literature.

4. Results and Discussion

4.1. Sample

The sample of the quantitative study was composed of 172 individuals, representing different job positions in different sectors of activity, to achieve a good representation of the active population at the national level. According to the sociodemographic data collected (Table 1), 108 (62.8%) are male, and 64 (37.2%) are female. A large part of the respondents is in the 41 to 54-year-old age group (54.07%), and most individuals hold a bachelor's degree (43.6%). The segment that stands out the most is the one having over 10 years' seniority in the organization, where 35.47% of the respondents are found, followed by the range between 2 and 5 years of seniority (27.9%). Most of the respondents have an open-ended contract (77.33%).

Table 1. Sociodemographic profile of the sample.

Gender	Age Group	Education Level	Seniority	Activity Sector
Whole data (n = 172)				
Male (62.8%)	19–29 years old (6.98%)	High school graduate or less (38.95%)	<2 years (14.53%)	Tertiary sector (66.28%),
	30–40 years old (27.33%)	Bachelor's degree (43.6%)	2–5 years (27.91%)	Industry (30.23%)
Female (37.2%)	41–54 years old (54.07%)	Master's degree or higher (17.45%)	6–10 years (22.09%)	Primary sector (3.49%)
	55–67 years old (11.63%)		>10 years (35.47%)	

The data collection was carried out between the months of March and May 2020. After the application of the data collection instruments, the responses of the participants were collected via the online questionnaire, and statistical analysis were subsequently prepared. Regarding the data analysis procedures, SPSS (version 25.0) was used for the statistical analysis. We performed the descriptive analyses regarding the characterization of the sample, the analyses of the Kaiser-Meyer-Olkin test (KMO) and Bartlett's sphericity test for the instruments and also for the correlations between variables.

In order to determine the final constitution of the variables, Cronbach's alpha analysis was carried out in a first phase, which allows the exclusion of minor items.

To test the effect of sociodemographic variables on AOC, Mann–Whitney U non-parametric tests (bilateral significance) and the Wilcoxon test were performed to test the effect of gender on variables, and for the remaining sociodemographic variables, the Kruskal–Wallis non-parametric H test was performed. The Mann–Whitney U test is a non-parametric test used to compare two independent samples (in this case being male/female). The Kruskal–Wallis non-parametric H test extends the Mann–Whitney U test when there are more than two groups. It is used to compare two or more independent samples of the same or different sizes. The hypotheses tests were also carried out through Spearman's rank correlation coefficient, used for assessing the significance of relations between variables using statistics. This correlation coefficient is a statistical measure of the strength of the relationship between the relative movements of two variables. The values range between -1.0 and 1.0 . A correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. A correlation of 0.0 shows no linear relationship between the movement of the two variables.

4.2. Reliability and Internal Consistency

The reliability and internal consistency of the questions was measured using Cronbach's alpha coefficient (α), with a value of $\alpha = 0.951$ for the EB scale and $\alpha = 0.883$ for the AOC scale (Tables 2 and 3).

Table 2. Reliability and internal consistency for employer branding (EB) and affective organizational commitment (AOC) scales.

Scale	QEB	QAOC
Cronbach's alpha coefficient (α)	0.951	0.883

Table 3. Reliability and internal consistency for EB dimensions.

EB Dimensions	Cronbach's Alpha Coefficient (α)
Function	0.73
Compensation and Benefits	0.73
Mission, Vision, and Values	0.85
Team	0.85
Career development	0.86
Culture and working environment	0.81
Management processes	0.83
Communication	0.81

According to Hair et al. [56], Cronbach's α values obtained for the dimensions are greater than 0.70 , which confirms a good reliability of the QEB (questionnaire of employer branding) scale globally and for each of the dimensions. As AOC is a unidimensional variable, a reliability and internal consistency table for AOC dimensions was not presented.

4.3. Descriptive Analysis

From the descriptive analysis of the items, the general conclusion is that there is a high appreciation of the "Function" related strategies since the average of responses to all items is 4.14 with an agreement of 86.92% (Table 4). These results make it possible to identify the EB strategy with a more positive perception on the part of employees. The less valued strategy by employees is "Management processes", with a mean of 3.13 and an agreement = 45.93% . These results allow us to identify it as the EB strategy with the least positive perception on the part of employees.

Table 4. Descriptive analysis.

EB Strategies	Mean	Agreement (%)
Function	4.14	86.92%
Compensation and Benefits	3.37	51.31%
Mission, Vision, and Values	4.01	79.07%
Team	3.68	67.74%
Career development	3.62	66.13%
Culture and working environment	3.51	60.03%
Management processes	3.13	45.93%
Communication	3.76	66.86%

4.4. Correlation Analysis Parametric Test and Non-Parametric Test

To further solidify this investigation, we applied Spearman’s Correlation Test (Table 5). Some non-parametric tests can handle ordinal data, ranked data, and not be seriously affected by outliers. Non-parametric tests were applied to this investigation due to having Likert data and wanting to compare two or more groups. Spearman’s correlation coefficient is a statistical measure of the strength of a relationship between paired data. The strength of the correlation can be described as follows:

- 0.00–0.19 “very weak”;
- 0.20–0.39 “weak”;
- 0.40–0.59 “moderate”;
- 0.60–0.79 “strong”; and
- 0.80–1.0 “very strong”.

Spearman (ρ)	Correlation strength
1	Perfect relationship
≥0.70	very strong relationship
0.40–0.69	strong relationship
0.30–0.39	moderate relationship
0.20–0.29	weak relationship
0.01–0.19	negligible relationship
0	no relationship

According to the Spearman’s rank correlation coefficient, a correlation of 0.776 (Table 5) means that there is a *very* strong correlation between EB and AOC.

Table 5. Non-parametric test: Spearman’s correlation coefficient.

			EB Perception	AOC Perception
Spearman’s rank correlation coefficient	Perception of EB	Correlation coefficient	1.000	0.776 **
		Sig.		0.000
		N	172	172
	Perception of AOC	Correlation coefficient	0.776 **	1.000
		Sig.	0.000	
		N	172	172

Notes: ** Correlation is significant at the 0.01 level (2-tailed).

4.5. Measure of Sampling Adequacy

The Kaiser-Meyer-Olkin Test (KMO) as a Measure of Sampling Adequacy was used in the present study (Table 6) to detect multicollinearity in the data to verify the appropriateness of carrying out a factor analysis. More specifically, sampling adequacy predicts if data are likely to factor well, based on correlations and partial correlations. A value above 0.8 is considered excellent. The Bartlett’s Test of Sphericity is another test of the strength of the relationship among variables.

Table 6. Employer branding (EB) Kaiser-Meyer-Olkin (KMO) Bartlett test.

		Employer Branding	Affective Organizational Commitment
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.913	0.833
Bartlett's Test of Sphericity	χ^2	3345.945	597.362
	df	496	15
		Sig.	0.000

For our data, KMO was 0.913 for the EB scale and 0.833 (Table 6) for the AOC scale, signaling that a factor analysis of the variables can proceed. The results of our analysis for the Bartlett's Test of Sphericity showed a significance level of 0.00. It can be concluded that the relationship among variables is strong.

4.6. Hypotheses Testing Framework

As for the first group of hypotheses, a Spearman's correlational analysis was run to determine the relationship between each dimension of EB and AOC. It was found that all dimensions of EB have a positive correlation with the affective component of organizational commitment. It appears that the strategies "mission, vision, and values" respond to the specific objective: "Identify which employer branding strategy has the greatest positive impact on affective organizational commitment".

From the results obtained, we can also extract that the EB strategy with less positive impact on AOC corresponds to "compensation and benefits", thus responding to another of the specific objectives of the research.

Regarding the second group, the hypothesis "affective organizational commitment has a positive relation with employer branding strategies", it is confirmed that the affective component has a positive impact on the perception of EB strategies, by employees ($r_s = 0.180$, $n = 172$, $p = 0.001$).

A third group of hypotheses was set to test the effect of sociodemographic variables on AOC. Spearman's correlational analysis was performed, as well as Mann-Whitney U non-parametric tests and the Wilcoxon Test, to test the effect of gender; and Kruskal-Wallis non-parametric test H, for the remaining sociodemographic variables. In relation to the hypothesis: "sociodemographic variables have a positive impact on employees' affective organizational commitment", we have that this hypothesis studies the relationship between sociodemographic variables and the affective component of organizational commitment. The results of the Spearman's correlational analysis indicate that the hypothesis was not validated ($p > 0.001$). Since there was no positive association between the sociodemographic variables, as a whole and the affective commitment, the impact of each sociodemographic variable on the affective component of the organizational commitment was tested individually, in the next step of the statistical treatment of the data, where it was demonstrated that the sociodemographic variables age group, gender, employment relationship, and sector of activity have a positive impact on the AOC of employees, but literacy and seniority do not.

In the fourth group, the hypothesis "The combined effect of sociodemographic variables with employer branding strategies on affective organizational commitment is positive" was tested by performing the chi-square test of independence (descriptive analysis with a cross-reference table). This was done to verify if there is a relationship between the variables EB and SDV. The results indicate that $\chi^2 = 608.710$ and $p = 0.093$; therefore, the association was not significant ($p \leq 0.05$). The hypothesis was not confirmed. Therefore, EB and sociodemographic variables are not positively related to AOC. As previously verified, EB has a positive relationship with AOC; however, sociodemographic variables, as a whole, have no positive relationship with AOC. In summary, it appears that EB variables and sociodemographic variables do not act in a combined way on AOC, but independently. All the results are summarized in .

Table 7 presents the validated and not validated hypotheses. As for the sociodemographic variables, it was not possible to verify all the hypotheses, so it was necessary to reformulate this part of

the conceptual model. The original conceptual model was redefined, by excluding paths of hypotheses that were not validated—H3, H3c, H3d, and H4. Once all the hypotheses regarding the relationship between EB dimensions and AOC have been proven, this attributes relevance to the conceptual model of this research study, due to the fact that all dimensions related to EB strategies proved to be relevant, even when tested individually.

Table 7. Confirmatory data analysis.

Hypotheses	Validated	Results
H1—EB strategies have a positive impact on the employees' affective organizational commitment.	Yes	$r_s = 0.776$ $p = 0.000$
H1a—EB strategies related to the function have a positive impact on the employees' affective organizational commitment.	Yes	$r_s = 0.502$ $p = 0.000$
H1b—EB strategies related to compensation and benefits have a positive impact on employees' AOC.	Yes	$r_s = 0.484$ $p = 0.000$
H1c—EB strategies related to the mission, vision and values have a positive impact on employees' AOC.	Yes	$r_s = 0.727$ $p = 0.000$
H1d—EB strategies related to the team have a positive impact on the employees' affective organizational commitment.	Yes	$r_s = 0.579$ $p = 0.000$
H1e—EB strategies related to career development have a positive impact on the employees' AOC.	Yes	$r_s = 0.591$ $p = 0.000$
H1f—EB strategies related to culture and the work environment have a positive impact on the AOC of employees.	Yes	$r_s = 0.630$ $p = 0.000$
H1g—EB strategies related to management processes have a positive impact on the employees' AOC.	Yes	$r_s = 0.692$ $p = 0.000$
H1h—EB strategies related to communication and image have a positive impact on the employees' AOC.	Yes	$r_s = 0.620$ $p = 0.000$
H2—AOC has a positive impact on EB strategies.	Yes	$r_s = 0.776$ $p = 0.000$
H3—Sociodemographic variables have a positive impact on the employees' AOC.	No	$r_s = 0.017$ $p > 0.001$
H3a—The age group has a positive impact on the employees' AOC.	Yes	$H = 6.384$ $p > 0.05$
H3b—Gender has a positive impact on employees' AOC.	Yes	$U = 3281.000$ $p > 0.05$
H3c—Educational qualifications have a positive Impact on employees' AOC.	No	$H = 9,146$ $p < 0.05$
H3d—Seniority has a positive impact on employees' AOC.	No	$H = 8.232$ $p < 0.05$
H3e—The employment relationship has a positive impact on the employees' AOC.	Yes	$H = 4.630$ $p > 0.05$
H3f—The activity sector has a positive impact on the employees' AOC.	Yes	$H = 0.307$ $p > 0.05$
H4—The combined effect of sociodemographic variables with EB strategies on AOC, is positive.	No	$\chi^2 = 608.710$ $p = 0.093$

This study had as its main objective to answer the following research question: “What is the impact of EB strategies, implemented by organizations, on AOC?”, which was answered through the hypothesis test “H1—EB strategies have a positive impact on the employees' AOC”. In order to deepen the analysis of this relationship, a Spearman's correlational analysis was carried out, the results of which confirmed the existence of a positive and significant correlation between perceived EB strategies

and the AOC of individuals. The constructs showed a strong and significant correlation at the 0.01 level, observing a correlation of 0.776 according to the Spearman table. Thus, results obtained with these techniques empirically support the following objective “to verify if there is a correlation between the EB constructs and AOC”. Thus, we conclude that the perception of EB strategies is significantly correlated to the level of affective commitment of employees, realizing that the better the perception of the employee in relation to the strategies associated with EB, the greater his level of affective commitment, consequently raising your desire to stay in the organization. The various human resource management strategies must be integrated into the EB process, covering all of the areas of the organization, namely: communication and image, operations management, marketing, culture, mission and values, training and development, and recruitment processes [46]. EB has been gaining importance due to the growing focus on factors, such as the power of branding, the commitment of employees, the war for talent, and the role of human resource management in business [11].

A Spearman’s correlational analysis was performed for each of the dimensions of the EB variable, noting the existence of a positive and significant correlation between each of the various dimensions in isolation with AOC, which allowed all of the hypotheses in the first group to be empirically supported. Thus, confirming the theoretical support for each one of the EB dimensions (function, compensation, mission, vision and values, team, career development, culture and work environment, management processes, communication and image) as follows below.

The hypothesis “H1a—EB strategies related to the function have a positive impact on the employees’ AOC”: For Meyer and Allen [31], affective commitment develops when professionals’ work experiences satisfy their needs for autonomy, skills development, and diversity and identification with tasks. Michaels et al. [2] state that talented professionals today want to feel motivated by the role they play, that there are enriching development and career opportunities, and that leaders support and motivate them. Organizations must be able to respond to this rise in expectations.

The hypothesis “H1b—Strategies related to compensation and incentives have a positive impact on the employees’ AOC”: Minchington [57] defines EVP (employee value proposition) as a package of attractive benefits that employers offer to employees, such as salary, bonuses, career development, work environment, possibility of promotion, and flexibility of working hours. In addition, EVP should not be focused only on monetary factors, such as compensation, but on psychological factors because they have greater weight among individuals [58].

The hypothesis “H1c—Strategies related to the mission, vision and values have a positive impact on the AOC of employees”: Mowday et al. [59] present the main characteristics of affective commitment: the belief and acceptance of organizational values and objectives, the desire to maintain the link with the organization and a willingness to defend the organization. According to Fernandez-Lores et al. [46], when the relationship between the employee and the employer brand is established, the affective commitment expresses the attachment that the professional experiences towards the values of the employer’s brand. And this attachment is manifested by the desire to remain in the organization over time and in the affinity of values between both parties.

The hypothesis “H1d—Strategies related to the team have a positive impact on the AOC of employees”: Meyer and Allen [31] stated that the relationship between team behaviors and affective commitment would be difficult to be studied, given that the results in their investigation were contradictory. This fact can be explained by the respondents’ personal characteristics in view of the organization’s relationships and internal environment.

The hypothesis “H1e—Strategies related to career development have a positive impact on the employees’ AOC”: According to Noe and Wilk [60], the training and skills development strategies implemented in career management, result in an increase in the level of AOC of their employees.

The hypothesis “H1f—The strategies related to culture and the work environment have a positive impact on the employees’ AOC”: For Miles and Mangold [25], the way and breadth with which the organizational culture is perceived and accepted by employees has an important impact on their behavior. The most important element of an organizational culture is its charter of principles and

values. Therefore, a correct management of these values facilitates affective commitment since it leads to an approximation between the employee and the employer's brand—when he identifies himself with its values.

The hypothesis "H1g—Strategies related to management processes have a positive impact on employees' AOC": According to Punjaisri and Wilson [51], the management processes, from the initial moment of recruitment and selection, to the reception and integration phases, to the evaluation and management of performance, all of these management processes must be aligned with the brand values of the employer in order to increase the levels of affective commitment of individuals towards the employer. According to King et al. [61], it is possible to increase the levels of affective commitment of individuals towards the employer through leadership practices when they correctly represent the employer's brand values.

The hypothesis "H1h—Strategies related to communication and image have a positive impact on the employees' AOC": Results allowed us to conclude that the perception of EB strategies related to communication and image is significantly predictive of the level of affective commitment of employees. For King et al. [61], the values of the employer's brand must be effectively communicated so that they are assumed by employees, raising their levels of commitment to the employer's brand.

As for the specific objective, "EB strategies have a positive perception on the part of employees", it is possible to verify the results of this in the descriptive analysis of the items that make up the "QEB" scale. The average, as a measure of central tendency, allows knowing how the responses to the questionnaire are distributed, in the sense of knowing which EB strategies are most valued and least valued by the respondents. In this sense, it is possible to observe that all dimensions present $M > 3.13$. Since the Likert scale ranges from 1 to 5, this means that all responses are, on average, positive.

The specific objective "the EB strategy with a more positive perception on the part of employees" is verified by the descriptive analysis, where it is observed that there is a high valuation of the "Function" strategy, the same happening in the study by Sezões [14], since the average of responses to all items is $M = 4.14$ with an agreement of 86.92%. Likewise, the standard deviation of all items is less than 1, which reveals a high concentration around the average value = 5, confirming the homogeneity of the responses, at the highest values of the scale (between 4 "agree" and 5 "agree totally"). The median value (central value in each item) is always 4 or 5, which also reveals a high level of agreement among respondents. "Function" corresponds, therefore, to "the strategy of EB with a more positive perception on the part of employees".

As for the objective "to identify the EB strategy with a less positive perception on the part of the employees", it is observed that the strategy perceived in a less positive or that is less valued by the employees is "management processes", presenting an average value $M = 3.13$ and agreement = 45.93%. The "compensation and incentives" strategy following, with $M = 3.37$ and degree of agreement in the respondents' answers of 51.31%, the latter being the least valued strategy in the study by Sezões [14].

In relation to the specific objective "to verify if there is an association and positive and significant correlation between the dimensions that measure the EB strategies and AOC, the Spearman correlation coefficient reveals that the items in the EB variable have a positive and significant correlation with all items in the AOC variable, this correlation being significant at the 0.01 level. All variables have a strong correlation (≥ 0.5). These results allow us to respond positively to the objective "to verify if there is a positive and significant association and correlation between the dimensions that measure EB strategies and AOC".

Regarding the hypothesis "H2—AOC has a positive impact on EB strategies", a Spearman's correlation was run to determine the relationship between AOC and EB values. Results confirm that this hypothesis is validated ($r_s = 0.180$, $n = 172$, $p = 0.001$). According to Across [52], a greater perception of organizational commitment is associated with a greater perception of dimensions, such as: compensation, career, communication, supervision, and nature of the function.

To assess the specific objective "to verify if employees feel committed, at an affective level with the organization", according to the results of the descriptive analysis as for the variable AOC, $M = 3.63$ and

with an agreement greater than 40% in items 1, 2, and 5, respectively: “I would be very happy to spend the rest of my career in this organization”; “I feel the problems of this organization as if they were mine”; and “This organization has great personal significance for me”. Interestingly, there is a high “disagreement”, exceeding 36% in the questions formulated in the negative: “I don’t feel like” being part of the family “in this organization”; “I don’t feel” emotionally attached “to this organization.” From the analysis of these values, it is possible to conclude that, on average, employees are emotionally committed to their organization.

Regarding “H3—SDV have a positive impact on employees’”, a Spearman’s correlation was run to determine the relationship between SDV and AOC values. Results confirm that this hypothesis is not validated ($r_s = 0.71$, $n = 172$, $p > 0.001$).

In this case, we can conclude that the sociodemographic variables, considered as a whole, do not constitute a direct predictor of the level of AOC. Meyer et al. [53] claim that certain sociodemographic variables, such as age, seniority, or gender, influence AOC. Meyer and Allen [31] argue that personal characteristics can be considered as a factor that introduces uncertainty in the percentage of unknown variance, that is, in the variance of AOC that is not explained. Since there was no positive association between the sociodemographic variables, as a whole and the affective commitment, the impact of each sociodemographic variable on the affective component of the organizational commitment was tested individually, in the next step of the statistical treatment of the data.

H4 is not confirmed ($X^2 = 608.710$ and $p = 0.093$). As previously verified, EB has a positive relationship with AOC; however, SDV, as a whole, have no positive relationship with AOC. In summary, it appears that the variables EB and SDV do not act in a combined way on AOC, but independently. Additionally, there are divergent results when testing each SDV individually. Meyer et al. [53] claim that certain sociodemographic variables, such as age, seniority, or gender, influence AOC. In turn, for Rego and Souto [62], there is no significant correlation between the variable’s seniority and educational qualifications for affective commitment, but it does exist for gender and age.

5. Conclusions

The current study allowed us to conclude that all of the EB dimensions have a positive correlation with the affective component of organizational commitment and that there is a positive and significant association in the globality, and between each, of the EB dimensions individually towards affective commitment. As for the inverse relationship, the AOC is a direct predictor of perception of EB strategies, that is to say, the greater the perception of AOC of employees, the greater will be the perception of EB strategies. It appears that the “mission, vision, and values” strategies are the EB strategy with the greatest positive impact on AOC, and the EB strategy with the least positive impact on AOC corresponds to “compensation and benefits”. Sociodemographic variables, considered as a whole, do not constitute a direct predictor of the level of affective commitment. It was shown that the sociodemographic variables age group, gender, employment relationship, and sector of activity have a positive impact on the AOC of employees, but literacy levels and seniority do not. The combined effect of sociodemographic variables and EB strategies on AOC is not verified. EB has a positive relationship with AOC; however, sociodemographic variables, as a whole, have no positive relationship with AOC. In summary, it appears that EB variables and sociodemographic variables do not act in a combined way on AOC, but independently. It can be concluded that this research highlighted the role of human resource management strategies applied in EB processes, focusing on the relevance of talent retention through affective commitment as a competitive advantage.

The results obtained with this research showed that there is a positive association between EB strategies and the employees’ AOC. In terms of research contribution, this investigation allowed us to understand that the variable “compensation and benefits”, presented the lowest Spearman coefficient. This fact demonstrates that “compensation and benefits” is not the greatest factor for retaining talent, through affective commitment, but rather identification with the “mission, vision and values” of the organization, the perception of support and justice/fairness in the “management processes”,

identification with the principles and values of the “organizational culture” and a good “image and communication” of the organization. In addition to the “compensation and benefits” dimension, the “Function” and “Team” variables also had the lowest Spearman coefficients. The results of this study suggest that individuals become emotionally committed to the organization, and that emotional commitment develops when the employee gets involved and identifies with the organization [63]. This affective commitment can be achieved when the employee perceives his employer as fair and supportive, when he identifies with the organization’s values, trusts leaders and managers, feels that his goals and the organization’s goals converge, feels satisfaction in his function, and understands that the organization is socially responsible [62]. These results corroborate with those advocated by Cappelli and Keller [64], due to the fact that this study also shows that professionals show a preference for organizations with an innovative culture, management style and attractive and supportive leadership, oriented towards career and development competencies, with fair management and evaluation processes, whose mission, vision, and values are challenging and inspiring, and with good communication and image. These factors revealed to have an important role in the affective commitment of employees, which, in turn, has an impact on the retention and involvement of talented professionals. The inverse relationship of the variables was also tested, that is, the results obtained with this investigation allowed to verify the existence of a positive association between the perception of organizational commitment and a greater perception of all human resource management strategies applied in EB, as stated by Across [52]. The scale used in this study, applied to EB strategies, had already been used in the study of Sezões [14]. However, in his study it was not possible to prove the relationship between the variables. Furthermore, a quantitative scale was not used to measure organizational commitment, and the role of sociodemographic and labor variables regarding commitment was not studied. The option for the affective component of organizational commitment was reinforced. It was also decided to extend the scope of the study to the entire active population in Portugal, which had not yet been done in studies focusing on these variables. All these elements constitute academic contributions.

This research, as well as other similar research, represent an important contribution to management, both in periods of economic expansion and in more unfavorable periods. In a situation that presents many difficulties to the vast majority of organizations, it is even more important to implement talent management practices capable of retaining and engaging talented professionals, increasing their affective bond with the organization, as they represent a critical element for competitiveness and success. This study allowed us to know which variables better allow for developing the bonds of affective commitment responsible for the retention and involvement of the “talents”, namely the identification with the “mission, vision, and values” of the organization, the perception of support and justice in the “managerial processes”, identification with the principles and values of “organizational culture”, and a good “reputation and communication” of the organization. It is, therefore, on these dimensions that talent management practices should focus, even though they all have associations and positive correlation, indicating that none can be overlooked. On the other hand, this study also demonstrated that the inverse relationship between the variables has statistical importance. The impact of affective organizational commitment on the perception of employer branding strategies is relevant, as the relationship between these variables demonstrated a positive and significant association. Finally, but no less relevant, we have the role of sociodemographic variables in the affective component of organizational commitment, where it is important to retain that, although, when tested as a whole, their influence on the affective commitment of individuals is not proven, when evaluated individually, the results demonstrated that the variables: age group, gender, employment relationship, and sector of activity have a positive impact on the AOC of employees.

Considering that the objectives proposed for this research have been achieved, some limitations in the research are recognized, such as the inclusion of a restricted range of variables. Hence, in future studies, the number of variables under study should be increased, including, for example, marital status, turnover, number of dependents, organizational support, or satisfaction levels. It is noteworthy

that the sample of participants was reduced, which limits the generalization of results. Additionally, because the data collection coincided with the pandemic period, suffering the evident consequences of social isolation, it would also be pertinent to repeat the same study in the post-pandemic period, to determine whether the observed results are maintained or diverge from the current ones. It would also be pertinent to add complementary research methodologies, such as a comparative study between groups of employees from the public and private sectors or a comparative case study between different sectors of activity.

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Article

The Determinants of Global Expansion: A Study on Food and Beverage Franchisors in Malaysia

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Abstract: In the past decade, franchising has become a well-known platform for business expansion. Various strategies have been employed by franchisors in expanding their business into the global market. However, few studies have assessed the determinants that can be adopted by the franchisors in bringing value as well as opening up opportunities for global market expansion. This study aims to explore the determinants of global expansion based on Malaysian franchisors' experience. A qualitative research approach was adopted through various case studies with ten franchisors from the food and beverage industry in Malaysia. In-depth interviews were carried out to explore this topic. Thematic analysis was performed through the "Atlas.ti" software package version 9.0, which was also used in analyzing the data. The findings indicated that there are four themes, and nine sub-themes were discovered from the grounded data. The franchisors agreed that franchise brand, business location, product, advertising, and promotion were able to influence franchisors in designing strategies for global expansion. The data were also able to provide an in-depth understanding of the determinants for global expansion that can be undertaken as a guide to prospective franchisors who want to start exploring the global market. These results are expected to assist the government as well as the agencies involved with franchising in improving related policies, strategies and programmes. Thus, it is important to understand these determinants in order to survive in a competitive global market.

Keywords: franchising; franchisor; global expansion; case study

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1. Introduction

Franchising has grown in popularity as a successful global business model. Franchising is a form of licensing in which a parent corporation, the franchisor, grants an individual person, known as the franchisee, the right to operate in a specific way [1–3]. Accordingly, franchising is a business model that allows small companies to scale up with limited capital [4]. International franchising is a method of entering a new market that enables businesses to do so with little risk and a little power. For over a century, small and medium-sized businesses have used this approach to extend their operations [5,6]. Franchising has become a common method for firms from Australia [7], Spain, and newly industrialised countries expanding domestically and internationally, and it remains one of the most popular distribution channels for US exports [8]. This business format has gained plenty of scholarly attention. Furthermore, franchising is a business model in which local entrepreneurs, known as franchisees, are given the right to run one or more franchise units at a location in exchange for putting up their own money. The franchisee pays a royalty based on gross revenue to the franchisor in exchange. As compensation,

the franchisee receives profits after expenses, including royalties [9,10]. However, it is also seen as a strategic business model that empowers its employees and has a huge effect on the economy [11]. As franchising becomes a more well-known and prominent business strategy around the world, it has piqued the interest of researchers and policymakers. Encouragement of entrepreneurs to enter the franchising industry improves their chances of surviving in a competitive market [12–14].

In term of franchise network arrangements, international franchising has more complicated complexities than domestic franchising. While the franchisor and franchisees remain the most important players in a franchise network, foreign franchisors in the twenty-first century operate within an interconnected system of relationships that they do not always regulate, such as market and institutional powers, political restrictions, and so on. Owing to high control costs, direct franchising is only used in a small number of countries. Master franchising, for example, is a more common arrangement in which a third party is given the rights to establish and monitor a specific regional market [15,16]. This form of contract is very complicated, and it may necessitate more local adaptation as in the likes of royalty and franchise fees, among other things [17]. All of this adds to the complexity and makes performance assessment in international franchising more difficult [18].

Nowadays, most Malaysian franchisors have begun expanding their businesses towards the global market after witnessing the saturation in the domestic market. Franchising has grown in popularity as a successful global business model [19]. On the other hand, international franchising is a method of entering new markets that enable businesses to do so with little risk and a little “power”. Thus, for over a century, small and medium-sized businesses have used this approach in extending their operations [20]. Fast food businesses are prominent sectors in franchising and thus contribute their important roles in the growth of entrepreneurship worldwide [21]. Malaysian franchise brands, such as Nelson’s, have over 800 outlets in 16 countries. These include “Global Art”, with 600 outlets in 17 countries, “Laundry Bar”, with over 500 outlets in all ASEAN countries, and “Marrybrown”, with over 350 restaurants in 20 countries [22].

However, the determinants of Malaysian franchisors expanding into the global market, especially in developing countries, is not clearly understood. Future research should look at other determinants that explain the expansion and diffusion of international franchising, such as location characteristics, unique institutions, institutional distance, psychic distance, and other distance variables [4]. Furthermore, there needs to be further examination of subjective and objective indicators for global franchising expansion at the individual, organizational, and institutional levels. Abd Aziz et al. [13] suggested the exploration of other factors that relate to the expansion of local franchisors into the international market that lead to their survival in the competitive market. Furthermore, the business environment becomes more competitive day by day, such that enterprises may find it difficult to survive in the market. Therefore, it is important to explore and understand the factors and strategic actions that need to be taken for franchise businesses to remain competitive [23]. This study aims to guide by investigating the following overarching research question: “What are the determinants for Malaysian franchisors’ expansion into global market?”.

2. Literature Review

2.1. Value Creation Theory

Value creation is defined as the result of a combination of customer surplus and producer surplus that benefits all parties [24,25]. The value creation theory entails assessing the relationship between stakeholder surplus and producer surplus [25]. On the other hand, value development is the primary goal that encompasses the mechanism of central economic exchange [26]. Aside from that, the idea of more value-oriented value development is contingent on the company’s ability in maintaining its competitive advantage [27]. According to the results of this report, the primary goal of a franchise company is to create

value in the marketplace. Customers trusted Malaysian franchisors because they are satisfied with the needs for the exclusive products and services. Furthermore, they built value for their business partners, namely master franchisees in the international market, through an existing franchise business model, well-known brand, and well-organized franchise system [28].

Mishra and Zachary [29] proposed a two-stage value creation theory that described the entrepreneurial value creation and appropriation process. In the first step, an entrepreneur recognized and developed an entrepreneurial opportunity, which is controlled by the entrepreneurial goal, and generated entrepreneurial competence, in which the entrepreneur proves the venture's market and growth potential. The entrepreneurial capacity formulated in step one is then further leveraged in the second stage of value creation by acquiring and developing complementary skills that drive a business model instrument in generating long-term value. Value creation processes investigate the behaviours, resources, and experiences that lead to the creation of value, while value outcome determination investigates how customers perceive value and what the value outcomes are. Value development processes are usually ongoing, while value outputs are usually associated with a particular point in time [30]. A company must first determine what points of value their future customer needs before developing a value-creation strategy. The company then devises a proactive plan in providing certain benefits [31].

2.2. *Competitive Advantage of Franchising in the Global Market*

Since the past decades, franchising has developed as an organization [32]. Franchising turns out to be one of the rapid growths of retail in the world and comprehends the causes of a business owner's survival as the key element of entrepreneurship research study [33,34]. In addition, franchising is a business format that offers many advantages compared to chain ownership [35]. Moreover, franchising is one of the most rapidly developing forms of businesses in the world, and it is valuable for studies in entrepreneurship [32].

Furthermore, franchising has experienced a rapid growth on a global scale since the early 1980s, and franchisors have seen this as opportunity to grow their existing businesses by bringing franchisees who will own the business format, which in turn enables access to human and financial capitals. Many franchising companies have increased their international presence over the last decade once the economies have become 'more open', and the international expansions have provided benefits to the companies themselves in terms of additional revenue and market shares, as well as potential opportunities for the companies' value increment and market diversification [36,37].

Explaining the phenomenal growth of franchising as a mode of expansion has been a major focus in the academic literature for over a decade. International expansion is now considered a crucial strategy for franchise firms to increase their outlets in the international market [38]. Furthermore, the international expansion of fast-food restaurants began in the early 1970' and was particularly seen in outlets from the U.S market. Later, this phenomenon continued to develop in the East Asia region, with major American brands such as McDonalds, Burger King, Pizza Hut and Kentucky Fried Chicken becoming a common sight in any cities in this region. In addition, the emergence of the global services sector has represented franchising as an important strategy for international expansion and market entry [39].

Nearly one quarter of the nations in the world have a franchise association that represents a substantial franchise sector in nations with large middle to upper income economies [40]. Besides that, international business experience is an important factor in influencing a franchising firm's decision on expansion and entry mode [41]. For example, a franchising firm such as McDonalds used their experiences to grow their businesses in similar markets. Franchising and wholly owned subsidiaries (i.e., own stores) are the most frequent expansion mode adopted by global entrepreneurs. As discussed above, franchising offers unique business relationships where the franchisors grant a license to its franchisees and is beneficial for both parties [42].

3. Methods

3.1. Study Design

This study adopted a qualitative methodology through the case study approach for the research design, and the plans and procedures for the research spanned the decisions from broad assumptions to detailed methods of data collection and analysis [43]. In addition, the aim and goal for a qualitative study is not to simply generalize, but rather provide a rich and contextualized understanding on some aspects of participants' experiences through a particular case or an intensive study [44].

The case study method explores contemporary real-life case boundary systems or case boundary systems over time through in-depth detailed data collection involving various sources of information and through reporting case descriptions and case themes [43,45,46].

Through rigorous and in-depth data collection involving different sources of data, the case study approach examines multiple real-life perspectives. The researcher is able to understand the differences and similarities of knowledge of the phenomenon of study by using a multiple-case design, which allows for a deeper exploration of the research question and theoretical evolution [43,47,48].

3.2. Setting and Participants

This study population consisted of franchise business brand owners, known as franchisors, specifically of brands that have expanded into global markets. In selecting the respondents for this study, researchers used combination of convenience and purposive sampling. Convenience sampling is a category of non-probability sampling where the target population meets specific criteria. These criteria were, namely: easy to be accessed, available at a given time or willing to participate in the study [49]. Purposive sampling is a sampling technique used in qualitative research to identify and select information-rich cases for the most effective use of limited resources [50,51]. This encompasses identifying and selecting individuals or groups who are well-informed or experienced in the phenomenon of interest [52].

The unit of analysis could be individuals, groups, dyads, or organizations. The determination of the unit of analysis during the initial stage of this study is crucial, as the conceptual framework, data collection techniques and sample size depends on the unit of analysis [53,54]. This study recognizes that the unit of analysis for this study is the organization level. Franchisors are representatives of their franchise companies, as well as decision makers, and they are also part of the franchise system, where they are directly involved in the expansion process into the international market.

Ten (10) franchisors were selected from the Malaysian food and beverage franchise industry, since the Malaysian Franchise Association stated that this is the most dominant industry compared to other industries in this country. Based on the dataset, researchers found that saturation occurred within ten (10) interviews, although the basic elements were present as early as the first six (6) interviews. Data saturation can be achieved with at least six interviews and small samples depending on the size of the population sample in a qualitative study [46,55].

A very small sample could still produce an important study, and the factors influencing this would be interview quality and the depth of the analysis [56]. Various factors can also affect the sample size, including: (i) researchers' experience and expertise in interviews and subject areas, which are important components in reducing sample size and to achieve saturation [57,58]; and (ii) appropriate selection of participants [59,60].

Later, franchisors were interviewed as informants from franchise companies who provided desired information such as determinants influencing global expansion. The inclusion criteria were as follows: (i) Malaysian franchisors who had registered their business in the Franchise Development Division, Ministry of Domestic Trade and Consumer Affairs; (ii) Malaysian franchisors who have been establishing their business for at least 5 years; (iii) Malaysian franchisors which are currently expanding their businesses into the

international market and (iv) Malaysian franchisors who have opened at least one outlet in the international market.

3.3. Data Collection

Data were collected through ten (10) sessions of in-depth interviews (see details in Supplementary Materials). All in-depth interviews were held separately with the franchisee business owner as well as the franchisor and were held from July to October 2019. Each in-depth interview session was conducted by a group of researchers. Audio was recorded for further analysis with permission from the respondents. Accordingly, the in-depth interview is a qualitative research methodology that entails performing in-depth individual interviews with a small group of respondents to learn about their opinions on a specific concept, programmer, or situation [61]. Due to the various sources of evidences, the case studies were focused on themes or explanations; a case study is an appropriate way for researchers to investigate a case or multiple cases over time, allowing for a more in-depth investigation [61–63].

The principal investigator facilitated the discussion of interviews with respondents, while other member assistants recorded the interviews in their field memos, providing information for further analysis. Each of the session began with general questions to trigger discussion between the researcher and the respondent. An example of such a question is “What are the determinants factors as a competitive advantage in driving Malaysian franchise entrepreneurs to expand into the global market?”. At the end of the interview session, the conclusion was summarized, and the lead researcher thanked the respondents for their participation. Thus, a protocol discussion was held with the franchisors for the present study, and each interview and discussion took about 40 to 50 min to be completed.

3.4. Data Analysis

For this study, thematic analysis was used by the researchers in order to analyze the grounded data and produce related findings to answer the research questions. The researchers used thematic analysis in analyzing the informative, rich, and trustworthy research findings in this study [62]. Basically, qualitative data analysis can be broken down into five (5) steps, namely gathering, disassembling, reassembling, analyzing, and concluding [64]. The verbatim interview transcriptions were also analyzed using Atlas.ti software package version 9.0. Atlas.ti also offered support services for the researchers during the data analysis phase, which included coding and annotation when analyzing and interpreting the interview texts. Furthermore, this software provided a detailed outline of the research project which was known as the hermeneutic unit in Atlas.ti, as well as a search and retrieval tool [65,66].

The data analysis process was carried out in three (3) stages. First, the data analysis process involved close readings of word-by-word transcriptions on the transcript of the interview. The second stage consisted of re-reading the transcript, extracting all themes and grouping them into general categories that contained smaller subthemes by equation. In the third and final stage, the content of each theme was analyzed and interpreted in accordance with the context in the study. Themes and subthemes were selected with the consent of all researchers and then shown to the respondents for validation of the data.

4. Findings and Discussion

The study population consisted of 10 (ten) franchisors from the food and beverage industry. Table 1 showed a summary of the sociodemographic characteristics of the participants who have participated in this research.

Table 1. Sociodemographic characteristics.

Participant Code	Category	Countries of Expansion	Participation
Participant (P1)	Fast Casual	China, Thailand, Korea, Saudi, Indonesia, Dubai	In-depth interview
Participant 2 (P2)	Casual Dining	Taiwan	In-depth interview
Participant 3 (P3)	Casual Dining	Indonesia	In-depth interview
Participant 4 (P4)	Quick Service Restaurant	Singapore, Brunei, China, India, Sri Lanka, Bahrain, Kuwait, Qatar, Saudi Arabia, U.A.E, Iran, Syria, Azerbaijan, Maldives, Indonesia, Myanmar, Thailand, Tanzania	In-depth interview
Participant 5 (P5)	Casual Dining	Singapore, Indonesia, Brunei	In-depth interview
Participant 6 (P6)	Casual Dining	Singapore, Indonesia, Australia, China	In-depth interview
Participant 7 (P7)	Fine Dining	Singapore, Indonesia, Thailand, Sri Lanka, Myanmar, Oman, Japan, Bangladesh, Qatar, United Arab Emirates, Brunei and Maldives	In-depth interview
Participant 8 (P8)	Casual Dining	Singapore, Indonesia, Thailand, China, Brunei, Cambodia, Myanmar, Maldives, Bangladesh	In-depth interview
Participant 9 (P9)	Quick Service Restaurant	Australia, Bangladesh, Brunei	In-depth interview
Participant 10 (P10)	Fast Casual	China, Vietnam, Myanmar, Brunei, Philippines, Australia and United Kingdom	In-depth interview

Interview analyses were performed with information gathered from in-depth interviews of five (5) themes, with seven (7) sub-themes emerging from the analysis. All themes and sub-themes were included in the broader category related to determinants of global expansion indicated in Table 2:

Table 2. Distribution of themes and subthemes.

Themes	Sub-Themes	List of Participants									
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Franchise Brand	Well-known brand				X						
	Brand uniqueness		X				X				
Business Location	Malaysian brand	X						X			
	High traffic location	X					X				
Product	Good facilities				X						X
	Product differentiation	X		X							
Advertising and Promotion	Product uniqueness				X					X	
	International exhibition							X			X
	Celebrity influencer					X					

4.1. Franchise Brand

The respondents reported that building a well-known, strong, and recognizable name is the core of smart marketing in the franchise business. Additionally, the existing strategies for marketing plans reflected the franchisor’s target demographics in order to attract customer attention and in turn grab market share in the international market.

4.1.1. Well-Known Brand

As highlighted by the respondents, having a strong and well-known franchise brand also served as building customer recognition. This is seen when customers tend to buy the products or services of a particular brand of the franchise based on the brand. Furthermore, customers are more likely to choose a brand they know rather than something they do not know, even if they do not know much about the franchisor’s company at the time. It was reported that a well-known and popular brand makes it easier for franchises when expanding into the global market because it is already known and has its own customers.

“One of the reasons why the franchisor is able to enter the global market is because of its brand . . . if we look at it in terms of the brand itself . . . our own brand shows its strength to penetrate other countries . . . our brand is also well-known and popular”—P4

4.1.2. Brand Uniqueness

The recognition and enhancement built through brand uniqueness are capable of producing higher customer loyalty. The current trends indicated that most customers were more inclined toward and attracted to a unique franchise brand. When franchisors had a unique brand, they were able to provide quality products and services to their customers around the world. Therefore, a unique brand leads to good and widespread market expansion. Additionally, the uniqueness of a franchisor's brand differentiates them in the market. When customers get to know the franchisor's brand, it helps in terms of giving them a competitive advantage in the international market. Customers come to recognize the franchisor's brand, thus increasing the ability and acceptance of their brand not only in the local market, but also in the international market.

"Due to the uniqueness of the products under our brand, it is actually one of the factors why other investors from other countries are interested in this brand. Surprisingly, the customer base from various countries loves our brand because of the unique taste of our products . . . and as such, it creates opportunities for our brand to expand into the global market"—P6

"Our brand itself already has customers and fans to our menus . . . we see the opportunities and strengths from our brand . . . the potential and uniqueness of our brand is what makes us want to always expand it"—P2

4.1.3. Malaysian Brand

The respondents emphasized that having a robust Malaysian franchise brand name is also paramount for their master franchisees to become successful. Furthermore, Malaysian franchise brands owned by a local franchisor have also proven to be well known in the global market and served in building customer recognition. This can be seen when the customers always bought a certain Malaysian brand franchise product, such as food and beverages. The customers were more likely to choose a brand of franchise product that they already knew, as opposed to something unfamiliar, because it is more flexible and meets the customer needs.

"Our franchise brand has been in the Malaysian market for a long time and of course we started more than 10 years ago . . . so after we built the brand, we made sure the brand exposure was in the country of origin especially Malaysia . . . so after that we started advertising ourselves as a Malaysian brand globally"—P7

"Basically, the advantage we have is that we are a brand because we are a Malaysian brand . . . we are a local company . . . So, the opportunity for us to go to the global market is greater once our brand is saturated in the Malaysian market . . . the added value available through Malaysian franchise brands makes us have customers in the global market"—P1

4.2. Business Location

The respondents claimed that outlet selection plays an important role in promoting a franchise business in global market. The appropriate outlet location is a strategy to master attracting customers. Furthermore, the majority of the franchisors agreed that a good location is one of the important strategies for the success of a franchise business in the international market.

4.2.1. High Traffic Location

For franchisors, the advantages of opening franchise outlets in busy areas can include increased revenue and increased marketing exposure. Among the obvious most important factors regarding location in the success of a franchise business are busy areas and the availability of ample foot traffic, both of which can make a location strategic. Clearly, the franchisors will study the market and the location proposed by their prospective franchisees before agreeing to a proposed location in a country in the international market.

The selection of a strategic location is vital in the franchise business because it enhances the franchise outlet becoming visible and popular among visitors and customers.

“Location is one of the important factors. We will study and research the location before we decide to open a new outlet in one location. We will research first and will select areas with high traffic rates such as office areas, housing and shopping malls”—P1

“Our products are food and beverages where our customers come from various age categories. Therefore, we target shopping malls because there is a high traffic rate where everyone regardless of age often visits there. The number of visitors is also high if we open an outlet in the shopping mall”—P5

4.2.2. Location with Good Facilities

The respondents agreed that placing franchise businesses in areas that provided good facilities, such as public transportation facilities and parking areas, could attract more customers to come to their outlets. In fact, location can also affect a franchisor’s ability to market their brand, the competition faced by other brands, and marketing ability. When franchisors conducted market research between countries, they studied targeted demographic patterns to determine an appropriate location to open a franchise outlet. A large number of franchisors tend to invest in strategic locations with good facilities rather than in locations that are not suitable for the products and services they have offered in the market.

“As a food and beverage business, we are very location oriented . . . as a franchisor, we will choose locations that have good facilities and lots of . . . facilities such as access to public transport and parking areas can facilitate. This also affects the number of visitors”—P4

“Before going to the international market, we will study the country we will go to, which is the location where we will open our new outlet. We prefer locations that provide various facilities, for example, there are parking and various public transports . . . this will make it easier for customers. With facilities available in our outlet area”—P10

4.3. Product

The respondents emphasized that they must ensure that they offered a higher quality product while being more marketable and more attractive. Additionally, respondents stressed that good product differentiation provides goods or services advantage. Therefore, it is important to clearly communicate why their products offered better quality, lower prices, or a more effective experience than their competitors in the international market.

4.3.1. Product Differentiation

Product differentiation by franchisors is a marketing strategy that involved the respondents in making different changes in the goods or services offered in the international market to make them stand out from others. For Malaysian franchisors, the different features of their products and services were the key to attract the attention of their customers. This is because the products and services offered by the Malaysian franchisors themselves have begun to be known in the international market because of their uniqueness, such as their food and beverage products. Thus, product differentiation is a strategy designed to differentiate their products or services from other industry players that are already available in the international market. According to them, successful product differentiation demands for them to identify and deliver the qualities of a product or brand while highlighting the differences. Moreover, product differentiation goes hand in hand with developing strong value propositions to allow their products or services to become attractive in the global target markets.

“Our products are very different from other brands because they use secret recipes that are passed down from generation to generation . . . Because that’s how it tastes, the texture of our products is different from other sellers that’s why we have to control the quality”—P1

“To tailor our food to the global market, we try to diversify the menu and products available. We come up with variations on the menu and variations on the taste of the products where customers have a variety of options and menus to try”—P3

4.3.2. Product Uniqueness

Offering unique products by franchisors in the international market is an effective strategy in increasing customer’s response by providing a variety of attractive product features. Franchisors developed unique products to impress customers, appeal to various market segments and diversify the types of goods to choose from. For franchisors, they must offer unique and differentiated products and services to enable them to remain relevant so that they can penetrate the global market. Product uniqueness is critical to building a strong franchise business, especially in the highly competitive international market for the food and beverage industry.

“We have our own unique products . . . we try to maintain the concept of uniqueness by offering rice -based menus as staple foods even in the international market . . . this differentiates our products from other competing brands. Uniquely, our outlets offer Nasi Lemak menus. Usually, people eat Nasi Lemak for breakfast but in our outlets, customers are free to order at any time, that’s the difference we bring to customers”—P4

“The uniqueness of our menu is the taste and texture of the products offered . . . we want customers to taste our menu and want them to like and enjoy it . . . the taste of the food is different from where they tasted before . . . every customer has different demands, so we try to meet by offering a variety of unique menus”—P9

4.4. Advertising and Promotion

The respondents emphasized that active advertising and promotional activities allow franchisees to reap benefits while promoting a brand. As a marketing strategy, franchisors often submit many advertising programs to the franchise system when spreading the marketing and promoting their franchise brand both in the domestic and international markets. In addition, the advertising activities planned and implemented by the franchisor also benefit the entire franchise system.

4.4.1. International Exhibition

The respondents revealed that exhibition was identified as one of the approaches in general inquiries used by the franchisors in order to introduce their businesses and look for a potential business partner. International franchise exhibitions, which are organized by most countries around the world, served as powerful platforms for franchisees, industry experts and potential business partners to gather, share information and build business relationships and opportunities to penetrate into the market. At the same time, international franchise exhibitions have vested interests in observing good business partners and achieving the goals of franchisors for various marketing and advertising activities conducted during the exhibitions. These happen because franchise businesses provide opportunities to communicate with potential business partners. In many countries, franchise exhibitions were integral for respondents in marketing their products and services, and, most importantly, they were able to look for potential franchisees in their quest to open their franchise business outlets in the international market.

“To advertise our brand globally, we are actively involved in international franchise exhibitions, trade missions and business matches. We are always active in

doing marketing for the purpose of creating awareness of the products we offer as well as finding potential franchisees”—P7

“We participate in international franchise fairs as this is a good platform for us to disseminate information about our products, as well as find potential business partners to become our franchisees”—P10

4.4.2. Celebrity Influencer

Promotional activities played an important role in providing awareness about the products or services offered by the franchisor in the market. For some franchisors, they adapted marketing methods and promotional activities based on the culture and market trends of a country. The trend nowadays is to use celebrities for promotional purposes; the average customer is more interested in trying a product due to the images and influence brought by the celebrity.

“For promotional purposes, we diversify our marketing methods . . . in each country, the culture and interests of customers are also different. We use ambassadors or celebrities for promotional purposes. Customers nowadays like celebrity attractions, so we must be creative. We have to see what which customers like and how interesting it is to try our products. We also invite celebrity to visit our outlets as one of the promotional activities”—P5

5. Discussion

The aim of this study is to explore and identify the determinants for Malaysian franchisors’ expansion into global market. This study is based on the experience of franchisors where their business has saturated in the local market and has begun expanding into the global market.

According to the respondents, having a good brand is one of the determinants for Malaysian franchisors for global expansion. Branding should be conceived of as a mechanism that can compel a company’s entire workforce to work towards a common goal [67]. The capability of a business to have a major effect on consumer environments can be enhanced by developing its own brand [68]. In addition, the consumer’s expectations and feelings about a product and its success are represented by the brand [68,69]. This study is aligned with a past study by Abd Aziz et al., where these scholars discovered that brand is one of the most important factors in determining the survival level of a franchise business in the international market [13]. Franchisors with established and well-known brands have a competitive advantage to remain competitive and strengthen their marketing strategies [40]. Meanwhile, another study by Abd Aziz et al. also highlighted the importance of brand equity in franchising, whereby developing brand equity enabled franchise businesses to successfully connect with their customer base in a way that fosters brand loyalty and helps company expansion [28]. Indeed, brand name and format facilitate, influence, and decide the franchise business’ survival in the competitive international market [70,71].

Next, the respondents noticed that making the right location choices were crucial for a franchise’s success [72,73]. This aligned with a past study by Minai, who discovered the importance of location in the growth of entrepreneurship and small businesses in Nigeria and, thus, proposed that location must be given an immediate consideration as a critical factor that will positively affect business efficiency [74]. Other studies by Strydom found that convenience, especially in regional shopping malls, is important because consumers perceive restaurant franchises as locations located in larger shopping areas that can be seen as a ‘one stop shop’ destination offering a combination of products and services [75]. Likewise, convenience and facilities play important roles when consumers choose retail malls. This finding confirms that site selection is based on shop distance and free store factors, such as service quality, cost of time and effort [76].

Furthermore, the respondents also claimed that the consequences of franchises are determined by brand name [77]. This finding is aligned with a past empirical study

by Nyadzayo et al., where these scholars explored the franchisee’s perception of their franchisor’s brand and found that franchisors played an important role in promoting the brand, which in turn enhanced brand equity [78–81]. Additionally, this study also delivered an understanding on how to manage franchising brands successfully and provided new thoughts on brand relationships in a franchise market. Thus, franchising is moving rapidly as a conventional organization because of brand names and sustainability. In recent times, many franchising firms have expanded themselves into international markets, since this system provides many brand supports [71].

The respondents indicated that advertisement is a type of marketing communication that is used to persuade, motivate, or manipulate a target audience to take or continue to perform certain activities [82]. Advertisements have a vital function in attracting customers. Furthermore, assessing the effectiveness of an advertisement’s communication reveals whether the advertisements and media were effective in communicating the advertisement’s message [69]. Advertising played a significant role in marketing decisions, as it promoted products to the customers. The findings of this study are in line with previous studies by Buljubasic et al., who found that effective promotional methods would be able to attract a large number of customers [83]. Promotional and advertising activities were also of great assistance to franchisors in attracting a large number of new customers or existing customers to try out their products and services [84].

The respondents have highlighted that product differentiation is an important feature in business. Product differentiation is the process of distinguishing one product from another; this may include significant differences in consistency, reliability, efficiency, or design [85]. Past research has been done on “Marrybrown”, which was the first major fast food franchise company that conceptualized and developed the idea of “Something Different” in its product offerings. With various locations in Malaysia, China, Indonesia, India, Sri Lanka, Maldives, Africa, Middle East, and Myanmar, “Marrybrown” has a large international presence worldwide. “Marrybrown” has served people from all walks of life because its products are affordable, different, unique, and prioritized production that met customer needs; additionally, this brand has facilitated brand loyalty and offers exclusive menus [86]. Based on these findings and discussions, this study proposes several propositions (please see Table 3).

Table 3. Propositions.

Themes	Sub-Themes	Propositions
Franchise Brand	Well-known brand	P1a: The more well-known the franchise brand name, the more likely Malaysian franchisors’ expansion into the global market.
	Brand Uniqueness	P1b: The more unique the franchise brand name, the more likely Malaysian franchisors’ expansion into the global market becomes.
	Malaysian Brand	P1c: The higher the popularity of a Malaysian brand, the higher the likelihood for Malaysian franchisors to expand into the global market.
Business Location	High traffic location	P2a: The higher the traffic in a location known by Malaysian franchisors, the more likely their expansion is into the global market.
	Good facilities	P2b: Good facilities in a location is positively associated with Malaysian franchisors’ expansion into the global market.
Product	Product Differentiation	P3a: The higher the product differentiation offered by the Malaysian franchisor, the higher the likelihood of expanding into the global market.
	Product Uniqueness	P3b: The higher the product uniqueness offered by the Malaysian franchisor, the higher the tendency to expand into the global market.
Advertising and Promotion	International Exhibition	P4a: The more international exhibitions that Malaysian franchisors participated in, the higher the networking built for expansion into the global markets.
	Celebrity Influencer	P4b: Celebrity influencers are positively associated with Malaysian franchisors’ expansion into the global market.

6. Conclusions

This study suggested that franchisors, as business owners, should have to scrutinize the relevant determinants before deciding to expand into the international markets. These determinants assisted franchisors in expanding the potential of the franchise business and increasing their competitiveness. The findings showed four determinants for global franchise expansion, namely: (i) franchise brand; (ii) business location; (iii) product; and (iv) advertising and promotion.

Well-known and popular franchise brands identified a seller's product from a competitor's product. For franchisors, branding is one of the key elements in the marketing mix, because it does not only accommodate an unforgettable impact on customers, but also provide the customers and the prospective franchisees a chance to know what to expect from their company. In addition, product differentiation is a vital element. Product differentiation is a way for franchisors to differentiate their company from the competitors, and explain what they offer, as well as what makes them a better choice.

Moreover, business location is key to successful operations and overall growth of franchise businesses, with consideration of strategic locations in developing their businesses being essential in the global market. Last but not least, promotional and advertising activities were also among the most important elements, as they help in promoting the franchisor's brand and products directly to both customers and prospective franchisees.

7. Limitations and Future Research Directions

There are some limitations in this study. The first sample in this study is a case from a franchisor; future studies may be from the aspect of the franchisee's experience in exploring the same field of study. Secondly, this study has a limited focus on the food and beverage franchise sector and may not provide significant results regarding the determinants that drove other franchisors in various other industries in seeking to enter the global market. Finally, due to the nature of the case study, no conclusions can be drawn for other industries that are unrelated to the Malaysian franchise industry. Therefore, other similar studies need to be done on other franchise business categories using other salient methods [87]. The findings are also expected to assist the government and the agencies involved with franchising in improving related policies, strategies, and programmes. Additionally, this study showed the determinants for global franchise expansion and contributed to the existing literature on international franchising.

Supplementary Materials: The following are available online at <https://www.mdpi.com/article/10.3390/su131810328/s1>. Document S1: Interview protocols on the Determinants of Global Expansion: A Study on Food and Beverage Franchisors in Malaysia.

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Article

Influence of Cross-Listing on the Relationship between Financial Leverage and R&D Investment: A Sustainable Development Strategy

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Abstract: Investment in research and development (R&D) is an important sustainable strategy for firms in developing unique products to own their differentiation and competitive advantages. Financial leverage is influential in R&D investment. However, previous studies identified different relationship between financial leverage and R&D investment. This study revisits this puzzle from a unique perspective that targets firms undertaking international cross-listings. This specification allows us to test whether firms are willing to prioritize R&D funding when debt capacity is enhanced. This is a new perspective that has never been explored in the relationship between debt financing and R&D investment. We find that the launch of cross-listing significantly increases the level of firm financial leverage, which is followed by a significant increase in corporate investment in R&D. The aggressive strategy of cross-listing firms that enhance financial leverage to support more investment in R&D further significantly influences their industrial rivals to increase investment in R&D as a responding strategy. Overall, these results show that firms exploit the timing of international cross-listing to increase their leverage to further fund R&D, which also stimulates an intra-industry contagion effect. Our findings suggest a new viable path for funding R&D that carries important implications for corporate sustainability.

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Keywords: cross-listing; financial leverage; R&D investment; corporate sustainability

1. Introduction

The prior literature indicates that firms with sufficient funds to invest in research and development (R&D) can create sustainable development advantages and accumulate intangible assets [1–4]. This study aims to investigate the relationship between financial leverage and R&D investment. Financial leverage is conceptualized as the debt-to-assets ratio which describes the source of firm financing from debt relative to equity. Opler and Titman [5] consider that it is important for firms to take debt financing on R&D investment. R&D capacity is critical to the long-term sustainability of firms, as it develops firms' abilities to enhance their product uniqueness and novelty, which increases customer loyalty and their switching cost to rival firms. Thus, customers tend to be highly concerned about the firm's long-term sustainability as they are highly dependent on continuous support from the firm [6]. Conversely, if a firm's product is substitutable, it is easy for customers to switch to other suppliers without incurring high switching costs. This suggests that firms should attempt to conduct significant R&D investments to increase their product uniqueness and differentiation from rival firms, as this can increase customers' switching costs and sustain a firm's development advantage.

A great amount of investment in R&D facilitates the development of greater product uniqueness and increases a firm's competitiveness, but on the other hand, R&D activities are characterized by a high failure rate, particularly those having a high degree of

uniqueness [7]. This leads to a contradiction for the relationship between the level of financial leverage and R&D investment. In other words, firms, for the purpose of long-term organizational sustainability, particularly those in highly competitive product markets, should extensively utilize their debt capacity to fund R&D activities to enhance product uniqueness and thus firm competitiveness. By contrast, the high failure rate of R&D may make debt holders, who are not compensated for higher risk taking, hesitate to provide sufficient funding. Thus, the relationship between financial leverage and R&D investment has been found to be controversial in the literature. For the object of long-term organizational sustainability, firms should extensively utilize their debt capacity to fund R&D activities to enhance the uniqueness and innovation of products [8–10], particularly in high-tech environments or highly competitive product markets. Thus, the impact of financial leverage on R&D investment has been found to be controversial in the academic literature.

In the present study, we revisit this important issue by utilizing a unique dataset that explores the influence of cross-listing on the relationship between financial leverage ratio and firm R&D investment. We argue that one important explanation for the extant mixed findings of the relationship between R&D expenditure and leverage ratio is that prior studies do not incorporate the influence of the firm's debt capacity, that is, a firm's ability to increase debts [8–10]. We overcome this problem by targeting firms that conduct cross-listing on major U.S. stock markets to explore this relationship. According to the related literature, the introduction of cross-listing can increase a firm's debt capacity via two paths. First, the issue of American depository receipts (ADRs) implies that firms gain a significant amount of external capital from equity markets, which reduces bankruptcy risk and provides extensive financial slack for managers to raise debt financing [8–11]. Next, by cross-listing, firms must comply with more stringent disclosure requirements and are subjected to stronger laws protecting investors [12,13]. Thus, a successful cross-listing signals the market about firms' improved capital structure. Particularly, considering that U.S. stock exchanges are among the largest capital markets worldwide characterized by sophisticated investors and strict regulations of going public [12,13], it can convince the focal firm's domestic investors and bankers that the firms have improved their financial soundness, thereby facilitating their debt financing.

By observing 215 sample firms outside the U.S. that announced their first ADR programs on major U.S. exchanges during the 2010–2019 period, our study shows that cross-listing firms launch their ADR issues to increase their leverage ratios (i.e., use of debt financing) to higher proportions than before undertaking these ADR issues. The significant increase in financial leverage is accompanied by a significant increase in firms' R&D investments, which subsequently further arouse the intra-industry contagion effect that prompts their opponents to compete with R&D expenditures as responses.

While the extant findings on the relationship between financial leverage ratio and firm R&D investment remain controversial, consequences of this study can contribute to the research stream from a unique perspective, that is, by observing a sample of international businesses that undertook cross-listing on major U.S. stock exchanges. This unique specification allows us to test if a firm is willing to raise leverage to fund R&D investments when possessing the financing ability, and whether the conduct of cross-listing stimulates a rival firm's aggressive R&D financing motive. This view has never been examined in the literature. Our findings should inspire corporations to be eager for a new strategy in R&D investments to develop their sustainability.

The remainder of the study is structured as follows: First, we review the theoretical background and build the hypotheses in Section 2. Next, Section 3 presents the sample selection, variable definitions, and statistics. We then discuss the empirical results in Section 4 and provide the implications in Section 5. Finally, Section 6 gives the conclusions.

2. Theoretical Background

Previous studies indicate that a firm's sustainable competitiveness mainly derives from unique and inimitable intangible assets, such as intellectual property or patent rights,

which are mostly developed through substantial R&D investments [14]. However, R&D investments are characterized by high risk and a great amount of sunk cost, which hamper its external financing [15]. A review of the literature shows an ambiguous influence of firm financial leverage on R&D investments. First, the perspective of agency cost [16,17] argues a negative impact of financial leverage on R&D investments. The agency theory considers that the result of R&D investments leads to conflicts of interests between debt holders and shareholders. This is because, although taking the risk of R&D projects allows shareholders to gain higher risk premiums, debt holders cannot similarly share in the risk premium reward that flows from successful R&D projects as do shareholders but only gain a fixed amount of interest. However, both debt holders and shareholders suffer bankruptcy costs from unsuccessful R&D projects. The unbalanced risk–reward relationship thus makes debt holders unwilling to fund significant R&D expenditures.

Second, the information asymmetry problem further causes debt holders to reduce investments in R&D projects when managers keep information confidential for competitive reasons. Under such circumstances, debt holders have trouble with forecasting the consequences of R&D projects. Considering the unbalanced risk–reward relationship characterizing debt financing, the concern of informational asymmetry increases the difficulty that managers use debt financing for R&D projects than for other less risky capital projects [3,18,19].

Finally, from the perspective of transaction costs, the financing decision of firms counts principally on the attributes of asset properties. In particular, the level of intangibility and uniqueness of business have a negative impact on using debt financing [20]. According to transaction cost theory, intangible assets are difficult to write explicit contracts to protect and thus their transactions suffer from the great hazard of opportunism [21,22]. Meanwhile, unique firm assets are not suggested as collaterals for loans because their values are costly if deployed for other uses and could be carelessly distributed by outsiders [23]. Since R&D investments tend to create intangible and unique firm assets, R&D investments should have less debt financing to avoid their value being appropriated by other firms [20,23].

Against this view, there is an alternative perspective suggesting a positive relationship between financial leverage and R&D investment. For example, the disciplinary role of debt can have a positive impact on managerial behavior, leading to managerial investment in projects with positive net present value [24]. This is because corporate debt requires firm managers to generate cash to meet interest and principal obligations; thus, managers' willingness to undergo monitoring by external financing markets signals their prudent use of firm capital [25]. R&D projects undertaken under a high debt ratio thus are expected to create firm value because of the effective outside monitoring. Consistent with this viewpoint, a previous study finds that R&D expenditures of firms with a high debt ratio create significantly positive abnormal returns [26].

We revisit the conundrum by analyzing cross-listing events on major U.S. stock exchanges, a new perspective never used to study the impact of financial leverage (i.e., debt ratio) on R&D investment. The previous studies indicate that firms implement cross-listing introductions to obtain an international reputation and greater financial resources [4,27,28]. These cross-listing activities positively advance both firm growth and corporate value. This is especially true considering that U.S. stock exchanges have been recognized as the most representative in the world, where many foreign businesses from different countries eager to cross-list attempt to do so [12,13]. A successful ADR cross-listing can significantly enhance a firm's reputation and convince the external capital market that the firms have improved their debt capacity. Further, due to the strict regulations of the United States Securities and Exchange Commission (SEC), a successful cross-listing can signify that firms have advanced their competitiveness and financial soundness. The reputational advantage of successful cross-listing facilitates an increase in leverage ratio higher than before undertaking the cross-listing. Due to the importance of R&D investments for firms' sustainability and long-term prosperity, we consider that cross-listing firms take advantage

of the increased debt capacity to fund more R&D investments relative to other activities. These arguments result in the succeeding hypotheses.

Hypothesis 1 (H1). *Foreign firms launch the ADR cross-listing (as successful issue of ADR in the U.S. stock exchanges significantly increases a firm's reputation) to increase the use of debt financing to an even higher proportion (i.e., raise their leverage ratio higher by utilizing the reputation effect brought by the successful issue of ADR) compared with the time before cross-listing in the U.S. stock exchanges.*

Hypothesis 2 (H2). *When cross-listing firms increase the leverage ratio, they use a greater amount of debt to conduct more R&D investments.*

Finally, due to the increasingly competitive globalized environment, we argue that the aggressive strategy of cross-listing firms that greatly increase their debt financing to fund more R&D investments also prompts their industrial rivals to adopt similar strategies as responses. As the perspective of product market competition states, for a firm that has highly differentiated products, customers become highly reliant on continuous support from this firm, which enhances the switching cost of customers and consequently the competitive strength of firms [6]. The literature shows that firms who adopt aggressive R&D investment strategies typically survive in an industrial environment characterized by a highly competitive industry structure [15]. Under such a competitive environment, for one firm that successfully cross-lists to fund more R&D signals than opponents, then its R&D capacity is enhanced due to better access to international resources. We think that industrial rivals similarly increase their R&D investment to avoid being outraced by focal firms that increase financial leverage to fund more R&D investment. Thus, we have the argument as follows:

Hypothesis 3 (H3): *The aggressive R&D financing strategy (a significant increase in R&D investments using greater financial leverage) of cross-listing firms arouses a contagion effect pushing industrial rivals to also enhance their R&D investments in response.*

3. Research Methodology

3.1. Sample Selection

These sample firms consisted of stocks traded outside the U.S. that announced their first ADR programs to list on the U.S. stock exchanges including AMEX, NASDAQ, and NYSE. These sample firms were obtained from the Bank of New York. Following the related literature on financial leverage, we did not include financial firms with SIC codes from 6000 to 6999 and utilities with SIC code from 4900 to 4999 into the sample. To avoid other impacts that contaminate our findings, we excluded firms that trade Level I ADR (OTC), privately placed ADR, and offshore ADR (SEC Rule 144A/Regulations) [29]. Further, we eliminated cross-listing firms if their financial information was unavailable from the Center for Research in Securities Prices (CRSP) database and the Compustat database.

We then used this process to adopt the firms increasing the amount of their debt financing that is, those who raised significant debts compared to their existing firm assets before undertaking cross-listing. This procedure helped to ensure that our sample firms could raise abundant debts via cross-listing and had these financial resources to expand R&D expenditures. The measurement of debt financing was calculated as:

$$\text{Debt Financing} = (\text{Long-term Debt}_0 - \text{Long-term Debt}_{-1}) / \text{Asset}_{-1} \quad (1)$$

Following the definition of debt financing as in [10], we measured debt financing as the difference between long-term debts in the cross-listing year and long-term debts in the prior year and then divided by lagged firm assets (the unit of percentage).

Because this study concentrated on the competition in the market, the samples were further restricted to obey these criteria: (i) the minimum of debt financing in year 0 (the year

of the ADR event undertaking) was 2% of the amount of firm assets in year -1 (the year prior to the ADR event launching); (ii) the minimum in an industry was two firms; (iii) the minimum in the market share was 1%; (iv) we could acquire their R&D expenditures in the Compustat database from year -1 to year 0 (named as year $[-1, 0]$); and (v) firms were not involved in any mergers and acquisitions in year 0.

Finally, we collected the sample of rival firms in the U.S. stock markets including AMEX, NASDAQ, and NYSE from 2010 to 2019. The rival firms belonged to U.S. corporations and their four-digit SIC codes were the same as the four-digit SIC codes of the cross-listing firms [30–32]. We adopted these firms to be the sample firms and rival firms. The samples of 215 firm events raising the amount of debt financing in the period 2010–2019 were identified. Because of these constraints, the minimum in every event window was two years. Thus, the competitive impact in this study could be attributed to the chosen event during the following two years.

3.2. Descriptions of Variables

3.2.1. Dependent Variable

Obtaining the data of R&D investments from the Compustat database, we then estimated the difference in R&D in year 0. In Equation (2), on the basis of [2,7,14,15,19], we defined this variable, and it was equal to the R&D expenditure in year 0 minus the R&D expenditure in year -1 and then divided by firm assets in year -1 . Thus, the measurement of the dependent variable was expressed as follows:

$$\Delta R\&D_0 = (R\&D_0 - R\&D_{-1}) / Asset_{-1} \quad (2)$$

Moreover, we calculated the industrial modified difference in R&D expenditure. We computed these R&D investments of sample firms and those of industrial rival firms. The industrial modified difference in R&D expenditure was equal to the change in R&D of a sample firm in year 0 minus the mean of the changes in R&D of the others with the same four-digit SIC code in year 0.

3.2.2. Independent Variable

While the issue of ADR increased a firm's equity share, we questioned whether cross-listing firms would utilize the reputation brought about by the successful ADR issue to increase their financial leverage ratio (i.e., the amount of debt financing) to an even higher proportion than before undertaking the ADR issue. In Equation (3), according to [8–11,33], we calculated the difference of leverage as follows:

$$\Delta Leverage_0 = [(Long-term Debt_0 + Short-term Debt_0) - (Long-term Debt_{-1} + Short-term Debt_{-1})] / (Asset_{-1}) \quad (3)$$

Following [8–11,33], we measured the difference of leverage by the change between the sum of long-term and short-term debts in year 0 and the sum of long-term and short-term debts in year -1 . We used this variable, $\Delta Leverage_0$, as the measurement of increase in leverage ratio in this study.

3.3. Descriptive Statistics

Table 1 presents the distribution of our sample firms according to the year when they launch the ADR cross-listing, as well as the amount of debt financing as defined by Equation (1). First, we find a slowly growing trend in the cross-listings. Further, we discover that the amount of debt financing increases stably measured by either mean or median of debt financing. The mean of debt financing in all samples is 15.31%, and its median is 15.69%. As the mean was almost equal to the median, the result shows that the distribution of sample is nearly symmetrical (i.e., without outliers). Finally, the significant positive mean and median values of debt financing across the event years suggest that most sample firms use significant debt financing along with the launch of cross-listings.

Table 1. Sample distribution and debt financing by year.

Year	Observations	Debt Financing (%)	
		Mean	Median
2010	21	12.62	12.98
2011	23	13.36	13.87
2012	18	14.47	14.82
2013	24	15.23	15.56
2014	28	15.32	15.64
2015	25	15.62	15.78
2016	30	15.88	16.12
2017	21	16.15	16.34
2018	16	16.32	16.56
2019	43	16.57	17.38
Total	215	15.31	15.69

4. Empirical Results

4.1. Univariate Analysis

We conducted a univariate analysis to examine Hypothesis 1. First, we computed the debt financing by Equation (1) to choose those firms whose minimum of debt financing in year 0 was 2% of the amount of firm assets in year -1 . Next, for those achieving the minimum of debt financing threshold, we then calculated their difference in leverage by Equation (3). The results are summarized in Table 2.

Panel A shows the results of all sample firms. We find that the difference in leverage (Δ *Leverage*) is positive with the mean value of 3.30% and median value of 3.15%. The result is consistent with Hypothesis 1, suggesting that firms would introduce the ADR cross-listing to increase the leverage ratio to a higher level than before cross-listing. Panel B shows the results of the subsample of leverage-increasing firms (those with positive value of Δ *Leverage*). We find that in year -1 , the leverage ($Debt/Asset_{-1}$) of cross-listing sample firms is slightly lower than that of their industrial rivals; the mean (median) of leverage for sample firms is 19.12% (18.87%), and their rivals' mean (median) is 19.35% (19.56%). However, in year 0, the mean (median) of leverage ($Debt/Asset_0$) for the leverage-increasing subsample is 22.54% (23.16%), both being higher than their rivals' mean (17.86%) and median (17.95%). Furthermore, their mean and median of Δ *Leverage* is 7.23% and 7.18%, respectively, both being much higher than those of all samples.

Panel C reports the results of the subsample of leverage-decreasing firms (those with negative value of Δ *Leverage*). In year -1 , their mean of leverage ($Debt/Asset_{-1}$) is 21.04%, and median is 17.32%, both being higher than their rivals' mean (10.21%) and median (10.52%). By contrast, in year 0, their mean (median) of leverage ($Debt/Asset_0$) is 10.33% (8.95%), both being slightly lower than their rivals' mean (11.32%) and median (11.05%). Furthermore, for the leverage-decreasing subsample, their mean and median of Δ *Leverage* are -4.18% and -4.52% , respectively, both being lower than those of all sample.

Table 2 also compares the number of leverage-increasing firms (141) versus the number of leverage-decreasing firms (74). The result of greater number of leverage-increasing firms in contrast to leverage-decreasing firms suggests that a majority of firms take advantage of the ADR issuing to increase their leverage ratio to above that of their rivals. Overall, these univariate test results support Hypothesis 1.

We provide the differences in R&D expenditures in Table 3. There are three panels: all firms in Panel A, leverage-increasing firms in Panel B, and leverage-decreasing firms in Panel C, respectively. We measured the unmodified change through the difference in R&D expenditures in year $[-1, 0]$ divided by firm assets in year -1 . The industrial modified difference was equal to the unmodified difference in the sample firm minus the mean of the unmodified difference in the rest of firms in an industry. For Hypothesis 2, we report the results of conducting a univariate analysis in Table 3. These values of all sample analyses are found in Panel A. The unmodified values of R&D expenditures and industrial

modified values are reported. We find that the mean of the unmodified differences in R&D expenditure increased by 1.88% ($p < 0.05$) in year $[-1, 0]$, increased by 2.54% ($p < 0.05$) in year $[-1, 1]$ and increased by 3.85% ($p < 0.05$) in year $[-1, 2]$, respectively. These results indicate that firms continued to input R&D expenditures for at least 2 years after raising debt financing.

Table 2. Statistics descriptions.

	Mean (%)	Median (%)	S.D. (%)	Observation
A. All sample				
<i>Debt financing</i>	15.31	15.69	6.62	215
Δ <i>Leverage</i>	3.30	3.15	3.44	215
<i>Debt / Asset</i> ₋₁	19.78	18.34	14.16	215
<i>Debt / Asset</i> ₀	18.34	18.27	13.91	215
<i>Debt / Asset</i> ₋₁ of rival firms	16.20	16.45	12.76	215
<i>Debt / Asset</i> ₀ of rival firms	15.61	15.58	11.77	215
Number of firms in the industry	14.34	13.00	12.84	215
Herfindahl index	1211	8.23	2.14	215
Market share of all firms	7.30	6.53	12.22	215
B. Leverage-increasing firms				
<i>Debt financing</i>	10.19	10.21	4.83	141
Δ <i>Leverage</i>	7.23	7.18	3.58	141
<i>Debt / Asset</i> ₋₁	19.12	18.87	13.51	141
<i>Debt / Asset</i> ₀	22.54	23.16	15.38	141
<i>Debt / Asset</i> ₋₁ of rival firms	19.35	19.56	14.45	141
<i>Debt / Asset</i> ₀ of rival firms	17.86	17.95	13.24	141
Number of firms in the industry	14.00	13.00	12.47	141
Herfindahl index	13.57	8.83	2.29	141
Market share of leverage-increasing firms	8.23	7.41	13.22	141
C. Leverage-decreasing firms				
<i>Debt financing</i>	25.07	26.13	10.02	74
Δ <i>Leverage</i>	-4.18	-4.52	3.18	74
<i>Debt / Asset</i> ₋₁	21.04	17.32	15.41	74
<i>Debt / Asset</i> ₀	10.33	8.95	11.12	74
<i>Debt / Asset</i> ₋₁ of rival firms	10.21	10.52	9.54	74
<i>Debt / Asset</i> ₀ of rival firms	11.32	11.05	8.98	74
Number of firms in the industry	15.00	13.00	13.54	74
Herfindahl index	9.33	7.08	1.85	74
Market share of leverage-decreasing firms	5.53	4.86	10.32	74

The mean of industrial modified differences in R&D expenditures is positively significant with the value of 0.83% ($p < 0.05$) in year $[-1, 0]$. The mean of industrial modified differences in R&D expenditures in year $[-1, 1]$ is 0.98% ($p < 0.05$) and in year $[-1, 2]$ is 1.37% ($p < 0.05$), respectively. Overall, we find that the cross-listing firms' R&D expenditure increases industrial rivals in the cross-listing year and the two subsequent years.

In Panel B, we illustrate the results of leverage-increasing firms. The unmodified difference in R&D expenditures of leverage-increasing samples increased significantly by 2.05% ($p < 0.05$) in year $[-1, 0]$. In year $[-1, 1]$ and year $[-1, 2]$, the means of unmodified differences in R&D expenditures are significant at 2.68% ($p < 0.05$) and 3.83% ($p < 0.05$), respectively. Further, the mean of industrial modified differences in R&D expenditures in year $[-1, 0]$ is 0.88% ($p < 0.05$). This shows that the leverage-increasing firms increased their R&D expenditures higher than those of their industrial rivals. The mean of industrial modified differences in R&D expenditures in year $[-1, 1]$ is also significantly positive at 1.15% ($p < 0.05$) and maintains the significantly positive value of 1.36% ($p < 0.05$) in year $[-1, 2]$. These results indicate that during the cross-listing period, the leverage-increasing

firms were more aggressive in raising R&D expenditures than their industrial rivals, which is consistent with Hypothesis 2.

Table 3. Differences in R&D expenditures.

Initial Amount (%) of $R\&D_{-1}/Asset_{-1}$	Differences in R&D Expenditures (%)			
	2 Year Period: Year [-1, 0]	3 Year Period: Year [-1, 1]	4 Year Period: Year [-1, 2]	
Panel A. All firms (N = 215)		Unmodified values		
Mean	3.26 *	1.88 *	2.54 *	3.85 *
Median	3.78 *	1.54 *	2.65 *	3.96 *
		Industrial modified values		
Mean	1.15 *	0.83 *	0.98 *	1.37 *
Median	0.12	0.25 +	0.36 *	0.58 *
Panel B. Leverage-increasing firms (N = 141)		Unmodified values		
Mean	3.42 *	2.05 *	2.68 *	3.83 *
Median	3.95 *	2.12 *	2.82 *	4.12 *
		Industrial modified values		
Mean	1.26 *	0.88 *	1.15 *	1.36 *
Median	0.45 *	0.38 *	0.47 *	0.61 *
Panel C. Leverage-decreasing firms (N = 74)		Unmodified values		
Mean	1.25 +	0.83	1.11 +	1.28 +
Median	1.16 +	0.82	1.12 +	1.25 +
		Industrial modified values		
Mean	0.53	0.47	0.52	0.62
Median	0.30	0.17	0.25	0.38

The significance levels are according to a two-tailed *t* test by Wilcoxon rank test. * and + are significant at 5 and 10%, respectively.

For comparison, we also analyzed the subsample of leverage-decreasing firms. The results are reported in Panel C. Compared to the leverage-increasing firms, these leverage-decreasing firms have a positive mean of unmodified differences in R&D investments in year [-1, 0], which is insignificant at 0.83%. Similarly, the means of industrial modified differences in R&D expenditures of these leverage-decreasing firms in year [-1, 0] (0.47%), year [-1, 1] (0.52%) and year [-1, 2] (0.62%) are all positive but insignificant.

4.2. Regression Analysis

The prior literature [34,35] indicated that it was necessary to control variables that may influence R&D expenditure, including the growth in firm assets, the amount of R&D expenditures in year -1, market share, and several industrial structure variables. It was noteworthy that since R&D investments were found to be a continuous event that may last for 2-3 years after launch, we used three time-window years [-1, 0], year [-1, 1], and year [-1, 2], respectively, for more robust results [36]. We considered the linear regression model from these studies [2,7,14,15,19] as follows:

$$\Delta R\&D_{it} = \beta_{0t} + \beta_{1t} Ddebt_t + \beta_{2t} \log(H\ index)_i + \beta_{3t} \text{Number of firms in the industry}_i + \beta_{4t} \text{Market share of sample firm}_i + \beta_{5t} \text{Industrial modified amount of } R\&D_{-1i} + \beta_{6t} \text{Industrial modified growth ratio of firm assets from year } -1 \text{ to year } t_i + \varepsilon_{it}, \tag{4}$$

The difference in R&D expenditures of all firms was the dependent variable. The industrial modified R&D expenditures from year -1 to year *t* for firm *i*, where *t* was equal to 0, 1, and 2 depending on different time windows (i.e., time-window year [-1, 0], year [-1, 1], and year [-1, 2]). *Ddebt* took a value equal to 1 in the case of the increases in leverage, and zero otherwise. We named the logarithm of the Herfindahl index as log

(H index). The number of firms in the industry was the total number of firms in the industry. We adopted the industrial modified amount of R&D expenditures in year -1 to control the changes of R&D expenditures in these ADR events. We also used the industrial modified growth ratio of firm assets to control the changes in the growth ratio of firm assets in these ADR events. We also measured the standard errors of these coefficients due to heteroscedasticity [37].

The empirical results of the regression analysis are found in Table 4. First, about the effect of control variables, the coefficients of the industrial modified values of R&D expenditures in year -1 are significantly positive throughout all models (0.26, 0.34, and 0.48, respectively). This means that the effect of industrial modified values of R&D expenditures in year -1 on the R&D growth rate is a significantly positive effect ($p < 0.01$). The coefficients of the industrial modified growth ratio of firm assets are all significantly positive in all models (0.12, 0.14, and 0.15). This means that the effect of the industrial modified growth ratio of firm assets on the R&D growth ratio is also a significantly positive effect ($p < 0.01$). Further, the coefficients about number of firms are significantly positive in year $[-1, 1]$ (0.03, $p < 0.05$) and year $[-1, 2]$ (0.04, $p < 0.05$), respectively. However, the coefficient of log (H index) is not significant to support the difference in R&D expenditures. The coefficient of market share is also insignificant to support the difference in R&D expenditures. After controlling for possible impacts of the control variables as suggested in the prior literature, the coefficients of debt are significantly positive in three regressions (0.02, $p < 0.05$; 0.03, $p < 0.01$; and 0.05, $p < 0.01$, respectively). We find these consistent results in Table 3, thereby further supporting Hypotheses 1 and 2. This suggests that firms increased their financing leverage to be aggressive in R&D investments in terms of undertaking more R&D investments relative to their industrial rivals. Overall, in Table 4, the results of regression analyses present that the firms whose financial leverages increased during the cross-listing period conduct more vigorous R&D investment strategies after controlling for other variables.

Table 4. Regression analysis: differences in R&D expenditures.

	2 Year Period: Year $[-1, 0]$	3 Year Period: Year $[-1, 1]$	4 Year Period: Year $[-1, 2]$
Ddebt	0.02 * (2.24)	0.03 ** (2.45)	0.05 ** (2.44)
Log(H index)	0.02 (0.56)	0.02 (0.61)	0.02 (0.63)
Number of firms in the industry	0.03 (0.32)	0.03 * (1.73)	0.04 * (1.78)
Market share of sample firms	0.02 (0.71)	0.02 (0.66)	0.04 (0.55)
Industrial modified amount of $R\&D_{-1}$	0.26 ** (2.54)	0.34 ** (2.61)	0.48 ** (2.69)
Industrial modified growth ratio of firm assets	0.12 ** (2.65)	0.14 ** (2.72)	0.15 ** (2.79)
Intercept	-1.11 (-1.32)	-1.54 (-1.24)	-1.59 (-1.32)
Adjusted R^2 (%)	12.75	12.81	12.84
Number	215	215	215

T-statistics are in parentheses. ** and * are significant at 1 and 5%, respectively.

To test if the aggressive R&D investment conducted by cross-listing firms using greater financial leverage push their industrial rivals to also enhance their R&D investment in response as suggested by Hypothesis 3, we conducted a further regression analysis to examine rival firms’ reactions to these firms’ expanding R&D investments. In this regard, we focused on the results of the 141 subsample of leverage-increasing firms and showed that R&D expenditures significantly increased post cross-listing. However, the 74 leverage-

decreasing subsample firms show the insignificant change in R&D investments around cross-listing.

To investigate the effect of competition, the firms in each rival group were separated into two categories: (1) the differences in R&D expenditures of firms from year -1 to year t were over the average in the industry; (2) these differences R&D expenditures of firms from year -1 to year t were under the industrial average. The former category was characterized by relatively aggressive firms, and the latter category comprises relatively passive firms. We examined the financing effect of these firms' financial leverage on their industrial peers and whether this effect makes these rivals aggressive or passive in R&D investments. Specifically, the logistic regression was estimated from these studies [2,7,14,15,19,38] as follows:

$$\begin{aligned}
 \text{Aggressive}_{it} = & \beta_{0i} + \beta_{1i}\text{Industrial modified leverage}_i + \beta_{2i}\text{Market share}_i \\
 & + \beta_{3i}\text{Industrial modified amount of R\&D}_{-1i} \\
 & + \beta_{4i}\text{Industrial modified growth ratio of firm assets from year } -1 \text{ to year } t_i + \varepsilon_{it},
 \end{aligned} \tag{5}$$

The dependent variable took a value equal to 1 in the case of the differences in R&D investments of rival firms being greater than the average of industrial differences in R&D investments, and zero otherwise. We measured the industrial modified leverage through the unmodified amount minus the average of the unmodified amount in the industry. The other variables had the same definitions in the above equations. The four-digit SIC codes of rival firms and those of the sample firms were the same. To explain the rivals' reactions to these sample firms, we excluded the financing-events if two or more rival firms raised their debt financing in the same year.

We present the probability of rival firms taking aggressive R&D investments in Table 5. The result of logistic regression indicates that the industrial modified leverage of the sample firms is significantly and positively related to the level of rival firms' aggressiveness in these three periods, year $[-1, 0]$, year $[-1, 1]$, and year $[-1, 2]$, thereby supporting Hypothesis 3. The impacts of both initial levels of R&D expenditure and the growth ratios of firm assets are also significantly negative throughout all models ($p < 0.01$). The effects of market share, by contrast, are insignificant in the three models. Overall, the results in Table 5 demonstrate a significant intra-industry contagion effect suggesting that the aggressive R&D financing strategies of cross-listing firms (i.e., a significant increase in R&D investments by using greater financial leverage) push their industrial rivals to also enhance R&D investment in response.

Table 5. Logistic regressions of rival firms taking aggressive R&D investments.

	2 Year Period: Year $[-1, 0]$	3 Year Period: Year $[-1, 1]$	4 Year Period: Year $[-1, 2]$
Industrial modified leverage	0.52 * (1.97)	0.64 ** (2.35)	0.67 * (2.43)
Market share	0.23 (0.41)	0.26 (0.44)	0.35 * (1.97)
Industrial modified amount of R&D $_{-1}$	-1.62 ** (-2.42)	-1.67 ** (-2.51)	-1.68 ** (-2.53)
Industrial modified growth ratio of firm assets	-0.89 *** (-2.38)	-0.84 * (-2.27)	-0.82 ** (-2.24)
Intercept	-0.49 ** (-1.97)	-0.51 ** (-1.98)	-0.54 ** (-2.12)
Number	141	141	141

T-statistics are in parentheses. ***, **, and * are significant at 1, 5, and 10%, respectively.

4.3. Robustness Testing

We adopted an instrumental variable approach to examine the robustness of our findings. It provided the evidence to support the hypotheses that changes in financial

leverage lead to changes in R&D competition not contaminated by endogeneity bias [39]. To implement this process, we first identified these related instrument variables to test the propensity of raising financing. In this aspect, the decision of firms' debt financing was obviously influenced by the financial leverage of industrial peers in the same industry [40]. Thus, it was a good proxy for firms to adopt the average of industrial leverage as the difference in leverage. Second, this study constructed a competitive strategy measure (CSM) to run the model on the basis of [41]. It was defined as the response of the change in marginal profits relative to output, compared with a change in competitor outputs. This concept measured the effect of differences in quantity on marginal profit in the industry. We used the model of instrumental variables in accordance with these studies [2,7,14,15,19,38,41] to measure the relationship between R&D and leverage as follows:

$$\begin{aligned}
 R\&D_{it} = & \beta_{0t} + \beta_{1t} \text{Predicted probability of increasing leverage}_i \\
 & + \beta_{2t} \log(H \text{ index})_i + \beta_{3t} \text{Number of firms in the industry}_i \\
 & + \beta_{4t} \text{Market share of sample firm}_i + \beta_{5t} \text{Industrial modified amount of R\&D}_{-1i} \\
 & + \beta_{6t} \text{Industrial modified growth ratio of firm assets from year } -1 \text{ to year } t_i + \varepsilon_{it},
 \end{aligned} \tag{6}$$

We defined industrial modified difference in R&D investments as the dependent variable. The industrial modified difference was equal to the unmodified change of the sample firm minus the average in the unmodified change of the others in the industry. The unmodified difference was equal to the change in R&D expenditures from year [-1, 0] divided by firm assets in year -1. In particular, the predicted probability of increasing leverage was from the logistic regression according to [41] as follows:

$$Ddebt_{it} = \beta_{0t} + \beta_{1t} \text{Average in leverage}_i + \beta_{2t} CSM_i + \varepsilon_{it}, \tag{7}$$

Ddebt took a value equal to 1 in case of increases in leverage, and zero otherwise. We named the average industrial leverage as average in leverage. CSM was the proxy of strategic market competition. These standard errors of the coefficient were estimated in this procedure due to heteroscedasticity [37].

The parameter estimates of Equation (7) are as follows: The coefficient of average in leverage is significantly positive, and it is related to the probability of raising leverage ($p < 0.01$). The coefficient of CSM is also significantly negative ($p < 0.01$). This is consistent with the concept of strategic market competition.

We present the results of instrumental variable analysis in Table 6. The coefficients about the predicted probability of increasing leverage are significantly positive in these three models. The results provide strong evidence to support the contention that the manager likely raises the level of debt financing to be consistent with the increase invested in R&D.

Table 6. Instrumental variable analysis.

	2 Year Period: Year [-1, 0]	3 Year Period: Year [-1, 1]	4 Year Period: Year [-1, 2]
Predicted probability of increasing leverage	0.13 ** (2.50)	0.15 ** (2.51)	0.16 ** (2.65)
Log(H index)	0.02 (0.27)	0.02 (0.28)	0.02 (0.28)
Number of firms in the industry	0.02 (0.13)	0.03 * (2.03)	0.03 * (1.77)

Table 6. Cont.

	2 Year Period: Year [−1, 0]	3 Year Period: Year [−1, 1]	4 Year Period: Year [−1, 2]
Market share	0.02 (0.34)	0.02 (0.39)	0.01 (0.39)
Industrial modified amount of $R\&D_{-1}$	0.36 ** (2.51)	0.42 ** (2.58)	0.49 ** (2.61)
Industrial modified growth ratio of firm assets	0.22 ** (2.41)	0.33 ** (2.52)	0.37 ** (2.66)
Intercept	−0.88 (−0.33)	−0.82 (−0.33)	−0.81 (−0.34)
Adjusted R^2 (%)	13.12	13.17	13.20
Number	215	215	215

T-statistics are in parentheses. ** and * are significant at 1 and 5%, respectively.

5. Implications

This study makes several contributions to the academic literature and has managerial implications. First, this article investigates the impact of financial leverage on R&D investments from a new perspective. The previous literature explored the effect of financial leverage on R&D expenditure from the perspectives of transaction cost [7,14,23], agency theory [18,26], information asymmetry [19], and so forth. We adopted a theoretical view of the competitive behavior in the product market to re-examine the puzzle. This is the first time that this unique perspective has been considered in the academic literature.

Second, the prior literature mostly concentrated on the “static” relationship between the level of financial leverage and the level of R&D expenditure [20,42]. We provided the “dynamic” change value of these two variables. Our results show that firms successfully launch cross-listing to enhance debt financing for R&D funding compared with the period before cross-listing. This finding inspires the firms to be eager for R&D investment in a new viable path.

Finally, we analyzed this issue by using a unique sample: international businesses cross-listing in the U.S. stock market. Previous studies thought that firms make cross-listings to obtain more financial resources [4,27,28]. This research finds that cross-listing activities can positively improve the growth and value of firms. Particularly, it considers that under the strict regulation of the SEC, a successful cross-listing can significantly raise a firm’s reputation and provide a way to approach the stock market in the U.S. [12,13]. Thus, it can improve shareholder protection and liquidity so that firms can develop their debt capacity. This means firms can increase debt financing and leverage to increase R&D investments.

6. Conclusions

An important strategy for corporate sustainability is R&D investments. This study is concerned with the event of cross-listing, and this affects the decisions of both financial leverage and R&D investments. This article chooses a competitive perspective to address this issue. It provides empirical evidence that the cross-listing event has significant impacts on financial leverage and R&D expenditure.

There are some findings in this study. First, we find that the foreign firms who undertook cross-listings in the U.S. stock exchanges on average significantly increased their debt financing. Second, we find that cross-listing firms take advantage of the reputation brought about by successful ADR issue to increase their financial leverage ratio to an even higher proportion than before the ADR issue. Finally, we find that the aggressive R&D financing strategy of cross-listing firms arouses a contagion effect to make industrial rival firms raise their R&D investments in response significantly.

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Article

The Role of Opinion Leaders in the Sustainable Development of Corporate-Led Consumer Advice Networks: Evidence from a Chinese Travel Content Community

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Abstract: Online community marketing and social media influencer marketing have aroused the interest of many researchers and practitioners around the world. Companies building online content communities to implement community marketing and influencer marketing has become a new corporate strategy, especially in the tourism and hotel industries in which experiential products are sold. However, based on the content community, maintaining the sustainable development of a consumer advice network composed of opinion leaders and consumers is a major challenge. This paper selects the travel content community of Qunar.com as the research object to study the role of opinion leaders in the sustainable development of corporate-led consumer advice networks (CANs). Empirical evidence based on network evolution data from 1356 “Hotel Sleep Testers” across 11 years shows that: (1) the creation and provision of information can obviously increase the probability of the relationship construction and increase the number of relationships, thus facilitating the formation of opinion leadership (OL); (2) active participation in interactions and with high-quality information brings greater effects; (3) the network structure variables, such as preferential attachment, structural equivalence, and similarity, can also better predict the probability of a potential relationship; and (4) reciprocity in consumer advice networks has no significant impact on the establishment of network relationships.

Keywords: content community; sustainable marketing; SMIs marketing; consumer advice network; opinion leaders; network structure

1. Introduction

As market competition intensifies and advertising costs increase, it has become increasingly difficult and expensive for companies to acquire new customers and maintain old customers. Current high-cost and low-efficiency marketing strategies have become unsustainable. In this context, on the one hand, more companies use social media to build online brand and content communities to cultivate potential customers [1–3]; on the other hand, consumers are increasingly using social media to obtain information on which to base their decisions [4].

However, the network formed by corporate-led brand communities and content communities is different from traditional social networks. The formation mechanism and role of opinion leaders in the network are also very different. The sustainable development

of consumer advice networks composed of opinion leaders and consumers is a major challenge faced by enterprises.

Why do some members of a consumer advice network become influencers (i.e., opinion leaders) while others do not? How should companies cultivate or help the formation of opinion leaders, and what management strategies should be used to maintain the sustainability of the network? These are the management questions that this study will address.

In traditional social networks, online relationships reflect offline social relationships. At the same time, network members know each other in real life and network relationships are built to meet the needs of both social interaction and emotional support [5,6]. In such an environment, opinion leaders are formed mainly because of social resources and social status. For examples, opinion leaders in an organization are usually leaders with higher positions. This endogenous factor determines the formation of opinion leaders in social networks and embedded opinion leaders are more stable due to the slow change in social structures [7]. Compared with traditional social networks, the most important feature of consumer advice networks is that the network relationships are separated from real life and the network members are anonymous. More importantly, in consumer advice networks, relationships are not constructed primarily to meet the needs of social interaction but rather to obtain valuable information. Therefore, the relationship is essentially a flow relationship, which represents the flow of information [8]. Many such networks already exist, including online communities created by companies themselves, such as the Xiaomi content community (xiaomi.cn, accessed on 3 March 2010); content communities of travel enterprises (tips.qunar.com, accessed on 2 May 2005); and social commerce platforms, such as Xiaohongshu (xiaohongshu.com, accessed on 1 December 2013), Meilishuo (meilishuo.com, accessed on 1 November 2009), and Mushroom Street (mogu.com, accessed on 1 January 2011). In these networks, network members are usually anonymous and their real-life roles and social resources of network members cannot be brought in.

With the help of various social media platforms, opinion leaders contribute their shopping and life experiences in an anonymous way to communicate with other members. At the same time, consumers actively join such social advice networks to search for the product and service-related information [9,10]. Therefore, in consumer advice networks, opinion leaders are actually information-providers. This fully reflects the second dimension of opinion leaders, which is that, in some aspects, opinion leaders should have more expertise. As shown in Table 1, we have compared the characteristics of the two types of networks.

Table 1. Characteristics of the two types of networks.

	Social Networks	Consumer Advice Networks
Relationship Type	Social relationships such as friends, colleagues, and relatives	Information flow relationship; information sharing and access
Both sides of the relationship	Acquaintances	Strangers
Relationship strength	Stable relationships; strong links	Relationships are unstable and can be built and broken at any time
Member needs	Emotional interaction; information sharing	Information sharing; product and service information acquisition
Examples	WeChat, QQ, and Facebook	Xiaohongshu and Mushroom Street

Notes: the contents of Table 1 are summarized by the authors.

In traditional social networks, this advisory relationship is through face-to-face conversation or other actual methods of communication [11]. In consumer advice networks, consumers search for reviews of relevant products, as well as opinions from opinion leaders. Therefore, the creation and supply of information represent the value of opinion leaders

and are the core elements of their formation; only if opinion leaders can provide sufficient, useful information will other members follow them and become their “fans”. Theoretically, this reflects the interaction between content and network relationship-establishing; the more content influencers contribute, the more followers will be attracted to establish relationships with them. With more followers, opinion influencers will be more motivated to create content in network nodes [12,13]. Therefore, in consumer advice networks, information is the core and the purpose of network members’ participation is to obtain useful information. Those members who can provide rich and useful information are more able to attract others’ attention and become opinion leaders in the networks [14].

Accordingly, we found that the formation and development of consumer advice networks are likely related to the network structure and influencers (i.e., opinion leaders) in the network. The theoretical goal of this study is to explore the factors influencing the establishment of network relationships among members in consumer advice networks in terms of two dimensions, namely network structure and behavioral activities of opinion leaders, so as to reveal the mechanisms of sustainable development of such networks. In the context of corporate-led consumer advice communities and social media marketing, this study obtains mechanisms for establishing network relationships between opinion leaders and members, bridging the gap in research on the role of opinion leaders in this context.

2. Literature Review

2.1. Influencer Marketing

The past decade has witnessed a major change in social media marketing characterized by a shift towards social media influencer (SMI) marketing [15,16]. The growth of SMI marketing accelerated with the outbreak of COVID-19. During lockdown, people increasingly turned to social media for entertainment and virtual social experiences. Consequently, SMI marketing has become an essential part of digital marketing strategies as a touch-point for reaching target audiences [17–19]. In the increasingly competitive social media environment, influencer marketing is evolving into long-term partnerships between brands and influencers [20,21].

While reviewing the literature on SMIs, we found that much of the prior research leaned towards investigating the relationship between SMIs and their followers from the SMIs’ perspective [22,23]. In doing so, one line of research suggested that SMIs are opinion leaders who have the ability to sway their followers’ tendency to accept their advice [24,25]. However, another line of research focused on the SMIs’ role as taste-makers and described the way their judgment of aesthetic taste influenced their followers’ purchase decisions [26,27]. When identifying the SMI phenomenon, one line of research focused solely on SMIs’ personal traits, such as authenticity [28], attractiveness [29], and affinity [30]. Another line of research indicated that followers are attracted to the content of SMIs, such as entertaining [31] or informative content [32]. However, the personal traits of SMIs and their ability to curate social media content are equally important in attracting and retaining followers [33].

2.2. Opinion Leaders and Their Influence

Opinion leaders play a key role in new product adoption and in the dissemination of relevant information [34], thus it is an essential element in marketing communications [35,36]. Some studies have identified that opinion leaders have a critical influence on social media networks’ development [37]. Opinion leaders in social media networks can foster members’ interactions, engagement, as well as the reciprocity and transitivity of their followers, which indicates how members form an interactive, cohesive, and equally distributed community [38,39]. However, the mechanism of how opinion leaders expand their interactive networks in social media networks has not yet been discovered [40].

Opinion leaders demonstrate their influence not only on others’ opinions but also on others’ attitudes and behaviors [41]. Based on the analysis of previous studies, the formation of opinion leaders and their influence are mainly related to their expertise

in a field, in the involvement in a field, and in social ties [42]. Members' perceived risk and their trust in opinion leaders are also considered to play important roles in the influencing process of opinion leaders' over their followers [43]. The underlying dimensions of opinion leadership have often been assessed using questionnaires, self-reports, and some measurements of opinion leadership, include the ability to persuade your audience.

3. Hypotheses and Research Model

In the SMI marketing context, influencers (i.e., opinion leaders) help consumers make purchase decisions through social media. This is mainly reflected through opinion leaders contributing content, interacting with consumers, and answering consumers' questions through social media. Therefore, we hypothesize that the behavioral activities of opinion leaders significantly influence the establishment of network relationships between network members and opinion leaders. We first construct research hypotheses H1, H2, and H3 in terms of the behavioral activities of opinion leaders in consumer advice networks, including content contribution, social interaction, and offering help. In addition to the behavioral activities of opinion leaders, the position of opinion leaders in the network also affects the establishment of network relationships. Therefore, we propose research hypotheses H4, H5, H6, and H7 from the perspective of network structure, such as regarding preferential attachment, homophily, structural equivalence, and reciprocity.

3.1. Content Contribution

In previous studies on social networks, network nodes are considered as sources of resources or benefits (benefit), which in turn can be utilized by other nodes through the construction of relationships [44,45]. For example, if someone is well established in an organization, other members of that organization can potentially take advantage of the resources held by that person by establishing relationships with him. In the case of the consumer advice networks we studied, the benefit of network relationship-establishing concerns the ability to obtain information about products and services from others, helping consumers to eliminate information asymmetry in the purchase process. Therefore, when a consumer considers whether to establish a relationship, he/she makes a decision based on the expectation of the resources that the relationship will bring. In consumer advice networks, this expectation is mainly for information and if the consumer believes that the network relationship will bring him/her rich and valuable information, the consumer is more likely to establish a relationship [46]. In consumer advice networks, opinion leaders gain attention because they become a valuable source of information and use high-quality information to attract these "fans". This interaction between information contribution and network relationship-establishing has been verified by several empirical studies. In general, the more content users post, the more relationships they have with other nodes; in turn, more relationships stimulate the creation of network content [13,47]. Furthermore, some members actively contribute content to advice networks without being paid for it because some people experience pleasure from this content-sharing behavior; in addition, this content-sharing behavior increases their reputation and influence in the community [48].

It can be seen that the content contributed by the influencer is an important factor that attracts others' attention, thus we propose hypothesis H1.

Hypothesis 1 (H1). *The more content a member contributes, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader.*

3.2. Interaction

Interaction also plays a key role in developing virtual social networks where communications take place through computers or devices [49]. Online social interaction propensity is defined as the general tendency of a member to interact in an online environment with people they have not met in person. Blazevec et al. noted that it is an individual trait

that differentiates individuals with regard to their predisposition to interact with others on online communities [50]. Therefore, members of these communities can be classified according to their presence (posters) or lack of willingness (lurkers) to engage in online interactions with others on these platforms [51]. Wiertz et al. showed that if customers are prone to interact online, they tend to make more insightful contributions, thus this variable is a crucial attribute in relation to online community members' participative behavior [52]. Dessart showed a positive relationship between online interaction propensity and some behaviors [53]. Therefore, online interaction propensity may strengthen the influence of opinion leadership on those variables that involve online communication [54]. In summary, we propose hypothesis H2.

Hypothesis 2 (H2). *The more actively a member interacts online, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader.*

3.3. Helpfulness

The helpfulness of online reviews has been a hot topic in social e-commerce [55] and marketing research over the past decade [56]. The research is mainly concerned with the prediction of review helpfulness [57], the determinants of review helpfulness [58], and the measurement of review helpfulness [59]. For example, Huang et al. examined the effect of message length together with aspects of review patterns and reviewer characteristics on review helpfulness [60]. Qazi et al. explained why some reviews are more helpful compared to others [61].

We found in the literature that the helpfulness of online reviews is closely related to the quality of it. Meanwhile, the quality of reviews has been regarded as important in constructing a reputation in a community, which in turn may lead the user to be considered as an opinion leader [62]. Some characteristics of the shared content, such as the attractiveness, quality, and composition of the images, are crucial for users to make the decision to follow a specific profile [63]. Other aspects related to quality, such as the comprehensiveness of the content [12], assertiveness, and emotion [64], have also been shown to be drivers of opinion leadership.

Bearing all these in mind, it is proposed that the helpfulness of the content contributed by social media influencers will influence the perception of opinion leadership. We propose hypothesis H3.

Hypothesis 3 (H3). *The more helpful content a member contributes, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader.*

3.4. Preferential Attachment

Preferential attachment describes a social network in which network nodes with more relationships are more attractive to other nodes, similar to "the stronger the stronger, the weaker the weaker" concept. This phenomenon has been confirmed in many different networks such as scholar collaboration networks, Internet sites, etc. [65]. The main reason for this phenomenon is that network nodes search for star nodes in the network when establishing relationships and the value of establishing relationships with such star nodes is higher than the value of establishing relationships with ordinary nodes for judging star nodes [66]. In combination with the formation of opinion leaders, this phenomenon of preferential attachment seems to be more prevalent [67]. Therefore, we propose hypothesis H4.

Hypothesis 4 (H4). *The more followers a member has, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader.*

3.5. Homophily

Homophily refers to the perceived similarity in beliefs, values, experiences, and lifestyles of the communicator by the receiver [68]. Communicators with affinity tend to be influential and can greatly affect recommendations [69]. Perceived similarity creates positive intergroup emotions and reduces uncertainty [70]. In such a situation, a listener is likely to infer that the communicator's attitude, interests, beliefs, and emotions are similar to their own, resulting in the listener endorsing the opinion.

Social network members, being in similar network locations, generate similarity in different dimensions, such as through behaviors and perceptions [71]; additionally, this similarity leads to trust among members and it is often easier to interact and establish relationships among similar network members [72]. For example, Centola found that homophily significantly increased the overall adoption of new health behavior [73]. Ma found that the latent homophily effect has a significant impact on product choice decisions of consumers [74]. Therefore, we propose hypothesis H5.

Hypothesis 5 (H5). *In consumer advice networks, homophily positively affects the establishment of network relationships.*

3.6. Structural Equivalence

The concept of structural equivalence describes the similarity of two network nodes in terms of network structure, specifically the common network nodes to which the two nodes are connected to [75]. The structural equivalence reflects the network closure feature of the network structure, that is, the network nodes are closely connected to each other. Such a network structure not only facilitates the dissemination of information but also promotes the formation of trust and the establishment of relationships in the network [76]. Therefore, we propose hypothesis H6.

Hypothesis 6 (H6). *In consumer advice networks, structural equivalence positively affects the establishment of network relationships.*

3.7. Reciprocity

Reciprocity is one of the basic principles of social relations [77,78]. The concept of reciprocity derives from social exchange theory. Reciprocity is regarded as the mechanism of social exchange [79]. Constant et al. (1994) argued that when two individuals are influenced by their social and organizational environment, the social exchange relationship will be the main determinant of their attitudes [80]. Huber also argued that based on people's desire for fairness and reciprocity, members in a society believe their mutual relationships with one another will improve [81]. This implies that when members in virtual social networks have a higher level of reciprocity, their awareness and evaluation of the relationships with other members in that network are more positive. For example, Xiong et al. argued that members' reciprocity positively affects their knowledge contribution and establishment of social relationships in virtual social networks [82].

Therefore, we introduce reciprocity as another social perspective to analyze formation mechanisms of opinion leaders in consumer advice networks. We propose hypothesis H7.

Hypothesis 7 (H7). *In consumer advice networks, reciprocity positively affects the establishment of network relationships.*

Based on the above hypotheses, the proposed model is summarized in Figure 1.

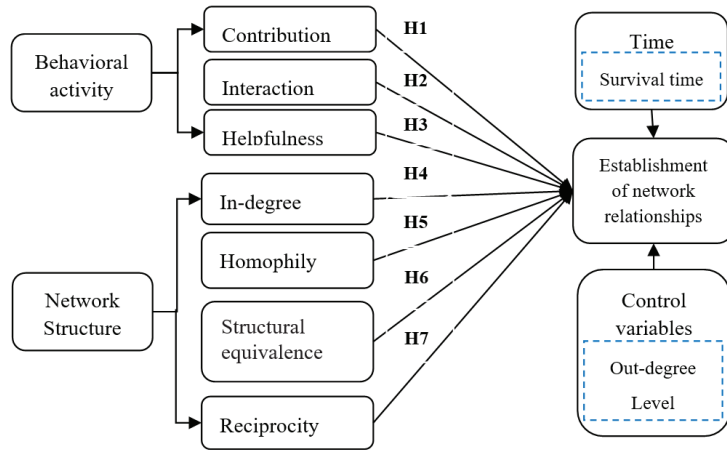


Figure 1. Research model.

4. Research Design

4.1. Data Source

In order to test the hypotheses proposed in this paper, we selected the content community of the “Qunar Travel” website (<http://tips.qunar.com/>, accessed on 2 May 2005) as the research object [83]. This content community is a typical consumer advice network.

Qunar Travel (<https://www.qunar.com/>, accessed on 2 May 2005) is one of the larger Chinese online travel websites, founded in February 2005 and headquartered in Beijing. Qunar provides consumers with real-time searches for airline tickets, hotels, venues, and vacation products, as well as group purchase options for travel products and other travel information services.

The content community of “Qunar Travel” allows registered members of the site to post a variety of reviews about hotel products and service experiences anonymously in the community. Members of the site can follow other members and can be followed by other members. Following gives them priority to see the reviews posted by the followed members and these reviews help potential consumers in their purchasing decisions. For this reason, we refer to such communities as online consumer advice networks.

4.2. Data Collection

To study the mechanisms of opinion leadership formation among influencers in consumer advice networks, we selected certified members of the network who had the “sleep tester” logo (shown in Figure 2). Both certified and uncertified members exist in consumer advice networks and allow for both relationship-establishing and social interaction between them.

“Hotel sleep testers”, also known as the “hotel connoisseur”, require candidates to have a keen sense of observation and feeling, a love of travel, and a willingness to share what they see and hear. The creation of hotel sleep testers has its own theoretical basis and review-based marketing has become an effective marketing approach that is widely used with good results. Research shows that 90% of hotel online booking users view and refer to other people’s hotel reviews. As a result, a large number of objective reviews on online travel sites can often attract consumers to book hotels through suppliers.



Figure 2. Schematic diagram of hotel sleep testers' homepage.

To be certified as a “Hotel Sleep Tester”, one must first apply and go through a rigorous vetting process. As such, “Hotel Sleep Testers” are a group of influencers who want to influence others, have a willingness to share what they see and hear, and aim to become opinion leaders. This study will explore which “Hotel Sleep Testers” are able to become opinion leaders and why.

We needed to select some “Hotel Sleep Testers” and observe the establishment of network relationship among them. First, eight “Hotel Sleep Testers” were randomly selected; second, 1356 “Hotel Sleep Testers” were selected from the consumer advice network (tips.qunar.com, accessed on 2 May 2005) using the snowball method; and third, the relationship establishing data, behavioral activity data, and other data of these 1356 “Hotel Sleep Testers” were obtained.

The data records of the network members date back to as early as December 2009, with a time span of 11 years of data to December 2020. The time-series data with a long time span provides us with rich data points for analyzing relationship-establishing patterns and also ensures the robustness of our findings, which is crucial for studying the formation of social network relationships.

4.3. Variable Construction

Due to the long time span of the data, we set the interval between each observation to a quarter and constructed a panel data in quarterly time intervals. The dependent variable in this study is the state of relationship establishment, which takes the value of 0 if the relationship is not established at the moment of observation and 1 if the relationship is established.

For the convenience of representation, the following assumption is made: denote the network formed by members by $G(V, E)$, where V is the set of network nodes (i.e., members) and E is the set of network edges (i.e., relations). Next, we considered whether a potential edge (relationship) $E_{ij} = (V_i, V_j)$ is established, with E_{ij} denoting V_i as the following node (fan) and V_j as the followed node (influencer). The specific independent and control variables are defined as shown in Table 2.

Table 2. Variable explanation.

	Variable	Calculation Method
Dependent variable	Relationship establishment	If the potential relationship E_{ij} is not established at time t , it takes the value 0; otherwise, it takes the value 1.
Independent variables	Contribution	The number of comments contributed by V_j at time t .
	Interaction	The total number of comments received by V_j at time t .
	Helpfulness	The total number of likes obtained by V_j at time t .
Independent variables	In-degree	Number of followers of V_j at time t .
	Structural equivalence	Number of nodes that establish relationships with both V_i and V_j at time t .
	Homophily	The absolute value of the difference between the level of V_i and V_j at time t .
	Reciprocity	At time t , the value is 1 if V_j is a follower of V_i ; otherwise, the value is 0.
Control variables	Out-degree	The number of other members that V_j follows at time t .
	Level	The level of V_j at time t .
	Survival time	The duration member V_j has been in the network, expressed as the length of time between the moment of registration and December 2020, in months.

Furthermore, the measurement of the variables is explained through the personal homepage of a “hotel sleep tester” (as in Figure 2).

Contribution: the number of content posts contributed by the following node V_j , as shown in Figure 2 “Contribution”, is 1525.

Interaction: Other members will have social interaction with the followed member V_j , which is mainly reflected in the comments on the content posts contributed by V_j , as shown in the “comment” in Figure 2. The value of interaction is the total number of comments received by member V_j . As shown in Figure 2, the “Total number of comments” is 1717.

Helpfulness: If other members feel that the content contributed by V_j is helpful, they will like the content, such as through the “Like” function in Figure 2. The value of helpfulness is the total number of likes obtained by member V_j . As shown in Figure 2, the “Total number of likes” is 6624.

In-degree: Member V_j has a number of fans. As shown in Figure 2, the “In-degree” is 977.

Structural equivalence: this refers to the number of members that establish relationships with both V_i and V_j , in which the larger the value, the stronger the structural equivalence.

Homophily: the absolute value of the difference between the level of V_i and V_j , in which the smaller the value, the higher the homophily.

Reciprocity: if V_j is a follower of V_i , the value is 1 and otherwise the value is 0.

Out-degree: The number of members followed by member V_j . As shown in Figure 2, the “Out-degree” is 27.

Level: The level of member V_j . As shown in Figure 2, the “Level” is 7.

Survival time: the duration member V_j has been in the consumer advice network, expressed as the length of time between the moment of registration and December 2020, in months.

4.4. Data Analysis

In this section, we used the software IBM SPSS 21.0 to process the collected data, including descriptive statistics and a correlation analysis, as well as the regression analysis in Section 5. Table 3 shows the descriptive statistics with data sample $n = 1356$. Table 4 shows the results of the correlation analysis between variables with the number of variables $v = 10$.

Table 3. Descriptive statistics.

No.	Variable	Mean	Max	Min	SD
1	Contribution	227.94	1524	7	242.27
2	Interaction	315.88	1810	8	338.26
3	Helpfulness	721.07	6624	23	944.89
4	In-degree	425.04	2680	56	565.81
5	Structural equivalence	1.62	7	0	1.89
6	Homophily	1.86	6	0	1.32
7	Reciprocity	0.43	1	0	0.50
8	Out-degree	122.25	1000	1	191.17
9	Level	6.42	7	4	0.77
10	Survival time	86.56	132	23	30.76

Notes: Sample $n = 1356$. The data analysis was conducted using IBM SPSS 21.0 software.

Table 4. Correlations between all the variables.

No.	Variable	1	2	3	4	5	6	7	8	9	10
1	Level	1									
2	Out-degree	-0.386**	1								
3	In-degree	0.059	-0.008	1							
4	Contribution	0.472**	-0.167	0.371**	1						
5	Interaction	0.441**	-0.196	0.535**	0.841**	1					
6	Helpfulness	0.390**	-0.169	0.453**	0.859**	0.912**	1				
7	Homophily	0.119	0.079	-0.007	0.057	0.013	-0.063	1			
8	Structural equivalence	-0.027	-0.103	-0.210*	-0.228*	-0.264**	-0.207*	-0.110	1		
9	Reciprocity	0.017	-0.202*	0.102	-0.054	-0.048	-0.030	-0.387*	0.427**	1	
10	Survival time	0.047	-0.075	0.474**	0.275**	0.458**	0.394**	-0.051	-0.055	-0.047	1

Notes: Sample $n = 1356$, * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$. The data analysis was conducted using IBM SPSS 21.0 software.

5. Empirical Analysis

5.1. Model

Since we wanted to study whether the potential relationship is established and whether the independent variables are constantly changing over time, it was difficult to apply traditional linear and logit models, thus we mainly used the survival model here.

Survival analysis was originally used mainly in biomedical research, focusing on the duration of a particular event, which in this paper refers to the establishment of network relationships. Due to its superiority in addressing temporal variables, this model has since been widely used in other fields such as criminology, economics, sociology, etc. Survival analysis is also widely used in the field of marketing, mostly to analyze consumer decisions and product diffusion [84,85]. One of the more widely used models in survival analysis is the Cox Proportional Hazard Model (Cox PHM) and this paper also focuses on this model form. The model is as follows in Equation (1):

$$h_i(t, X_i) = h_0(t) \times \exp(\beta X_{it}) \tag{1}$$

Here, $h_i(t, X_i)$ represents the conditional probability that the event of study object i does not occur at time $t-1$ but occurs at time t . $h_0(t)$ represents the baseline probability that the event occurs at time t , similar to the constant term in a linear model. X_{it} represents the vector of covariates affecting the magnitude of the probability of event occurrence, which in this paper mainly refers to user behavior, network structure, and control variables. β is the parameter to be estimated corresponding to the covariates. $\exp(\beta X_{it})$ represents the effect of variables on the probability of event occurrence. If the value is greater than 1, it means that the variables will increase the probability of event occurrence. If the value is less than 1, it means that the variables will decrease the probability of event occurrence.

5.2. Relationship Establishment

In order to show the formation process of the relationship in the consumer advice network more intuitively, we present the evolution of the entire network through a network diagram. We divided the evolution of the network into four stages, starting from the initial stage of network establishment (December 2010) and then presenting it every three years. Although this is only a rough display, some simple conclusions can be drawn from Figure 3 (only nodes with an in-degree greater than 10 are shown): firstly, the network shows a dynamic change process as new nodes continue to join the network and new relationships are formed; and secondly, the formation of network relationships is extremely heterogeneous, with some nodes establishing more relationships and others very few.

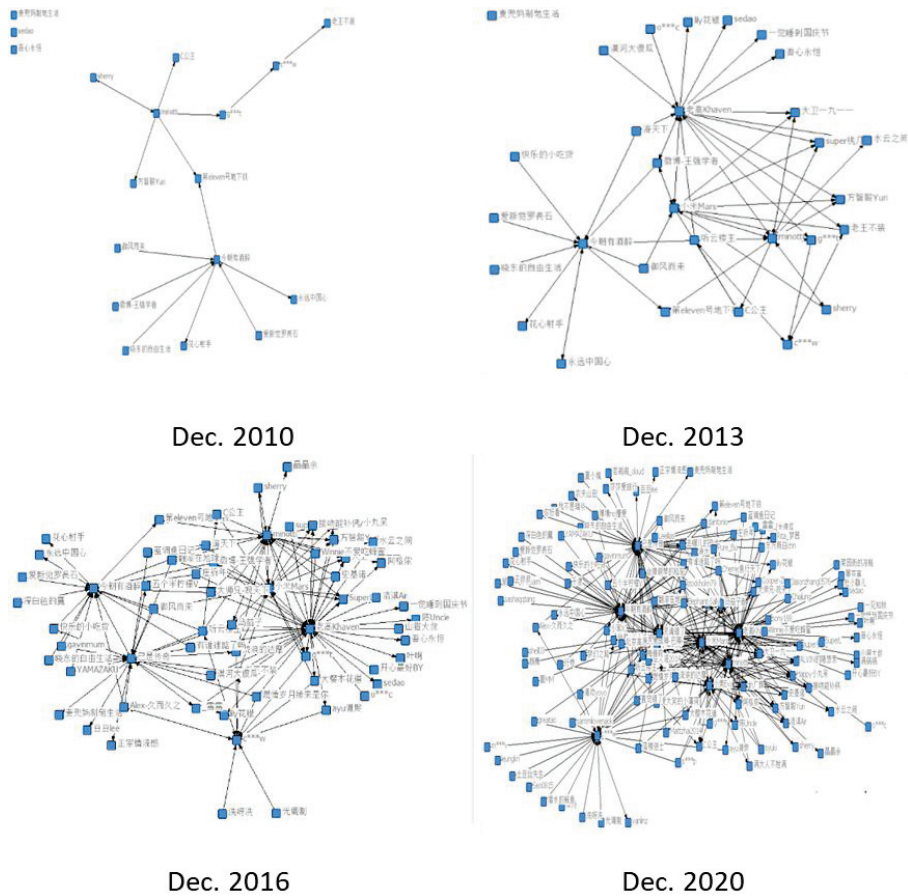


Figure 3. Evolution of consumer advice network.

We also conducted frequency statistics on the in-degree of network members. Figure 4 shows the frequency distribution. We found that most members have less than 10 relationships and fewer members have more than 1000 relationships. Therefore, only a few members established a large number of relationships and became opinion leaders in the consumer advice network. Our research question asks why these members become opinion leaders.

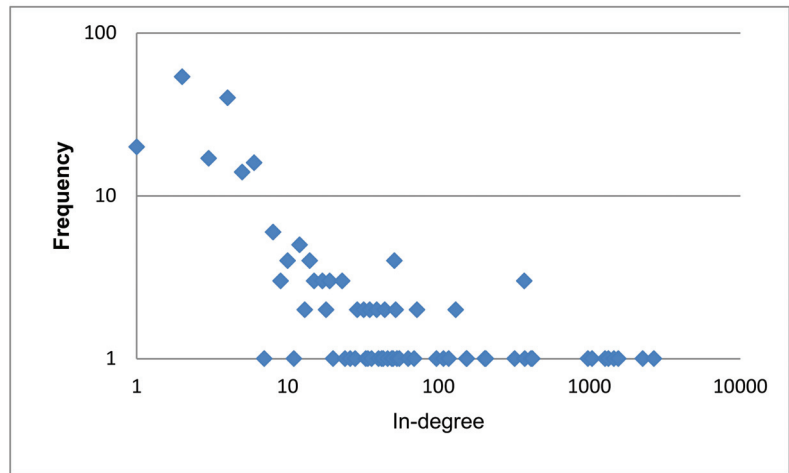


Figure 4. Frequency distribution of the in-degree.

5.3. Regression Analysis

This paper uses IBM SPSS Statistics software (version 21) to estimate the coefficients of each variable using the “analysis-survival function-Cox regression” path. The main coefficients were estimated as shown in Table 5.

Table 5. Coefficient estimation.

Variables	Model 1		Model 2		Model 3		
	Coefficient	Hazard Rate	Coefficient	Hazard Rate	Coefficient	Hazard Rate	
Behavioral activity	Contribution	0.090 ***	1.094	0.050 ***	1.051	0.050 ***	1.051
	Interaction			0.060 ***	1.062	0.054 ***	1.055
	Helpfulness			0.020 **	1.020	0.020 ***	1.020
	In-degree	0.170 **	1.017	0.190 **	1.019	0.107 **	1.113
	In-degree ²	0.000 ***	1.000	−0.002 ***	0.998	−0.002 ***	0.998
Networkstructure	Structural equivalence	0.941 **	2.562	0.471 **	1.602	0.326 **	1.385
	Homophily	0.150 **	0.985	0.122 **	1.129	0.145 **	1.156
	Reciprocity	0.070	1.073	0.065	1.067	0.060	1.062
Controlvariables	Out-degree				0.002	1.002	
	Level				0.319	1.376	

Notes: Sample $n = 1356$, * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$. The data analysis was conducted using IBM SPSS 21.0 software.

In Model 1, we first considered the effect of content contribution. From the regression results, it can be seen that the content contribution is positively correlated with the establishment of the relationship ($B = 0.090, p < 0.001$). That is, hypothesis H1, “The more content a member contributes, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader”, is supported.

From the perspective of network structure, the establishment of a relationship has the characteristics of preferential attachment ($B = 0.170, p < 0.001$). That is, hypothesis H4, “The more followers a member has, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader”, is supported.

However, when the number of fans (in-degree) is squared, the coefficient becomes 0, which shows that this effect is not linear but rather diminishes the margin.

In addition, the homophily among members also has a positive impact on the establishment of relationships ($B = 0.150, p < 0.01$). Therefore, hypothesis H5, “In consumer advice networks, homophily positively affects the establishment of network relationships”, is supported.

From the perspective of relationship norms, the stronger the structural equivalence between members, the more likely it is to establish relationships, which reflects the role of overlap in network structures in promoting the establishment of network relationships ($B = 0.941, p < 0.01$). Additionally, its effect is far greater than that of other factors. That is, hypothesis H6, “In consumer advice networks, structural equivalence positively affects the establishment of network relationships”, is supported.

Hypotheses H4, H5, and H6 are consistent with the findings of previous studies. In traditional social networks, collaborative networks, and offline networks, preferential attachment mechanisms [86], structural equivalence [87], and homophily [88–90] play very important roles in the establishment of network relationships, in the development of cooperation, and in the formation of alliances.

However, hypothesis H7, “In consumer advice networks, reciprocity positively affects the establishment of network relationships”, is not supported in this study. This conclusion is different from acquaintance social networks. In traditional acquaintance social networks, reciprocity has a strong positive impact on the establishment of network relationships. The reason is that in the consumer advisory network, members mainly engage in information acquisition and exchange. Members pay attention to opinion leaders but they do not draw the attention of opinion leaders to them. This shows that the exchange of information does not have the feature of reciprocity.

In Model 2, we further discussed the influence of behavioral activities on the establishment of relationships. The social interaction of members in the network has a positive effect on the establishment of relationships ($B = 0.060, p < 0.001$). Therefore, Hypothesis H2, “The more actively a member interacts online, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader”, is supported. In addition, the total helpfulness of the content contributed by influencers has a positive effect on the establishment of relationships ($B = 0.020, p < 0.005$). Hypothesis H3, “The more helpful content a member contributes, the more other members will establish a relationship with him/her and the more likely he/she is to become an opinion leader”, is supported.

The results of hypothesis H2 and hypothesis H3 were consistent with the results of previous studies. For example, Li suggested that in social blogs with word-of-mouth (WoM) marketing, an opinion leader, who is normally more interconnected and has a higher social standing, can deliver product information, provide recommendations, give personal comments, and supplement professional knowledge, which helps companies to promote their products [42].

In Model 3, we tested the robustness of the above analytical results by including the control variables in the regression model. The results from model 3 show that the conclusions obtained in model 1 and model 2 are valid in model 3, thus the results of the model are robust.

5.4. Comparative Analysis

To further explore the relationship between influencers’ online behavioral activities, the network structure, and opinion leader formation, a comparative analysis of opinion leaders and non-opinion leaders was conducted.

Firstly, the influencers in consumer advice networks were classified according to the criteria proposed by the existing literature. Regarding the classification of opinion leaders in social networks, Trusov et al. stated that the top 20% of influential network nodes in the network are opinion leaders [91], while Goldenberg et al. classified them based on the degree criterion. In this study, the influencers who ranked in the top 20% in terms of

the number of followers (i.e., in-degree) were set as opinion leaders [92]. Table 6 shows the mean values of variables and Figure 5 shows the results of the comparison between opinion leaders and non-opinion leaders.

Table 6. Mean value of each variable.

		Level	SurvivalTime	Out-Degree	In-Degree	Contribution	Interaction	Helpfulness
Opinion leaders	Mean	6.60	102.11	98.25	1392.85	421.85	692.90	1610.20
Non-opinion leaders	Mean	6.38	78.45	128.25	183.09	179.46	221.63	498.79
ANOVA		F = 1.379 <i>p</i> = 0.243	F = 61.721 <i>p</i> < 0.001	F = 0.392 <i>p</i> = 0.533	F = 277.217 <i>p</i> < 0.001	F = 18.914 <i>p</i> < 0.001	F = 44.796 <i>p</i> < 0.001	F = 28.224 <i>p</i> < 0.001
Overall	Mean	6.42	83.76	122.25	425.04	227.94	315.88	721.07
	Max	7.00	132.00	1000.00	2680.00	1524.00	1810.00	6624.00
	Min	4.00	34.00	1.00	56.00	7.00	8.00	23.00
	SD	0.77	18.52	191.17	565.81	242.27	338.26	944.89

Notes: the analysis of variance was done by IBM SPSS 21.0 software.

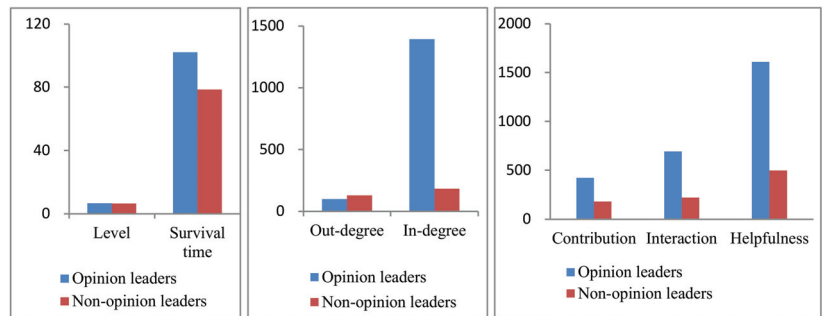


Figure 5. Comparison between opinion leaders and non-opinion leaders.

As seen in Figure 5, there are differences in the behavioral activities and network structure between opinion leaders and non-opinion leaders; however, are there statistically significant differences? To answer this question, we used IBM SPSS Statistics software (version 21) to perform an analysis of variance on the two groups. In terms of the level, there was no significant difference between opinion leaders ($M_{OL} = 6.60$) and non-opinion leaders ($M_{N-OL} = 6.38$; $F = 1.379$, $p = 0.243$). However, there was a significant difference in the survival time of the two groups ($M_{OL} = 102.11$, $M_{N-OL} = 78.45$; $F = 61.721$, $p < 0.001$). From the regression analysis, we found that level and survival time did not affect the establishment of the relationship. However, the above results show that the survival time of opinion leaders was significantly longer than that of non-opinion leaders.

In terms of the out-degree, there was no significant difference between opinion leaders ($M_{OL} = 98.25$) and non-opinion leaders ($M_{N-OL} = 128.25$; $F = 0.392$, $p = 0.533$). There was a significant difference in the number of fans (i.e., in-degree) between the two groups ($M_{OL} = 1392.85$, $M_{N-OL} = 183.09$; $F = 277.217$, $p < 0.001$).

In terms of behavioral activities, there was a significant difference in the amount of content contributed by the two groups ($M_{OL} = 421.85$, $M_{N-OL} = 179.46$; $F = 18.914$, $p < 0.001$). There was a significant difference in the number of comments received by the two groups ($M_{OL} = 692.90$, $M_{N-OL} = 221.63$) ($F = 44.796$, $p < 0.001$).

There was also a significant difference in the number of likes obtained by the two groups ($M_{OL} = 1610.20$, $M_{N-OL} = 498.79$; $F = 28.224$, $p < 0.001$). The above results show

that in order to become an opinion leader in a consumer advice network, it is essential to actively contribute content and participate in interaction.

6. Conclusions

This paper investigates the factors influencing network relationship-building through the online behavioral activities and network structure data of 1356 hotel sleep testers in a Chinese travel online content community (<http://tips.qunar.com/>, accessed on 2 May 2005). Through a study of network relationship-building and a comparison of opinion leader and non-opinion leader data, we obtained several important conclusions.

- (1) In consumer advice networks, members' online behavioral activities, including content contributions, social interactions, and help provided to other members, are key factors in attracting network members to build network relationships. Active members are highly likely to become influencers or opinion leaders, contributing to the sustainability of the network. These findings are consistent with previous results in traditional social networks. For example, in traditional social networks, influential nodes are activeness in the group and the most content contribution [93,94].
- (2) Network structures of members, such as in-degree, structural equivalence, and homophily, also play very important roles in the establishment of network relationships. However, reciprocity, which is more influential in acquaintance networks, does not play a significant role in consumer advisory networks. This is the main difference between acquaintance social networks and para-social relationship networks found so far. Reciprocity is prevalent in strongly linked relationship networks and has a significant impact on the stability and sustainability of social networks [95–97].
- (3) An analysis of variance (ANOVA) was conducted on the network structure and on the behavioral activity data of opinion leaders and non-opinion leaders. The results further support the above findings that the key factors for network members to become opinion leaders include in-degree, content contributions, social interactions, and helpfulness.

7. Discussion and Future Directions

7.1. Theoretical Contribution

First, this paper enriches the study of social networks by dividing them into two categories: traditional social networks and consumer advice networks. The most essential difference between the two is that the network relationship in social networks is a socially embedded relationship that reflects people's connection in real life and thus is a strong relationship; however, the relationship in consumer advice networks is a virtual relationship that exists independently of real life and thus is a weak relationship. Moreover, in social networks, network nodes establish relationships mainly for social interaction and thus for emotional support, while in consumer advice networks, network relationships are established mainly for information acquisition.

Second, this study also explores the construction of relationships in consumer advice networks, showing the mechanism of network formation. For consumer advice networks, the role of network relationships is information acquisition, thus network members are most likely to establish relationships with those who can provide rich information and thus they realize the value of the relationship.

Last but not least, this study also deepens the understanding of behavioral activities. Previous research on behavioral activities has focused more on their impact on consumers' purchase decisions. In contrast, our study shows that behavioral activities (e.g., contributing content, interacting with information, and liking) play an equal role in the establishment of online relationships and in the formation of opinion leaders.

7.2. Suggestions for the Sustainable Development of CANs

The Internet has moved from Web 1.0 to 2.0 and now into the mobile Internet era. The SoLo Moization of consumer behavior, i.e., social, location, and mobile elements, drives

the socialization of consumer decision-making, with 70% of consumers relying on e-WOM as a source of information. For this reason, many companies are shifting from traditional advertising models to digital content marketing models, as well as social media influencer marketing models. Therefore, companies need to gain insight into the evolution mechanism of consumer advice networks as well as into the opinion leadership formation mechanism.

Firstly, it is possible to establish trusting relationships with opinion leaders early on. This requires companies to identify potential opinion leaders through social network analysis methods as early as possible and to establish both interaction and trust relationships with them in advance.

Second, companies can cultivate their own opinion leaders from the consumers' perspective. Opinion leaders have their own formation mechanisms and companies can fully apply the formation law revealed in this study to cultivate their own opinion leaders.

Again, companies can provide appropriate information according to the needs of opinion leaders and use their influence to serve their marketing activities. As an important information source in consumer advice networks, the information released by opinion leaders has an important influence on other network members.

Finally, companies can use social media to establish their own consumer advice networks. The formation of an opinion leader is essentially the establishing of a community or a group of people with common interests that establish their own community around certain influential opinion leaders. Companies can leverage the unique needs and behavior patterns of these members to establish communities that are attached to their own brands. Some successful examples include Xiaomi's fan community built by Xiaomi Mobile Corporation and WeChat fan groups built by NIO Automotive Corporation.

7.3. Future Directions

Consumer advice networks emerged in the context of SMI marketing and online community marketing. The sustainability of consumer advice communities still faces many issues. For example, unlike the strong social relationships constructed between acquaintance social networks, consumer advice networks are mainly para-social relationships constructed between strangers [98]. Additionally, exploring the process of relationship construction between influencers and consumers by introducing communication theories, such as para-social interaction and para-social relationships, is an important research question [99–101]. The issue of trust between consumers and influencers is another important research direction in consumer advice networks [19,31,102]. Consumer identification with communities [103,104], mechanisms of cooperation between companies and opinion leaders in the community, and companies' management strategies for the community are also urgent future research questions [105]. These are the key issues that affect the sustainability of consumer advice communities.

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Article

Sustainability in the Coffee Supply Chain and Purchasing Policies: A Case Study Research

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Abstract: The literature shows that companies increasingly need to become more sustainable. To achieve sustainable development, supply chain management needs to be related to sustainable business practices, which include relevant values and sustainable purchasing policies. Focusing on these principles on the topic of coffee, this study shows the difficulties associated with this product. The study finds that coffee production is dependent on factors unrelated to management. This paper presents a case study of Delta Cafés owned by Grupo Nabeiro, a Portuguese company that shows relevant ways of achieving sustainable business methods to be incorporated in supply chain management. Our research shows a business based on sustainable, efficient handling of the food safety of its product and certification along the supply chain, as well as an adaptable purchasing policy. By reviewing the literature and information provided by the company, we confirm that the case study is a business leader in innovation, thought process, and action related to sustainability practices. Our research illustrates how business operations and culture can be explored to achieve sustainable buying processes and practices.

Keywords: sustainability; supply chain; purchasing policies; coffee business and production; Delta Cafés; Grupo Nabeiro; sustainable business; sustainable practices; food safety; buying process; agrifood products

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1. Introduction

Sustainability has garnered more attention among companies and final consumers, becoming an increasing global concern [1,2]. On the one hand, consumers are showing a growing preference for green products and services. On the other hand, employees and organizations are concerned while, at the same time, enthusiastic about developing relationships with other companies that already have sustainable practices in place [3–5]. This behavior has already shown some impact on different industries. The literature shows that some organizations are committed to green strategies and have goals to contribute to positive economic development, social cohesion, and the protection and valorization of the environment [6,7], and these firms have managed to gain significant competitive advantages, such as cost reduction, better risk management, and a growing positive reputation in the market [4,8–11]. Hence, it is essential for companies that a sustainable plan is present in all its structures and business processes, including the value chain [6,10,12,13].

Within this scope, it is essential to analyze the sustainability of supply chains and how dependent sustainable practices are on business relationships. Taking responsibility for this in the business-to-business (B2B) buying process means that companies must consider several sustainable criteria for their choices, as well as the management of relationships with their stakeholders. Accordingly, in this study, we considered Grupo Nabeiro, a company intrinsically related to the trade of a scarce resource, namely, coffee [14], which

provides an excellent and interestingly rich illustrative case study for our analysis of what is involved in sustainable business concerns and practices. Grupo Nabeiro precisely fitted some of the sustainability requirements [15].

The rest of our paper is organized as follows. First, we present a brief literature review of the supply chain and sustainable supply chain topics. Second, we present our research methodology. We consider case study research [16,17] to be the best choice for exploring and analyzing the sustainable sources and purchasing practices associated with the buying processes of Grupo Nabeiro as an example for understanding the topic of sustainable coffee supply chain. Then, we present the findings on Grupo Nabeiro and discuss them. We check the empirical results against the theoretical background for a critical discussion of their relationship and present further research opportunities. Finally, we present the limitations of our study.

2. Literature Review

2.1. Supply Chain

For companies today, supply chain strategy has become more prominent in overall strategic plans: “the competitive advantages from an adequate Supply Chain Management are hardly imitable” [18]. Thus, developing and maintaining constructive relationships with suppliers is a determinant of the competitive position and financial sustainability of companies. Van Weele [19] defines supply chain management as “the management of all activities, information, knowledge and financial resources associated with the flow and transformation of goods and services from the raw materials suppliers, component suppliers and other suppliers, in such a way the expectations of the end-users of the company are being met or surpassed. “For Christopher [20], supply chain management is the “management of relationships upstream and downstream with suppliers and customers to deliver a higher value to the customers at a lower cost to all supply chain” [18].

The electronic era is completely present in the current business world, and purchases are no exception. This may be in the form of supplier search and contact, but more importantly, the company–supplier relationship. Van Weele [19] argues that electronic networks are a key success factor in most companies and that easy access to information by both parties is highly valued. The same author supports Håkansson [21] and Wijnstra (1998, as cited in Van Weele [19]) on the learning relationship between suppliers and producers, which is not only influenced by the characteristics of goods or services being produced or provided but also by the relationship between both organizations and between the other parts of the supplier network.

Regarding consumption patterns, there are big differences between B2B and business-to-consumer (B2C) customers. In the B2B environment, the buying group is complex, being different in each organization and with different roles [21]; the B2C environment, however, is much simpler and depends on a small number of individuals, sometimes even depending on a single individual. Relationships differ in these two environments in that B2B long-term relationships between supplier and customer require continuous relationship management, which usually proves to be a success factor [22]. In addition, for successful supply chain collaboration, sharing resources and knowledge about internal activities and market insights is crucial [23]. However, both B2B and B2C have evolved, and the value concept has expanded out of the quality-price relationship, and there are many other buying decision factors, such as convenience, after-sales service, dependency, singularity, and customization [19]. This enlargement of requirements made producers continuously look for opportunities that would allow them to reduce costs and/or improve efficiency, while at the same time, innovate their offerings as upstream collaborations—a great opportunity that can be even more profitable than downstream [24]. Thus, the main idea behind collaborative relationships is to address market demand by examining market behavior [23] and developing solutions as needed. However, there are different views on this issue. One of the results that Kumar [23] finds with his recent study is that a highly collaborative downstream relationship is not always profitable to the company.

As mentioned above, purchases play an important role in the supply chain. According to Van Weele [19], “the management of the company’s external resources in such a way that the supply of all goods, services, capabilities, and knowledge, which are necessary for running, maintaining, and managing the company’s primary and support activities, is secured at the most favorable conditions.” However, Van Weele [19] states that planning and programming of resources, stock management, inspection, and quality control should be interconnected with purchases in the best possible way, and the buyer should support these activities as indispensable to reach efficiency. However, all of these tasks are difficult to fulfill [23], and the differences among organizations, along with the need for them to collaborate, are also a challenge [23]. Van Weele [19] notes that supply chain-related terms, such as buying and supply, have different meanings in the management literature. For example, there are clear differences in the use of the term supply in Europe and America: “In America, ‘supply’ covers the stores function of internally consumed item such as office supplies, cleaning materials, etc. However, in Europe, the term supply seems to have a broader meaning, which includes at least purchasing, stores, and receiving” [19]. Therefore, a supply strategy should refer to the number of suppliers the company has for each category, the type of relationship with each one, and the type of negotiations to be carried out. Buying management refers to all activities needed to manage the suppliers’ relationships, with a focus on the structure and the continuous improvement of processes both inside the organization and between the organization and its suppliers. Van Weele [19], regarding buying management, argues that if suppliers are poorly managed by the customers, those relationships will be managed by the suppliers. In other words, the buying policies of an organization impact its success in various ways, being able to improve sales margins by efficient cost savings, better deals with suppliers regarding quality or logistics, and even innovate its products/services portfolio through suppliers’ inputs. Being able to work with more competitive suppliers and develop strong relationships with them must be one of the core tasks of the buyer because it will leverage the competitiveness of the organization, once “these lasting relationships also form a barrier against supplier’s competitors getting into contact with the customer” [19], which would benefit both the company and the customer. At present, it is still essential that a buyer is capable of having a global approach in the search and the relationship with suppliers, being able to communicate with different cultures, and negotiate in different languages. Moreover, there is a significant increase in the organization and their final customers’ demand for environmentally and socially sustainable policies [5].

The buying process encompasses a variety of goods that can be categorized as follows: raw materials, supplementary materials, semi-produced products, components, commercial or finished products, investment goods or capital equipment, maintenance materials, repair, and operations and services [19]. The author also categorizes the buying processes in three types: “the new-task situation,” “the modified rebuy,” and “the straight rebuy”. Most purchases are “straight rebuys”—repeat purchases from the same suppliers—with the lowest risk of all the purchase types. Some factors increase risk, such as the novelty factor, an increase in the value of the purchase, an increase in technical complexity, and an increase in the number of people involved in the process [19]. Nonetheless, the buying process must be well organized among the buying group, minimizing possible problems, because “the strategic management of purchases has a positive impact on financial performance in big and small companies (Carr and Pearson, 2002)” [18].

The fact that buying groups are so diversified and extensive in B2B means that the roles encompassed in them are not limited to the buying department [21]. This department is especially responsible for operational tasks, such as quote requests and placing orders, but many other departments are involved according to their functions in the organizational framework [22]. However, organizations should be aware that the administrative burden given to the purchasing department can reduce the time spent on strategy and tactics essential to success [19]. Holmberg [25] argues that companies that successfully implement supply chains think about them strategically and look for a high volume of sales (more

value to the customer), better use of assets, and reduction in costs. “Bowersox et al. (2003) say that it is expected ‘to obtain competitive superiority as a result of a precise resource allocation that generates scale economies, reduces redundant and duplicate operations, and increases customer loyalty through a personalised service’ [18]. Therefore, it is important to understand the four main dimensions of the purchasing functions [19]: technical, commercial, logistical, and administrative. The first is in charge of determining aspects such as the specifications of the goods and services that are to be purchased, select the suppliers and draw up contracts, while auditing supplier’s organization, value and quality control. The second, the commercial dimension, is in charge of conducting research of the supply market, receiving supplier visits and requests, and evaluating and negotiating quotations to and from suppliers. The third, the logistical dimension, is responsible for optimizing the ordering policy along with inventory control, expediting order and follow-up, and inspecting incoming products and monitoring delivery reliability. Finally, the fourth and last dimension, the administrative, oversees handling and filling, checking non-marketing supplier invoices, as well as monitoring payments to suppliers.

Thus, for efficient management of the supply chain, it is necessary to have “a concertation with involved partners (. . .) (customers, suppliers, logistic services providers, etc) and a greater capacity to integrate information and planning” [18]. Moreover, companies capable of this successful integration of the supply chain “have demonstrated a superior performance” [18].

2.2. The Sustainable Supply Chain and Its Impact on Purchasing Policies

In 1987, the concept of sustainable development was mentioned in the World Commission on Environment and Development report “Our Common Future” [2]. The concept was defined as the satisfaction of the necessities of the current time without compromising the satisfaction of future generations’ necessities. This kind of economic growth is only possible with a proper connection between technology and social organization, being perceived as a changing process and not a fixed state [2]. This is because sustainability requires a balance between social, environmental, and economic interests [26]. The triple bottom-line approach, developed by John Elkington in 1994, corroborates the abovementioned discussion by giving great importance to social and environmental impact as well as profit [27]. Later, Elkington [27] redefined the three dimensions as people, planet, and profit. With the growing awareness of how human activity impacts climate change, much research has been conducted on sustainability, green marketing, ecology, environment, and pollution [4,8–11].

There has been growth in the importance of green topics in research, showing that marketing and communication should induce more responsible consumer and producer behaviors. In the agri-food industry, concepts such as quality are being “surpassed and replaced by the concept of sustainability, in environmental, social and, of course, economic terms” [24]. This action highlights the importance of corporate social responsibility on consumers’ perceptions and on corporate performance, which, in turn, impacts their emotions and ecological commitment [4]. “It is often repeated that consumer demand is the impetus behind green supply chain development (e.g., Carter and Carter, 1998; Bhaskaran et al., 2006; Grunert et al., 2014). Research into factors predicting green supply expectations finds that a consumer’s lifestyle (e.g., consumption style and green commitment) may play a greater role than demographic profile (Haanpää, 2007; Penaloza and Mish, 2011). Moreover, motivation often plays a key role in determining the comprehension of a specific eco-label’s meaning, as both motivation and understanding are significant predictors of eco-label usage (Grunert et al., 2014)” [28].

However, recent data from the State of Supply Chain Sustainability 2020 [29] report notes a significant mismatch between both sides of the sustainable supply chain: social sustainability is the “top of mind” goal, but environmental sustainability goals receive more investment. Meanwhile, Bager and Lambin [30] conclude that companies are more dedicated to adopting socio-economic practices than environmental ones. Notwithstanding, the

sustainable approach based on the three pillars has seen global growth. For example, the recycling trend redirected some consumption to certain brands, products, and materials. In this way, a sustainable behavior program that benefits both customers and the environment can generate more satisfaction for the program than only for personal benefit [4]. Nevertheless, it is necessary to consider that the implementation of a sustainable supply chain is a transformative task that involves organizational learning [1]. Therefore, companies make commitments toward sustainable management (through adequate strategies and institutional structures) that lead to sustainable development [7] and make efforts to adapt their sustainability practices to each stakeholder, once each one could have varying degrees of sustainability issues across their network or be influenced by the local sustainability issues in which they operate [30].

Focusing on the supply chain, since the supply chain involves all activities connected with goods and services transactions, there are factors (e.g., legislation and regulations, ethics, stakeholders pressure, and economic opportunity) that also contribute to the concern and importance of sustainability [31] that should be reviewed in a more sustainable way. For example, in 2019 the products labeled as “farm to table,” “fair trade,” and “ethically sourced” saw growing sales, with an estimated annual growth of 7% until 2025 [29]. In addition to these labels, product innovation through collaborations between companies and suppliers, such as biotechnology companies, have helped to address the risk of dependence on key customers [24] and thus prevent a price war with competitors.

According to the Industrial Marketing and Purchasing (IMP) interaction approach [22,32,33], the focus must be on the various actors of the network without any assumption, regardless of the control of any actor over the others or about their centrality. Instead, we should try to understand how companies commit to sustainability through their supply chains [34]. Håkansson and Ford [35] mention that attempts to control networks might reduce their effectiveness. However, companies should know their supply chain and try to influence direct and indirect suppliers in various locations where sustainability comprehension is weak. Furthermore, we can argue that a sustainable supply chain is essential for competitiveness in current times. Its creation is dependent on both internal and external operations of the organization, with the latter being more impactful (as the supply chain and network) owing to the strong influencing power the organization has toward its suppliers and customers. Proença and Santos [36] argue that most sustainable practices among companies are related to activities and resources that involve learning processes that can leverage and develop relationships that still do not exist in the current business network. Furthermore, top management is essential in this process, as they must spread and teach the mission and vision through the entire company, as supply chains are cross-disciplinary and cross-functional [1], involving a great number of people and collaborations. Additionally, three approaches are presented that can help companies make their supply chains more sustainable. These include identifying critical problems in the supply chain (e.g., coffee plantations may tend to hire underage workers to grow and harvest coffee), linking the supply chain sustainability goals of the company with the global sustainability agenda, and helping suppliers manage their impact [37]. Beamon [38] argues that to accomplish a green supply chain, organizations must follow the principles of ISO 14000 (norms and guidelines for environmental sustainability businesses). The first step is to rethink the current structure (which is usually unidirectional) towards a closed loop that includes supply chain operations at the end of the product lifecycle and packaging recovery, collection, and reuse (through recycling and/or remanufacturing). Thus, environmental concerns must always be a focus to marketers at the industrial and regulatory level and packaging, which, for example, should be ecological [4]. “Specifically, sustainable supply chain management involves the integration of environmentally and financially viable practices into the complete supply chain life cycle, ranging from product design and development to materials selection (including raw materials extraction or agricultural production) manufacturing, packaging, transportation, warehousing, distribution, consumption, return, and disposal” [28].

The integrated supply chain contains all elements of the traditional one (which usually is unidirectional, as follows: Supply → Manufacturing → Distribution or Retail → Consumer). However, the integrated supply chain also includes recycling, reuse and/or remanufacture processes and operations of both products and packaging, with a clear focus on sustainability [28].

Within our scope, it is also important to understand that a sustainable supply chain must include sustainable purchasing policies. According to Hasan [39], green purchasing can be based on two components: the environmental performance evaluation of the suppliers and the willingness to help suppliers improve their performance. Those responsible for purchases and the supply chain are in a strategic position to influence the size of the company's environmental footprint, namely, with the selection and evaluation of suppliers, relationship development, and purchasing processes. This means that they can have a big impact on the capacity of the company to stand out and maintain competitive advantages by reducing costs, strengthening ties with customers, and creating a positive reputation in the market.

There is still the concept of green procurement (associated with green purchasing), which refers to a set of organizational practices to efficiently select suppliers with technical capabilities, eco-design, environmental performance, and that can support the environmental goals of the company [40]. In summary, green procurement is the integration, in a company acquisition and buying criteria, of environmental and social concerns beyond economic ones. Nonetheless, the implementation of sustainable practices requires new activities and/or resources, involving different staff of various functions and probably of various new business relationships and organizations [5].

The practical implementation guide of sustainable procurement, published by the Business Council for Sustainable Development (BCSD Portugal) [41], states that there is not a single path to achieve a sustainable procurement process in an organization. However, there are five common elements among the successful programs: (i) define and disseminate the sustainable purchasing policy; (ii) involve the organization; (iii) establish measurable objectives and goals; (iv) identify the priority products/services and evaluate the impacts and risks associated with them; and (v) build partnerships with suppliers.

In addition, the use of smart technologies and tools, such as the Internet of Things, remote sensing, and blockchain, have the potential to develop sustainability [42], particularly the use of blockchain to ensure traceability of raw materials, materials, products, and processes [43]. However, the use of such technologies should not reduce the amount of contracted labor in order to be sustainable from a social point of view.

In this way, focusing on the coffee sector, the development of a sustainable supply chain and a respective purchasing policy, ideally, should follow the recommendations based on the literature, focusing importantly on its adaptation to the coffee industry.

2.3. Sustainability in the Coffee Industry

Coffee is one of the most consumed beverages in the world, with significant importance on the daily routines of many people. Thus, it has a significant social and environmental impact. Approximately 90% of world coffee production comes from 45 developing countries, involving 25 million farmers, and employing more than 100 million people. This is associated with a very complex global coffee supply chain which involves: producers, commodity traders, mill, transport, exporters, shippers, brokers, importers, roasters, packagers, distributors, and end consumers [44]. However, to date, few studies have focused on sustainability practices in the coffee industry with special attention to the supply chain. Our literature review leads us to Nguyen and Sarker's [45] research with an interesting approach to sustainable coffee supply chain management—involving viewpoints of all related stakeholders—where they state that the coffee sector is facing enormous challenges influencing sustainable supply chain management. Bager and Lambin [30] concur, arguing that even though actors have ambitious commitments addressing

sustainability, our knowledge remains incomplete, and despite the long journey, only a few progressive companies are leading the way.

Although sustainable production is a relatively recent concern in the coffee industry, there is a growing number of customers willing to buy certified sustainable coffee [45]. Certified coffees focus on at least one facet of sustainability, and there is evidence that they increase the profitability of coffee farms, with the most common certifications being Organic, Fairtrade, Rainforest Alliance, Bird Friendly, UTZ, Starbucks C.A.F.E. Practices, and 4C [45]. Nguyen and Sarker [45] propose a holistic approach to a more sustainable coffee supply chain that encompasses six main factors influencing sustainability in the agrifood sector: sustainable farming, environmental management, supply chain management, reverse logistics, marketing, and corporate social responsibility (Figure 1). This tool should be considered and used to adapt to the goals of each organization.

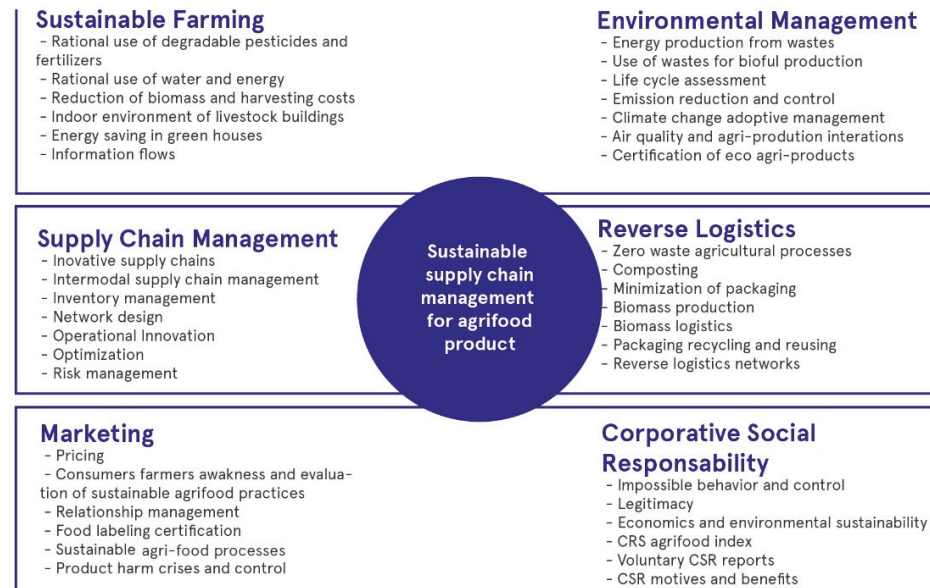


Figure 1. “Conceptual framework for sustainable supply chain management for coffee” adapted from Nguyen and Sarker, 2018 licensed under CC BY 4.0.

According to the literature review, we can conclude that corporate social responsibility and the focus on sustainability might not have an immediate visible impact. Nevertheless, it influences relationship management, increases customer satisfaction and confidence, efficiency, quality of life, and innovation promotion [4,27,35,39,44,45].

2.4. Food Safety

Food systems have long been directly concerned with sustainability. Understanding the food system (conservation, processing, production, and storage) can provide insight into the value of local sustainable agriculture and new trends in food supply. In many countries, food control systems have a strong presence in businesses and a significant impact on consumers’ lives, with regulations that vary from country to country and within and outside Europe. Improper storage, too high or too low temperatures, or poor air quality can damage the product, create waste and be a big problem for businesses, which fails consumers [46].

In Portugal, one of the main food safety programs certified by Delta is Hazard Analysis of Critical Control Points (HACCP). This certification aims to control good practices of food safety, food quality, preservation, and how waste is managed to ensure consumer

protection. In the case of food companies, goods manufacturing and hygiene practices are essential, as well as controlling the origin of raw materials (agriculture that guarantees the environmental and social sustainability of farms, among other things). Storage, marketing, preservation, and transport must also be controlled, according to rules, to ensure compliance with quality and safety requirements before reaching consumers [46]. The HACCP is a certification with rules and processes implemented by the government and may vary depending on the country. The government and the entity that represents it are thus responsible for ensuring the implementation and control inspections of these procedures [47].

Other quality assurance standards can and should be combined with the HACCP. Associated with the agri-food topic, we can identify ISO, which focuses on health, safety, and quality. ISO has various legislations and combinations depending on the sector in which the company operates. Having control of all points in the supply chain, guaranteeing product quality and certification by the relevant entities will allow the consumer to trust the brand even more. Controlling the supply chain based on these food safety standards will prevent the occurrence of health problems and increase confidence in the brand and its sustainability. Proper supply chain management and ensuring compliance with the standards applied to waste, waste emissions, raw materials (used in both product and packaging), coupled with the control of all inherent processes, will thus increase the sustainability of the process and the environment [46].

2.5. The ARA Model as an Important Tool to Analyze Sustainable Supply Chains and Purchasing Policies

The ARA model was developed by Håkansson and Johanson [48] and Håkansson and Snehota [22]. This model identifies interactions in business networks according to three elements: actors, resources, and activities (ARA). The three entities relate to each other not only using key aspects of relationships between organizations, but also at all levels inside the organizations, including the relationships among individuals [49]. The ARA model represents a crucial tool for conceptualizing B2B relationships, and it aids understanding of how networks and supply chains may merge or connect at different levels of a company's sustainable purchasing policies. Therefore, it is important to be aware of the main role of each element.

- **Actors**

Actors can be individuals or collectives of people, such as groups, parts of companies, or companies, and are those who carry out activities or control resources. Actors invest and develop relationships with other actors to access, use, and combine resources to enhance the performance of their activities [50]. These activities are usually performed with other actors involved (due to the relationship developed), with the main purpose of reaching strategic goals to benefit the organization or networks of organizations of which they are a part [49].

- **Resources**

Resources are available as heterogeneous means used by actors to achieve goals throughout activities [50]. They can be tangible or intangible, meaning they can be raw materials, facilities, human knowledge, experience and skills, operating systems, etc. Combined with other resources, they can be increasingly valuable because the connection to activities (developed by all actors involved that have relationships bonds) leads to new knowledge and more opportunities [50,51]. Because of this, resources can be changed, developed, reused, and recombined in networks, and it is an interaction process that creates value for all parts involved [51].

- **Activities**

Activities bring life to businesses and their networks. They can arise from different departments in an organization, such as producing goods, processing information, paying

bills, providing services, etc., aiming to create all kinds of different effects and promote better relationships between all parts involved. The activities are influenced by actors and resources at any level of the organizational network, so any change creates different impacts [49–51]. Hence, the ability of companies or actors to adapt their activities, using their resources, to other strategic organizations or partner structures is crucial. This enables the design of activities that would help achieve the outcomes needed to reach the ultimate goals [50]. Therefore, it is fair to say that activities are interdependent, being part of an interactive ecosystem that involves actors and resources in the business landscape.

In summary, it is important that the ARA model perspective plays a key role in business relationships and commitment between counterparties [22,48]. Applied to our study, this approach aids in understanding how these three entities work together, giving us a holistic view of how the organization works to achieve a sustainable supply chain and green purchasing policy.

3. Research Methodology

This study relied on case study research. Given the nature of the research questions and despite sustainability being a new topic for some companies, others have already been implementing environmentally responsible and sustainable strategies and, therefore, case study research can be a valuable method to investigate sustainable business actions in value chain and, more precisely for our analysis, to supply chain. Hence, checking the theory against the empirical material is of vital importance as they are interrelated [52]. Then, considering what is discussed in the literature and how the authors relate supply chain strategy to sustainability, it is appropriate to analyze a rich and illustrative case as an example of a company that is putting into practice sustainable practices and recommendations provided by the literature. Moreover, case study analysis and research are ideal for investigations related to the applicability of a contemporary phenomenon in a real-life context [16]. This is an appropriate and suitable method to explore, understand, and discuss how companies are implementing sustainable concerns and practices related to buying and supply chain management. Finally, case study is also a good method to find and show how sustainable buying practices of companies add value to all of those involved and affected by the practices, from suppliers to employees and clients. According to Baraldi et al. [53], in these conditions, it is appropriate and adequate to develop a single case study.

For this research, we used several secondary data and materials collected from diverse origins and sources related to the company and with the business, as well as class and trade associations. In addition, the Delta Cafés Corporate Marketing Manual, and the Grupo Nabeiro's Sustainability Report [54] were crucial sources for collecting data about the organization, particularly to help us understand and clarify the dynamics of the organization and the key factors that were essential to transform the company into a consolidated and sustainable group. Additionally, recent news has been published in the media, highlighting Grupo Nabeiro. The enterprise has received several prizes and public acknowledgements related to its working culture and salaries [55] as well as innovations [14] related to its coffee business through the brand Delta Cafés. The fact that the company is a producer and trader of coffee, made this an interesting topic for analysis, since coffee grain has long represented a challenge for companies, especially those that want to have a responsible attitude in the coffee value chain. After undertaking initial research on the company, we found that it already had in place some programs to help their suppliers in such countries as Angola. In addition, the company is innovating by not only respecting the product (coffee) and the people but by trying to produce coffee in specific regions for the first time, such as the Azores, Portugal [15]. At the same time, this company was developing new solutions to reduce waste materials where coffee is packed (e.g., espresso capsules for home consumption). Here, we identified a major challenge for the company not only in its supply chain strategy, but also in its efforts to transform into a sustainable business. This was possible only because of the work being undertaken on managing relationships,

as discussed in the literature review, and which is of great importance to this analysis. Finally, to develop this case study, Grupo Nabeiro’s availability in giving us secondary data through their sustainability reports was of great value.

Furthermore, our case study research combines empirical material collected with the application of the ARA model [48]. This approach allows us to understand and show how the three elements of the ARA theoretical model—actors, resources, and activities [48]—are related to each other in the case study we analyzed. The purpose of this investigation was not to find a statistical pattern in our findings [16], nor to find an exception to the norm. Instead, our goal was to find and explore a company where the theoretical background successfully meets the operational processes, constituting a rich and interesting case [16].

Figure 2 shows a flow diagram explaining the entire course of action of our research.

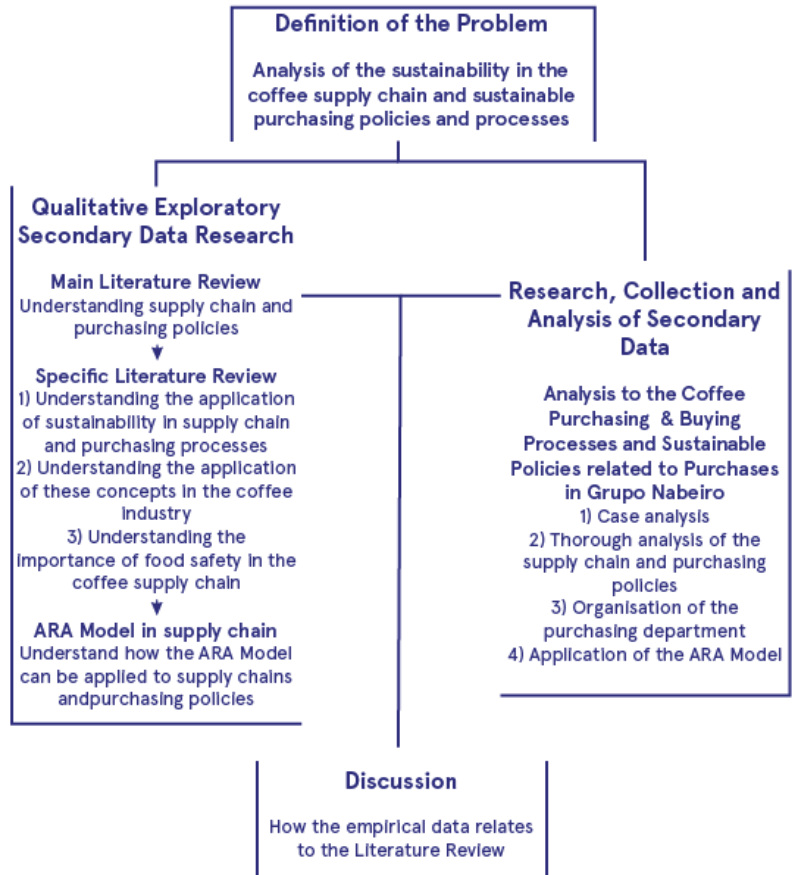


Figure 2. Methodology flow diagram.

4. Results

4.1. Understanding the Case Being Investigated

Grupo Nabeiro, the owner of Delta Cafés, was established in 1961 by Rui Nabeiro in the town of Campo Maior in a small warehouse. Without many resources, the company’s activity started with just two small roasters with a capacity of 30 kg. In 1984, with a substantial investment in technology, NovaDelta began. The process of internationalization began with new companies within the group for different industry sectors, such as equipment and services for hotels, restaurants, and distribution, among others. The group

favors raw materials and social questions, through loyalty and support to its suppliers, promoting associations and technological spaces, and events, such as festivals, highlighting the importance of values.

Grupo Nabeiro has been a member of International Coffee Partners since 2018, promoting the improvement of the quality of life of coffee-producing families [54]. The group acquires certified coffees, contributing in various ways to environmental and social sustainability, and with three certifications in its portfolio [54]: (i) bio and organic coffee (two products)—values natural agriculture, promotes the health of consumers and the environment, as well as soil health and biodiversity while ensuring sustainable consumption of water and electrical resources; (ii) fair trade coffee (one product)—fairer trading conditions and opportunities for producers in developing countries so that they can invest in their business and communities for a sustainable future; and (iii) UTZ coffee (one product)—increases the training of farmers, giving them greater profitability, productivity, and sustainability. Besides these certifications, the organization has a policy that more than 60 varieties of coffee from different origins are acquired to promote biodiversity [56] and preserve the ecosystems where they are produced [54].

4.2. Analysis of the Supply Chain and Purchasing Policies

The values in the culture of the organization's purchasing department are sustainability, quality, productivity and efficiency, maintenance, biodiversity, and profitability. Throughout the process, from the purchase of the raw material to the product transformation and reaching the final consumer, these values always influence the purchasing policies and, consequently, the decision-making. Delta's purchasing department is part of Grupo Nabeiro's purchasing center. The coffee bean selection process enables the enterprise to obtain excellent products and high-quality blends adapted to different markets. In international markets, Delta is assisted by various distributors, ensuring that quality meets consumers' preferences.

4.3. Organization of the Purchasing Department

Delta Cafés' purchasing department is structured by buyers and management assistants organized by suppliers' companies and purchasing types. Thus, they are responsible for purchasing raw materials, subsidiary materials, and packaging. They must choose and find the right supplier, which can simultaneously achieve quality, quantity, deadline, and price, without forgetting the company's culture and values. Grupo Nabeiro has a wide range of suppliers that may respond quickly to its needs without disrespecting its values. They are divided into two categories: (i) raw material suppliers, which own the plantations, harvest, and dry the coffee beans; and (ii) subsidiary material suppliers, which are packaging, palletize coffee, paper, cardboard, sugar, and cinnamon suppliers. When purchasing materials for Delta, the purchasing department, with the help of a supplier qualification system, manages to simplify the decision process, which allows a quick analysis of the necessary criteria for decision-making. It helps solve problems and creates a relationship of partnership and grants management of the supply chain involving the various suppliers. The main guiding factors in this decision-making are sustainable development, regulatory integrity, responsible innovation, quality, health, respect for human rights, condemnation of child labor, sustainability at its origins, environmental responsibility, and free competition. After evaluating the quality system HACCP, the environmental management system, health and safety at work, social responsibility, years of experience, nationality, financial risk, deadlines, and evaluation of results, the decision is made, always considering the group's values: efficiency, sustainability, and solidarity, based on privileging small producers. An example of combining suppliers and their environmental values for a well-functioning supply chain is shown in Figure 3.

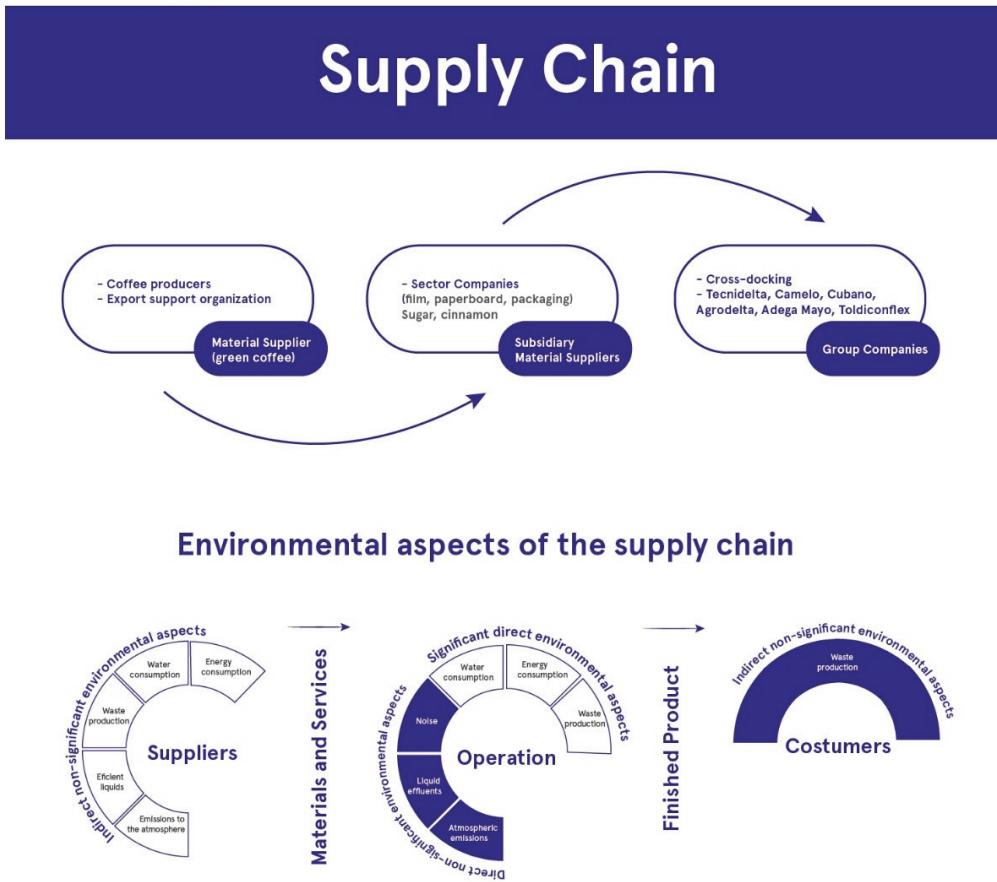


Figure 3. Supply chain and environmental aspects in the value chain of the Grupo Nabeiro [54].

4.4. Application of the ARA Model

As explained in Section 2.5, the approach of the ARA model [48] can provide a holistic view of practices that allow achievement of a sustainable purchasing policy. Grupo Nabeiro implements a culture of innovation and shared knowledge based on eco-design principles that allow market leadership and sustainable financial returns. The management model values entrepreneurial capacity and the spirit of continuous improvement, integrating actors to coordinate activities to make resources renewable. The key factors (actors, resources, and activities) are related and used in the purchasing policy, which leads to the company’s success, as will be explained next.

First, a combination of internal and external actors contributes to the control of available resources. The company buys from small producers that ensure sustainable growth and contributes to conscious coffee production, which reduces environmental impacts, while also improving the economic and social conditions of these producer communities. With the encouragement of the revitalization of the coffee sector, this company contributes to Angola by promoting the quality of life of small coffee producers through technical and commercial training actions.

Second, actors develop and augment resources and create new resources and activities. Commitment to the safeguard of natural resources, the forest, and biodiversity guarantees the existence of a quality product in the necessary quantity to meet the growing demand

for coffee. The diversity of the origins and varieties of coffee the company buys is what sets them apart in this sector. This occurs with the awareness of customers about the diversity of coffee origins, with the launch of new products and certifications.

Third, new resources emerge when actors control the company's activities. The purchase of sustainable materials enables the company to identify opportunities that increase the circularity of materials present in the value chain. Thus, all resources are managed, enhancing their value and usefulness, promoting reuse, increasing efficiency, developing new business models, and giving new life to all components. This occurs with the valorization of Delta Q capsules in a recycling program that separates the coffee grounds from the packaging material, transforming it into compost and raw material for a new industrial process, and replacing some of the plastic materials with paper and certified wood.

5. Discussion

Society is becoming increasingly conscious about sustainability and sustainable development in both developed and developing countries, and environmental legislation and regulations have increased accordingly [57]. This concern extends to companies that are learning that applying sustainability practices to their strategic supply chain management plans gives them competitive advantages that are difficult to imitate [18]. Despite the existence of supply chain management in the coffee industry, there is still a long way to pursue more sustainable practices. This case study shows how Grupo Nabeiro, through the brand Delta Cafés, a well-known coffee company, with its business management practices and operational processes, meets the theoretical core ideas related to sustainable buying practices with success. We then discuss the positive and negative sustainable practices found in this study.

5.1. Positive Sustainable Buying Practices

The literature review emphasized how business relationships, trust, and commitment are important for companies that want to achieve sustainability, once this goal is dependent on others. By examining the data collected from the company under study, we can understand and establish a bridge between the theoretical and empirical parts. Grupo Nabeiro closely matches what the literature review presents in its organizational culture, sustainable practices, and sustainable supply chain management. Our results and findings enlighten and show how the buying processes involve a well-organized group of people that nourishes relationships with suppliers (other actors) trying to ensure that the company obtains a variety of goods of great quality. At the same time, the company is trying to drive through better practices, especially with suppliers located where sustainability comprehension is weaker [35].

With the support of the ARA model, we show how the organization chooses to involve actors to implement activities and use resources that guarantee respect for the triple bottom line approach; they care about people and the planet as much as profit (Elkington, 2018). Moreover, we show integrated supply chain management, in line with Hasan's [39] defense of green purchasing. We show how the company cares about environmental issues, evaluates suppliers, and develops practices to help suppliers improve their sustainable performance.

Additionally, our analysis shows that the company tries to reinforce the application of the holistic approach to a more sustainable coffee supply chain, as proposed by Nguyen and Sarker [45]. Our analysis shows how this firm implements projects for sustainable farming by training farmers and picks new locations for coffee production (locations that have never had coffee production before). We provide evidence that the company promotes environmental management by investing in achieving certified coffee, for example, through a capsule recycling program, works on supply chain management through relationships developed, which enhances the company, and these findings are contrary to those of Kumar [23], who found that not all collaborative relationships have good results. The

reverse logistics were developed to enhance resources and adopt new activities to reuse resources; corporate social responsibility was achieved by, for example, promoting fair trading conditions and opportunities for producers in developing countries and, finally, marketing efforts were made to share projects and sustainable practices, creating a positive reputation in the market.

We found a confident attitude and transparent intention from Delta Cafés within all the counterparties involved (partners, consumers, and coffee lovers). Therefore, it is fair to say that this company works to effectively boost the growth of all communities where their suppliers are located, spreading their beliefs and their values, which can positively impact the largest number of people.

Our case study shows how a business can create and develop good practices to spread sustainability through the supply chain [34]. Maintaining sustainable management of the coffee supply chain would contribute to the stable economic development of the world, stimulate the development of local agriculture, boost employment, and develop the sustainability of society and the environment [4,27,39,44,45].

These practices contribute to maintaining competitive advantages and strengthening ties and business relationships that are strategic for achieving the company's sustainability goals, once these results are most likely to be successfully achieved through cooperation with stakeholders [45].

5.2. Negative Sustainable Buying Practices

Although the study of Nguyen and Sarker [45] is in line with our research, as mentioned above, it also shows some differences. They focused on the viewpoints of all related stakeholders (diverse actors), while our research focused on one main actor that tries to be involved in all stages of the coffee supply chain. Therefore, there are some issues in each of the six main factors influencing sustainability that remain unclear to our research, such as energy concerns, pricing policies, and agricultural processes.

Kittichotsawat et al. [42] advocate the use of smart technologies and tools for sustainable development potential, but since in this study we did not find evidence of the company promoting such technologies to suppliers, this opportunity was identified as being missed. Moreover, using the framework proposed by Abreu et al. [3] regarding the dynamics and factors that provide sustainable solutions, Grupo Nabeiro, the owner of Delta Cafés, fails in two dimensions: traceability and consistent behavior or practices. The first problem relates to traceability, because not all coffee traded by the company has traceable origins for the consumer. Blockchain can be used for traceability purposes (e.g., [43]). The second problem relates to inconsistent behavior or practices, because certifications are applied only to a reduced range of products, as is the case with organic certification. This negatively impacts not only the sustainability of coffee but also the profitability of the coffee farm [45]. The first factor is more impactful for sustainability but easier to solve; hence, it implies only the disclosure of information that the company already has. The second problem relates to inconsistent sustainable behavior or practices that cannot strictly be interpreted or analyzed in the coffee industry. This is because coffee can be sustainable without certification. Nevertheless, we consider that there should be a constant update of certifications to keep the business up to speed with all sustainability requirements.

6. Conclusions, Contributions, Limitations, and Further Research

Our research shows how a business firm may develop and shift to more sustainable buying and business practices in the coffee industry supply chain. We show there is not a great number of focused studies about the coffee industry supply chain and green purchasing in this scope. Nevertheless, the literature recommends paths for more sustainable business and buying practices. Furthermore, it is possible to develop policies and practices in addition to the company's values and culture that would impact and increase the business efforts to achieve sustainable buying processes. Our findings and discussion highlight how the business, and particularly the buying practices of the company selected

for our case study, follow the literature on corporate sustainability. The case analyzed shows an innovative case of sustainable supply chain management and green purchasing practices by creating sustainable ecosystems, not just for all suppliers and counterparties they choose to work with, but for their entire community and business network. As our main finding, the present study proposes that companies carefully consider the ecosystem that is associated with the partners they have business relationships with. This would master positive perceptions among a great number of people, including consumers, and ultimately create positive intentions toward them.

Our research shows and discusses the positive and negative purchasing processes and practices regarding sustainability concerns and issues, and finds it is pertinent for addressing the issue of food safety, an implicit concern in the food industry, and for Grupo Nabeiro, which has a certified system with HACCP and ISO 22000: 2005, based on food safety, food defense, and food fraud. The system allows the company to guarantee the quality control of its product and its sustainability values, giving more confidence to consumers, avoiding the occurrence of health problems, and increasing its impact on environmental sustainability throughout the supply chain.

Nevertheless, our research is limited by the data collected. Furthermore, this research involves only one case study focusing on a single company chosen for being considered a good and rich representative of sustainable implementation buying practices. Thus, further research involving other companies, case studies, and situations, including diverse industrial sectors and business firms, should be developed to extend our findings. However, there is a lack of research in this field. Therefore, further research is needed to explore more and diverse ways to implement sustainable business practices to reduce the impacts that companies have on society and the environment. Many issues remain to be considered, innovated, and explored. Above all, commitment is needed of all stakeholders, showing a genuine desire for long-term sustainable change.

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Data Availability Statement: Publicly available datasets were analyzed in this study. This data can be found here: [54].

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Conflicts of Interest: The authors declare no conflict of interest. There was no funding from Grupo Nabeiro in this study. The public access data used was provided by the company to us, by email, due to our request to develop this case-study. From then on, the analysis of the data, the conception of the ideas, and the writing of the article were entirely the responsibility of the authors who are part of this study. We further declare, the founding sponsors, the ADVANCE/CSG, had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, and in the decision to publish the results.

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Employer Branding as a Talent Management Tool: A Systematic Literature Revision

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Abstract: The aim of this paper is to present a systematic literature revision (SLR) that shows the relationship between the concept of employer branding (EB) and talent management (TM). Based on the EB model proposed by Backhaus and Tikoo in 2004, and the macro-contingent model for talent management introduced in 2019 by King and Vaiman, we intend both to analyse the theory correlating the EB concept and TM, and to identify TM dimensions that are reflected on the EB concept. A systematic literature revision was carried out using the Preferred Reporting Items for Systematic Reviews (PRISMA) protocol in order to identify and sum up the most relevant studies of the last 10 years concerning these topics. Findings show that scientific literature on the subject grew considerably in the last four years, reflecting the rising concern over the creation of an employer brand at the organisational level. EB explores talent attraction and retention particularly, though, unexpectedly, is also becoming a concept explored by nations to attract a qualified workforce. Analysing selected articles, we may conclude that EB is clearly considered as a tool within the largest process of talent management.

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Keywords: employer branding; talent management; systematic literature revision

1. Introduction

The market paradigms in existence have suffered a radical change since the 1980s following the changes in the economic paradigm due to the evolution from an industrial economy to a knowledge economy [1]. Consumers have become more demanding, and that rapidly resulted in shorter and shorter product and process life cycles. Markets that were, until that point, part of more or less stable economies suffered the impact of globalisation, and ‘turbulence, disorder and unstable balance became the main features of the new competitive landscapes’ [2] (p. 17).

This background of fast changes and the global economy leveraged by technological evolution provided an unprecedented focus on the importance of people possessing knowledge within organisations. Attraction and retention of talent by organisations became consequently more and more strategic and vital to organisational success and sustainability. As mentioned by Michaels, Handfield-Jones, and Axelrod, [3] the biggest organisational competitive advantage is the ability of the organisation to develop and maintain (i.e., manage) talent both in turbulent and stable times. The search for tools capable of managing talent has assumed great relevance over the last decade. EB has emerged as one of the most complete tools based on the culture and reputation of each organisation.

EB provides employer value proposition (EVP) and emerges as a differentiation tool, as well as an identification and employees’ commitment mechanism [4] towards each organisation: ‘the employers’ brand role and impact rise to a new relevance within talent and employees ‘careers management’ [5]. Therefore, the present research aims to show evidence of the importance of the EB concept to talent management, especially as a tool

to attract and retain the best employees within the organisations. In order to do so, the research concerning the correlation of these two topics on the last 10 years was systematised, and the EB models identified throughout this revision were listed.

1.1. Talent Management

The new challenges organisations are facing force them to distinguish themselves from one another to accomplish competitive advantage in the market. This advantage is reached through new work forms and structures, more flexible and more able to achieve agility when addressing markets, human resources practices that improve internal organisational creativity [6], and particularly by investing in ‘the right employees’ [7]. According to Klein [8], these employees possess traits, skills, values, and experiences that match the intellectual capital, and form the organisational competitive differential, that also contributes to organisational success or failure.

In this view, talent emerges as the central key of organisational strategy—talent is considered a key factor to organisational success and sustainability, and talent management assumes the central role becoming an imperative of human resources management rather than just a best practice. Organisations must therefore design and apply specific strategies concerning the attraction, retention, and development of their talents [9].

Talent is per se a complex concept, not always consensual amongst the authors addressing it. Michaels et al. [3] (p. 12) define talent as the ‘set of skills of a person—gifts, capabilities, intelligence, insight, attitude, character, and innate impulses, as well as the ability to learn and self-improvement’. The authors understand talent as something focused on knowledge, skills, innate and acquired abilities, behaviour, values, and the potential for development.

On the other hand, Câmara, Guerra, and Rodrigues [10] explain that talent consists of good interaction between three dimensions: action, passion, and vision. Action is defined by the authors as the set of competences that enable the employees to execute their tasks. Passion concerns both the enthusiasm revealed by workers when executing their functions, and the commitment and sense of respect towards the organisation. Finally, the vision matches the workers’ sense of anticipation, allowing them to perceive the potential they might achieve in the projects they are involved in.

According to Tansley and Tietze [11] (p. 1802), talent management encompasses the ‘attraction, identification, development, retention, and deployment strategies and protocols’ of employees that reveal high levels of potential, adding value to the organisation. According to Henriques [12], however, these authors show a ‘transversal functional perspective’, meaning they only mention individuals with high levels of potential. Therefore, in order to include all employees, Henriques [12] defines talent management as a mechanism to assure that the workers are properly prepared to execute the functions attributed to them while maintaining their development.

A model of talent management derived from a macro-contingent approach was introduced in 2019 (see Figure 1). This model provides the macro-contingent vision of organisational talent management and is intended to illustrate the dynamic relations between talent systems at both micro and macro levels, therefore enhancing the overview of organisational talent management considering the broader landscape of the macro system(s) in which the organisation is integrated [13].

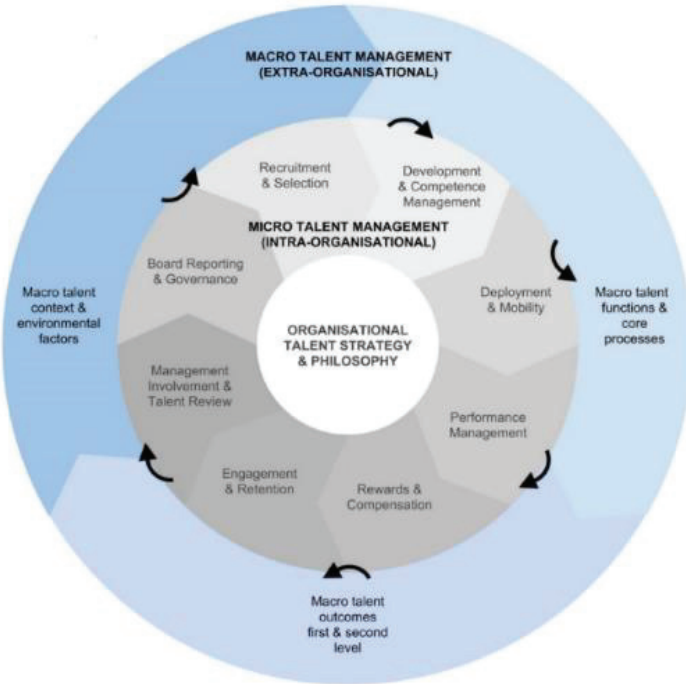


Figure 1. Talent management macro adaptive approach. Source: King and Vaiman (2019) [13].

1.2. Employer Branding

EB is not a new concept; back in 1996, Ambler and Barrow [14] (p. 8) described the employer brand as the ‘functional, economical and psychological package given by a job matching the employer company’. Nevertheless, the concept has been growing to a more relevant role concerning talent management [5]. The designers of the first EB model (see Figure 2), Backhaus and Tikoo [15] point out three vital assets to create the employer brand: organisational culture, organisational identity, and differentiating value proposition.

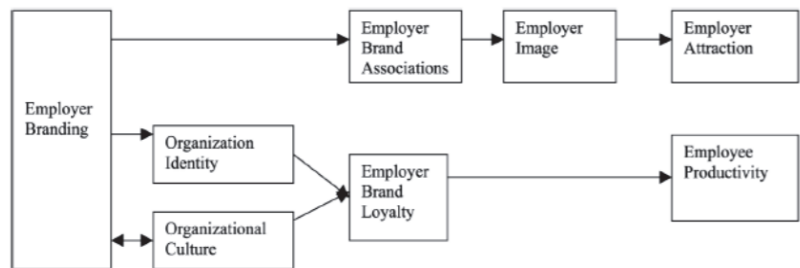


Figure 2. Backhaus and Tikoo framework (2004). Source: Backhaus and Tikoo (2004) [15].

With the conceptualisation of this model, the authors intend to make the comprehension of the dynamics associated with the concept easier, as well as the importance of the narrow relationship between marketing and human resources to the implementation of an EB process.

Since the expression ‘war for talent’ was created by McKinsey—one of the most important human resources consulting companies in the world—in 1997, EB processes have assumed a central role in organisational strategy because organisations realised that they would have to fight this ‘war’ on the following years if they wanted to attract and retain the talents relevant to their sustainability. Although brands and branding are not a recent topic, organisations are now applying the concepts to new management areas [16]. Branding, according to Kotler and Lee [17] (p. 215), is ‘the identity developing process of an intended brand’. EB is the expression used to refer to the applicability of brand elements to human resources management. Sullivan [18] advocates that EB expresses the notion that designates a company as a good environment to execute functions.

It is of the utmost importance to clarify the concept and systematise its models due to the relevance the concept has been developing over the years, and because the introduction of EB within the organisation is becoming more and more a necessity and no longer an option. Therefore, one of the goals of the present systematic literature revision is the clarification of the concept and its dimensions.

2. Methods

Conceptualisation and reflection on talent management and EB concepts lead to the question that guides this research: Which dimensions of talent management are reflected in the EB concept?

The proliferation of academic studies and the speed of concepts evolution in recent years demand a systemic approach to access and aggregate these research results to grasp a coherent and integrated sum of investigation results. This supports the choice of a systematic literature revision (SLR) according to the protocol currently accepted by the scientific community.

Bryman [19] lists the following steps to perform an SLR: (a) defining the revision goal and scope; (b) researching studies relevant to the revision scope and aim; (c) analysing and subsequently summarising the results of each study.

We believe that three specific goals operationalise the investigative question mentioned above: (1) analysing the most important studies that link the two concepts, EB and TM, in the last decade; (2) identifying the EB dimensions introduced in those studies; (3) comparing dimensions that emerge from our research with the TM model based on a macro-contingent approach presented in 2019, which includes both macro and micro levels.

2.1. Strategy and Research Sources

This research follows the guiding lines of the Preferred Reporting Items for Systematic Reviews (PRISMA) protocol, a development regarding the QUOROM protocol [20] whose aim is to guarantee that systematic revisions are conducted in a complete, clear, and replicable way [21]. In August 2009, the PRISMA protocol introduced the PRISMA Statement [20] that clarified several phases of this type of research (see Figure 3). All the mentioned phases were accurately followed in our research, as was a checklist whose aim is the identification of all the items to be included in this type of literature revision. These items were an essential guide to investigators and formed a road map of the present study.

In the present study, data were collected using the B-On website. B-On is a research tool for scientific data that provides simultaneous research in several data resources managed by the Portuguese Consortium B-On, working as a browser that helps to consult the most reputable databases and those with higher impact on the academic and scientific communities. We chose Web of Science (WoS) and Scopus as sources to the most relevant editors—Emerald, Wiley, Elsevier, MDPI, or Sage. The scope and reach of the selected sources allowed us to find credible results and suitable data concerning the proposed systematic revision.

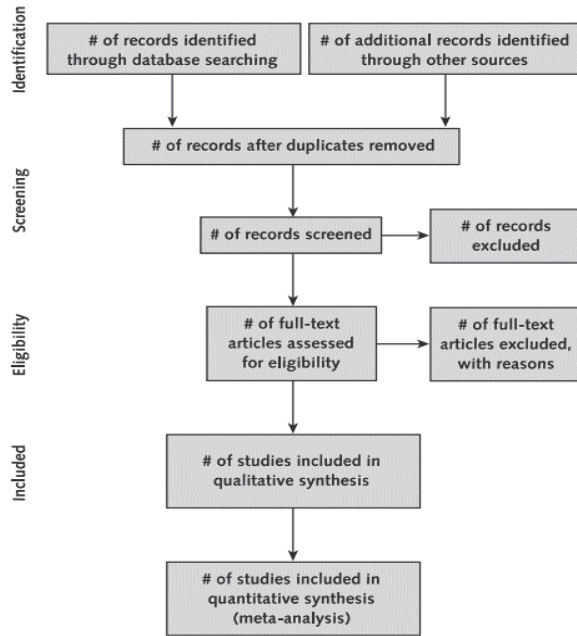


Figure 3. PRISMA protocol phases. #, identify each stage that should be followed by researchers. Source: The Prisma Statement, Moher et al. (2009) [20].

2.2. Studies Eligibility Criteria for Analysis

Eligibility criteria aim to match the data collection with really relevant studies concerning the goals of this SLR. In order to do so, the following five criteria were selected:

1. Scopus or ISI (Web of Science) indexed articles;
2. English language;
3. With peer revision;
4. With these keywords: talent management and employer branding (together and also employee attraction and retention) or the employer branding models (EB Models) present in the abstract;
5. Dated between 2010 and 2020.

2.3. Data Collection

Data collection was formally performed on January 2021 and encompassed the time period ranging from 2010 to 2020. It was conducted using a virtual private network (VPN) connection to the University of Évora. Keywords and data filters were applied to WoS and Scopus. Afterwards, these eligibility criteria were used to select the final corpus used in this research, excluding non-proper articles, articles in languages other than English, and repetitions found in both databases.

The bibliometric analysis was applied to the final selection (see Figure 4)—60 articles fulfilling the previously mentioned eligibility criteria. In total, 63 articles were excluded due to repetition, showing us that WoS and Scopus clearly display similar exigence and acceptance levels and are the most widespread and trusted databases within the scientific community in the study.

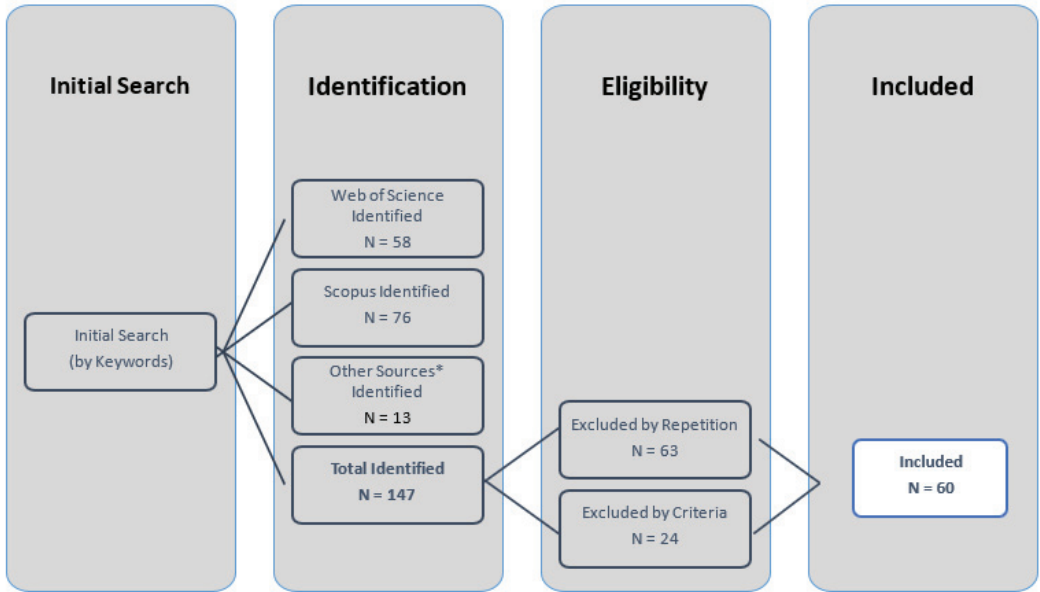


Figure 4. Articles choice process schematics. Adapted from PRISMA Statement, Moher et al. (2009) [20]. Developed by the authors. * Directly from authors.

2.4. Collected Data Analysis

The collected data were submitted to two distinctive analyses, as carried out lately for authors on RSL analyses [22]. This method seems to be adequate to achieve relevant conclusions in this kind of research. First, a bibliometric analysis was conducted; its metric results were analysed and interpreted—publication year, sources, quotation number, or countries where research in this study was performed. Second, a content analysis was performed; as intended, the aim was to identify the dimension of EB focused on studies that link EB to TM so that we could conclude about the TM dimensions that reflected EB.

3. Results and Discussion

3.1. Publication Date

During the first half of the decade in the study, only around 2 articles per year were published (see Figure 5). From 2015 onwards, an annual growth of publications concerning the subject becomes clear, except in 2019. The most prolific year for publications concerning the connection between EB and talent management was 2020—17 articles. Overall, 17% of the scientific production analysed is from 2016 to 2020. Comparing 2018 and 2020 it is clear that the interest in the subject has unequivocally risen in the last 3 years, matching the perception of the growing importance of the subject in the academic arena; dealings of the organisational world have penetrated scientific discussion.

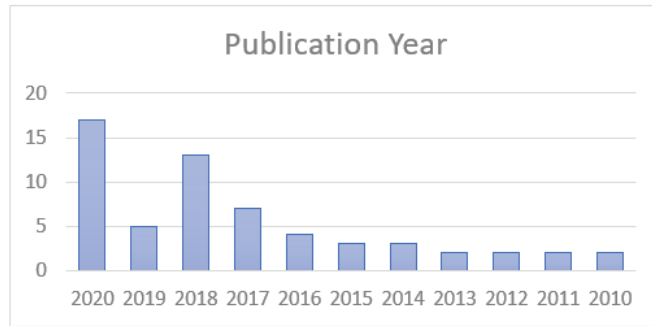


Figure 5. Publication date. Source: WoS and Scopus (27 January 2021).

3.2. Sources: Editors and Scientific Journals

Concerning sources, editors were analysed first (see Table 1). There are 18 editors in general, but Emerald Group Publishing has a clear advantage, accounting for 30 of the total 60. In other words, one editor accounts for 50% of the total sources, and none other is even remotely close. In fact, Emerald Group Publishing alone reveals the same number of published articles as all the other 17 editors combined; this alone underlines the weight of this editorial group on scientific publications in general.

Table 1. Editors. Source: WoS and Scopus (27 January 2021).

Editors	Number of Published Articles
Aosis	1
Assoc Computing Machinery	1
Associated Management Consultants Pvt. Ltd.	2
Vilnius Tech Journals	2
Elsevier	3
Emerald Group Publishing Ltd.	30
Igi Global	2
Jagannath Int Management Sch	1
Kaunas Univ Technol	1
MDPI	2
Nomos Verlagsgesellschaft Mbh & Co Kg	1
Philosophy Documentation Center	1
Routledge Journals, Taylor & Francis Ltd.	2
Sage Publications India Pvt Ltd.	3
Sloan Management Review Assoc, MIT S	1
SchManag	1
Syarif Syarif Hidayatullah State Univ Jakarta	1
Univ Tomase Bati & Zline,	1
FakManagEkonomiky	1
Wiley	5

Then, the selected articles published in scientific journals were analysed (see Figure 5). From a total of 47 journals, the *International Journal of Organisational Analysis* (Int J Organ Anal) stands out, with 4 published articles. Not surprisingly, this journal is part of the aforementioned Emerald Group Publishing. Based in the United Kingdom, the journal shows an H index of 25 and in 2018 it was already a Q2 journal. Next come two journals with 3 published articles: *Thunderbird International Business Review*, from Wiley, based in the United States, with a Q1 classification in business and international management in 2018 although falling to Q2 in 2020; and *International Journal of Organisational Analysis*, from the Emerald Group Publishing, based in the United Kingdom, with a classification between Q3 e Q2 (depending on the subject area). Again, the weight of the Emerald group is quite

evident. The remaining journals reveal mainly just 1 published article, and they are all indexed to Web of Science and/or Scopus, as defined by the chosen criteria (see Figure 6).

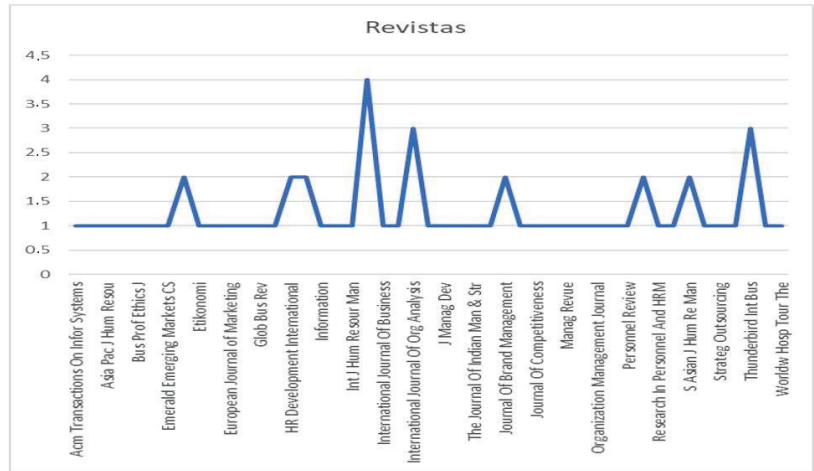


Figure 6. Scientific journals. Source: WoS and Scopus (27 January 2021).

3.3. Countries

The included articles were published in 22 countries (see Figure 7). India stands out with a third of all publications: 20 published articles. Worthy of mention is the fact that the African continent only provided 7 articles (slightly above 10%), and 2 of those were published in Mauritius, an eastern African archipelago with a population of less than a million and a half. On the other hand, the Asian continent shows a contribution close to 47% with 28 articles. The second most expressive value is not a country but scientific multinational collaboration; with 10 published articles, it represents about 17% of the total. From the total of 9 published articles on the European continent, a third were published in Portugal.

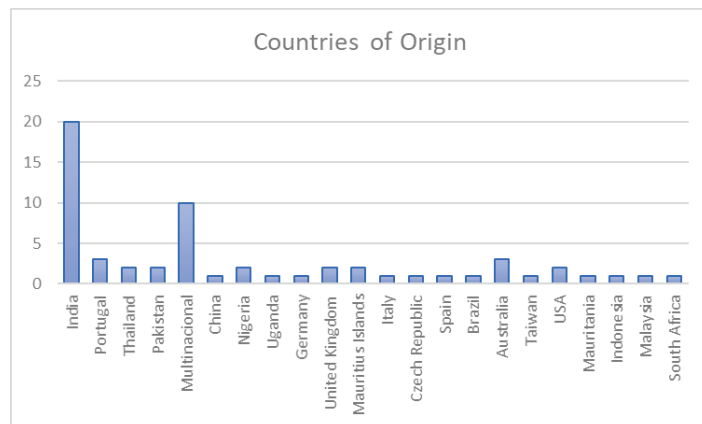


Figure 7. Countries of origin. Source: WoS and Scopus (27 January 2021).

3.4. Citations

In terms of citations, 1166 are present in the total 60 articles under analysis (see Figure 8), in plain terms, an average of 19.43 citations per article. However, a more detailed analysis reveals that both the mode and the median correspond to the interval 0–50. Therefore, we know that most articles contain relatively few citations per article, but 6 articles contain more than 50 citations; this means that 10% of the total published articles contain more than 50 citations. In this case, both mode and median tend to be more reliable because extreme values do not affect them, unlike the mean which is very permeable to this influence. The article with the highest number of citations is also the oldest one, ‘Employer Branding and its Influence on Managers’ published in the *European Journal of Marketing* from the Emerald Group Publishing. Next, with 174 citations, the article ‘Six Principles of Effective Global Talent Management’, published in the *MIT Sloan Management Review* in 2012.

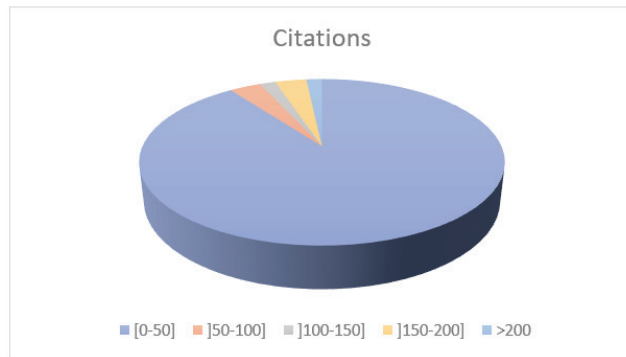


Figure 8. Number of citations. Source: WoS and Scopus (27 January 2021).

3.5. References by Article

Concerning references, the mode is in the interval of 60–80; almost a third of the articles are on this interval (see Figure 9). Only 1 article presents more than 200 references, and 6 others reveal up to 20 references. Considering references values between 40 and 100, 43 articles were found, which means that these values accommodate most of the studies’ references choice to develop their research. We conclude concomitantly that the scientific production itself is fueling new research, but no other inference can be made regarding this selection of articles. This suggests that the quality of the studies is beyond the references upon which the authors based their research.

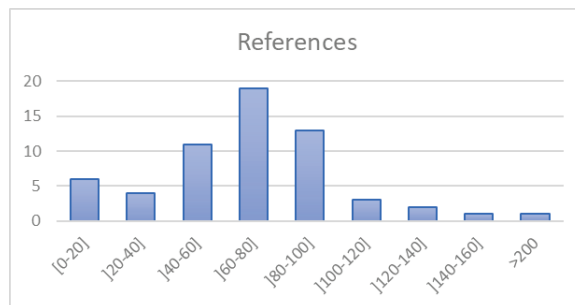


Figure 9. References per article. Source: WoS and Scopus (27 January 2021).

3.6. Methods

Figure 10 shows that the qualitative methodology is preferred in 35 articles when compared to 21 using the quantitative methodology. Therefore, 58% of the total published articles are guided by qualitative analyses. It makes sense, in fact, that the interpretive approach is mainly used in studies in this field of knowledge developed over the last decade because the qualitative perspective entails that the relationship between subject and results cannot be interpreted through numbers and is, therefore, characterised by descriptive research [23]. All the phenomena are interpreted inductively [23], finding dimensions previously unknown. The preponderance of qualitative approaches is consequently pertinent. A mixed methodology can only be found in 4 of the selected articles.

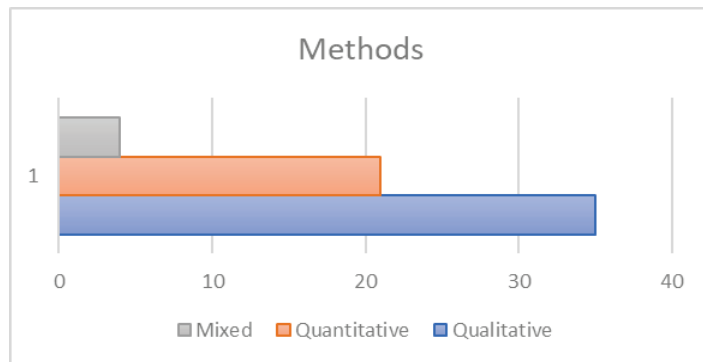


Figure 10. Research methods. Source: WoS and Scopus (27 January 2021).

When considering only quantitative and mixed methods (see Figure 11), we realise that most (76%) use multivariate statistics or structural equations. In total, 14% of the articles make equal use of factorial analysis and multiple regression, each represented by 3 articles that use these methods as their main statistical analysis.

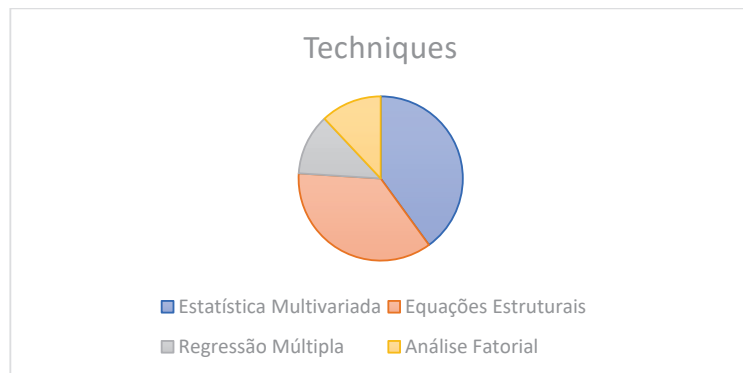


Figure 11. Main statistical technique. Source: WoS and Scopus (27 January 2021).

3.7. Keywords

Both the mode and the median values for this criterion are on interval three to five keywords given by the authors per article in a majority of 36 articles, i.e., 60% of the total selected articles (see Figure 12). There are 21 articles between six to eight keywords. It seems worth noting that there is 1 article with 10 keywords and 2 articles without keywords.

We conclude that 10 keywords are perhaps too many, as they widen the analysis field too much rendering the interpretation unpractical.

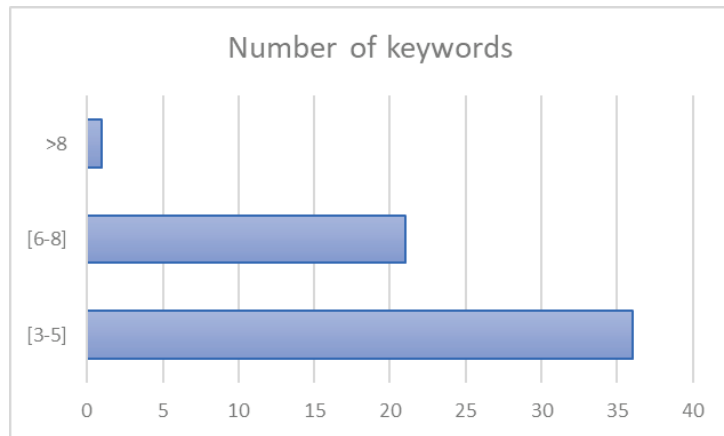


Figure 12. Number of keywords. Source: WoS and Scopus (27 January 2021).

The boxplot on Figure 13 shows the detailed outliers (0 and 10) that almost extrapolate the series, and the median, or second quartile, that stands on interval 3 to 5, on 4 to be precise.

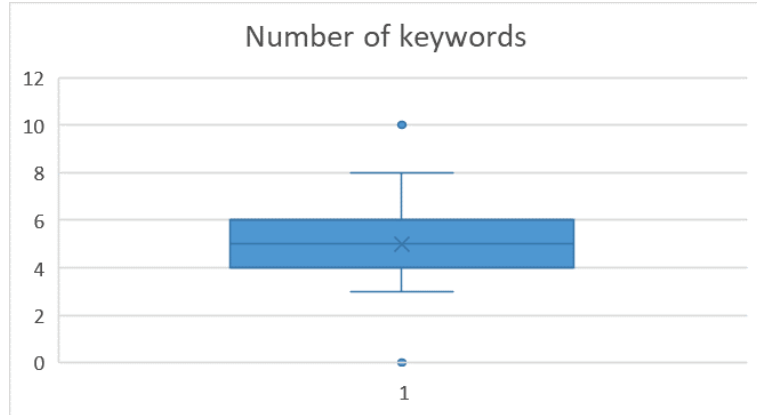


Figure 13. The boxplot showing the number of keywords. Source: WoS and Scopus (27 January 2021).

A content analysis of the keywords was performed using the word cloud, shown in Figure 14. As we can see, the subject of this SLR is absolutely present in the selected articles, with both talent management and EB—the basic concepts guiding our research—standing out. Additionally, interesting are the concepts standing out next—brand, recruitment, employee, human resources management—all of them considered key in our analysis. The word ‘talent’ alone also reveals a decisive weight in our content analysis. The words ‘attraction’ and ‘retention’ also entail a similar weight.



Figure 14. Keywords word cloud. Source: WoS and Scopus (27 January 2021).

Another relevant aspect is the appearance of ‘qualitative’ with more weight than ‘quantitative’; this is relevant because it matches the results obtained on the analysis of the methods used on the articles that compose the corpus of our SLR. This word cloud confirms in more than one aspect the bibliometric interpretation conducted on this research.

The keywords were also submitted to the VOSviewer software to map the correlations between them, thus allowing a view of the network nets between several bibliometric dimensions. In this particular case, we are able to understand that only 10 of all the keywords used by the authors in the analysed articles represent a stronger link (see Figure 15), meaning they appear simultaneously more often in the defined keywords.

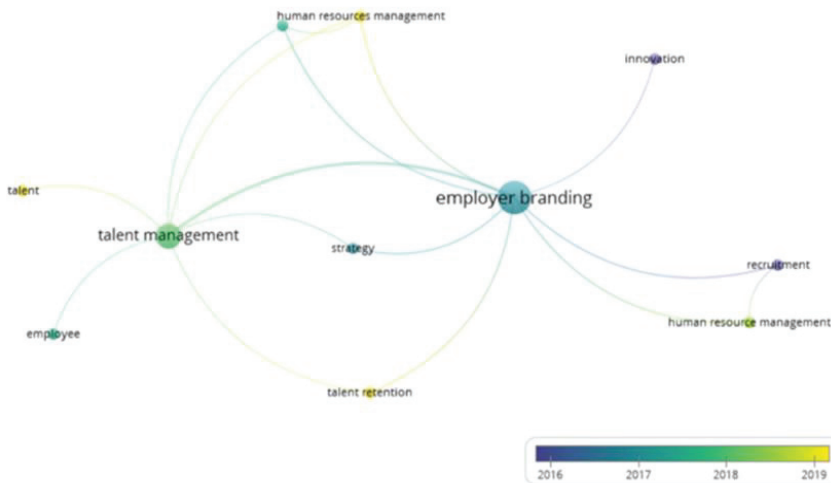


Figure 15. Links between keywords. Source: VOSviewer.com, (25 August 2021).

Figure 15 highlights as expected the research criteria: talent management and EB. The link between the concept of EB and both ‘recruitment’ and ‘innovation’ must be pointed out, emphasising that attraction is the dimension of talent management mostly explored by EB. As the literature shows, though being in the market since 1996, EB is also an innovation factor [24], contributing to the notion that EB is an innovative tool used by

talent management concerning the dimension ‘workers attraction’. It is also interesting to analyse that the word ‘strategy’ is related to the two concepts under analysis on the same level, as well as talent retention.

3.8. Content Analysis

In order to address the objectives of the present study, a content analysis of the selected articles was performed (see Table 2) concerning two aspects—on the one hand focusing on the main conclusions, and on the other hand, identifying the EB dimensions focused on each study.

Table 2. Sum of the selected articles. Source: created by the authors.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
‘Employer branding and its influence on managers’ [25]	Results highlight the importance of EB although likewise suggesting its management complexity because none of the aspects reveals dominant influence over the relevant results from the employer perspective; the authors conclude that the area within the organisation that should be responsible for EB is unable to be defined.	D: EB Strategy
‘Employees’ commitment to brands in the service sector: Luxury hotel chains in Thailand’ [26]	This study explores EB variables as an explanation for workers’ commitment to their organisations and defines those that are directly connected with said commitment.	D: Workers Retention
‘Is there a bigger and better future for employer branding? Facing up to innovation, corporate reputations, and wicked problems in SHRM’ [27]	Three research EB areas can aggregate significant value, and convey important implications to HR practices: Focus on authenticity and on EB. Local and employer’s brand’s privilege. Focus on the EB role in social capital development.	D: Workers Attraction Retention
‘Rebranding employment branding: Establishing a new research agenda to explore the attributes, antecedents, and consequences of workers’ employment brand knowledge’ [28]	Organisational attraction measures usually combine attitudinal measures (i.e., affection towards an organisation), intentional measures (i.e., the intention to find a job), and behavioural measures (accepting a job).	D: Workers Attraction
‘Six Principles of Effective Global Talent Management’ [29]	The article presents six key principles in which successful companies focus to manage talent: alignment with strategy; internal consistency; cultural management; management involvement; balance between global and local needs; and distinctive EB strategies.	D: Workers Attraction Retention
‘Industry branding: attracting talent to weaker profile industries’ [30]	Research suggests that most of the students who took part in the study consider economical and developmental factors and other benefits more important. Interesting and innovative projects in which state-of-the-art technology can be used are also considered relevant.	D: Workers Attraction
‘How to attract applicants in the Atlantic versus the Asia-Pacific region? A cross-national analysis on China, India, Germany, and Hungary’ [31]	Comparing students (future applicants) from the four countries being analysed (China, India, Hungary, and Germany), the authors concluded that concerning organisational climate and career prospects the level of importance is similar to all. The balance between professional and personal life is rather important in India and Germany, though much less in Hungary. Functional contents are more appealing for German students but show almost no influence over the Hungarian.	D: Workers Attraction
‘Recruiting generations through social media: Insights from the Italian labour market’ [32]	Research findings reveal the ‘limited’ popularity of social channels/networks as a recruitment tool among the Y Generation. These channels though offer attraction and involvement opportunities among younger generations.	D: Workers Attraction
‘What do best employer surveys reveal about employer branding and intention to apply?’ [33]	Several organisations invest more and more in research about better employees in order to establish themselves as optimal work environments, hence attracting bigger and better talents. Results suggest that the companies that took part consistently or recently in these research efforts obtain a significantly stronger intention of a bigger number of applications.	D: Workers Attraction

Table 2. Cont.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
'Leveraging employer branding, performance management and human resource development to enhance employee retention' [34]	This article defends that, from the talent point of view, the biggest winners in the emergent economic environment are the organisations providing positive EB, performance management strategies that help employees to develop knowledge, able to maximise their potential, and innovative approaches to design and implementation of HRD strategies.	D: Workers Retention
'Employer branding: Strategy for improving employer attractiveness' [35]	Among the students that participated in this study, the preferred organisational attributes were organisational culture and brand, and remuneration. Students selected the employment portal as the privileged channel for employer attractiveness. The study also revealed a positive correlation between a strong brand image and the likelihood of application.	D: Workers Attraction
'Employees or Consumers? The role of competing identities in individuals' evaluations of corporate reputation' [34]	In well-established market economies, individuals tend to reveal very distinct identities as workers and consumers; according to the chosen identity, individuals evaluate differently the reputation of organisations. On the other hand, in transitional countries, the consumer's identity prevails over the worker's identity. Therefore, applicants to a job tend to 'follow' their consumer's values when forming judgements about the companies' values.	D: Workers Attraction
'Employment preferences of job applicants: unfolding employer branding determinants' [36]	Research findings identified the private as the preferred sector among most of the potential workers.	D: Workers Attraction
'Higher educational institutes as learning organisations for employer branding' [37]	This article introduces a conceptual analytic frame for high education institutions to become learning organisations. An organisation that learns can establish a strong employer brand, widening employees' emotional engagement, and especially talents, attraction, and retention.	D: Workers Attraction/Retention
'An empirical study on employee's attrition and retention in BPO industry: a tool to employer branding' [38]	This study presents a workers retention model, as well as a model that lists the main causes of turnover in the outsourcing sector.	D: Workers Retention
'An exploratory study on the impact of recruitment process outsourcing on employer branding of an organisation' [39]	Outsourcing the recruitment process economises the organisation time, helping it to focus on the business main activities rather than spending precious time searching for qualified candidates. The research also emphasises the importance of outsourced employees and EB in this context.	D: Workers Attraction
'New Strategic Role for HR: Leading the Employer-Branding Process' [40]	HR in general regard recruitment, integration, training, performance management, and rewards processes separately at a tactical/executional level. However, the HR strategic role consists of regarding these processes as a whole to promote a positive employer brand.	D: Workers Attraction/Retention
'BCA's employer branding—the challenge ahead' [41]	This article presents a case study on the Central Bank of Asia. The Bank's goal to deliver a positive perception to its employees as 'a fun working place with an environment focused on family and commitment towards workers' development' as not yet been strongly felt within the job market. The article suggests guidelines to create a strong employer brand to achieve the desired goal.	D: Workers Retention
'An exploratory study on the impact of employer branding process of an organisation' [39]	Research highlights the importance of both outsourced employees and EB in the analysed context.	D: Workers Attraction

Table 2. Cont.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
'Opportunity or Opportunism? An Examination of International Recruitment via Employer and Nation Branding Strategies' [42]	As employers struggle to present an image that will attract potential employees, and a distinctive 'package' of benefits at the job place, nations do the same in order to attract immigrants with high qualifications.	D: National EB
'A Comprehensive Framework for Implementing an Effective Employer Brand Strategy' [43]	This study provides evidence that a specific research method will be effective in capturing the perception of the pool of talent in potential or workers from an organisation, in order to achieve the EVP attributes. It introduces an analytical model to understand and implement EB strategies.	D: EB Strategy
'Management perceptions of a higher educational brand for the attraction of talented academic staff' [44]	This study shows the six attributes that must be present to form the core construction of a college institution EB for the academic staff: reputation and image; organisational culture and identity; strategic vision; corporate social responsibility; work and environment.	D: Workers Attraction
'Exploring HR practitioners' perspective on employer branding' [45]	This study underlines the need for an integrated multifunctional responsibility both for the development and management of EB.	D: Workers Attraction
'Exploring HR practitioners' perspective on employer branding and its role in organisational attractiveness and talent management' [45]	Findings show that it is paramount to have an internal market philosophy in which each and all employees are seen as an active internal customer-aggregating value. HR employees believe in the existence of a strong connection between EB and talent strategic management.	D: Workers Attraction Retention
'The role of employer brand equity in employee attraction and retention: a unified framework' [46]	This article introduces a conceptual model for the role of EB value in attracting and retaining workers.	D: EB Strategy
'Leveraging Social Networking for Talent Management: An Exploratory Study of Indian Firms' [47]	Details assessed by specialists using social networks must be included in every personal archive of the applicant, and any screen capture of profile aspects that could have influenced triage or decision must be registered and printed. The fact that applicants should be aware of these practices is also important for HR specialists that choose to allow policies of public social media data research.	D: Workers Attraction
'Determinants of Success of Employer Branding in a Start-up Firm in Nigeria' [48]	This article refers to a case study of an incredibly successful startup in EB in its earlier six years. After that, the brand lost potency. Motives include toxic organisational environment, overbranding, failure in fulfilling promises, disconnection between EB and HR strategy, change of focus from people's management to production, and lack of a dynamic and distinctive value proposal.	D: Workers Attraction Retention
'Linking dimensions of employer branding and turnover intentions' [49]	This research concludes that EB dimensions correlate negatively with employees' rotation. Two specific dimensions—social value and development opportunities—are important predictors of rotation intention.	D: Workers Retention
'The employer-branding journey: Its relationship with cross-cultural branding, brand reputation, and brand repair' [50]	A positive employer brand is a key ingredient to organisational success due to its strong contribution to the brand's reputation, which helps the organisation to obtain competitive advantages. Employees become ambassadors of the employer brand.	D: Workers Attraction Retention
'Employer branding and talent retention: perceptions of employees in higher education institutions in Uganda' [51]	Three EB dimensions emerge—rewards strategy, focus on people, and leadership and development. Only people orientation and rewards proved to be relevant predictors of talent retention.	D: Workers Retention
'Employer Branding in B2B and B2C Companies in India: A Qualitative Perspective' [52]	This study lists four relevant categories for the EB suggested by the data: (a) the essence of a successful EB, (b) EB precursors, (c) employer's visibility, and (d) EB results.	D: EB Strategy

Table 2. Cont.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
'Building Employer Image Thanks to Talent Programmes in Czech Organisations' [53]	Findings clearly pointed out the main aspects of strategic EB: growing investment in organisational research and development; innovative practices; workers' motivation towards development; support by instructors and mentors in employees' development; managers' cooperation in workers' development. The authors emphasise the general impact of EB on talent programs and on HR strategy.	D: Workers Attraction Retention
'Organisational talent management and perceived employer branding' [54]	Organisational talent management is strongly and positively correlated with the perception of EB. The most effective predictors of a strong employer's brand are fair rewards and remunerations, balance between professional and personal life, and attraction and recruitment of talents.	D: Workers' Attraction
'A study on talent management practices for succession planning with reference to selected IT/ITES organisations in Coimbatore' [55]	There is a strong correlation between talent management practices (compensation plan, performance assessment, learning and development, and rewards and recognition), and talent retention and succession planning among the organisations under analysis.	D: Workers' Retention
'Employer Branding in the Indian Armed Forces Context: A Comparative Study of Potential Defence Applicants and Defence Employees' [56]	Results detect a significant difference between the potential applicants' perception and the actual employees in instrumental jobs within Indian Armed Forces. Potential applicants are more favourable to the instrumental roles. Perceptions about «symbolic roles» and 'Indian Armed Forces attractiveness as employer' were explained in similar proportions among both potential applicants and actual employees.	D: Workers Attraction
'Employer Branding as a strategy to attract potential workforce' [57]	The study confirms the growing use of social networks as part of the HR organisational EB strategy and talents search, acquisition and retention, strengthening a stronger relationship with its employees.	D: Workers Attraction Retention
'A study on talent management practices for succession planning with reference to selected IT/ITES organisations in Coimbatore, Tamil Nadu' [55]	The study concluded that there is a strong connection between TM practices such as compensation, recognition, and performance management and talent retention.	D: Workers Retention
'Role of organisational career websites for employer brand development' [58]	This study explores the existence of career orientation and recruitment sites across the entire banking sector in the sample country. It suggests that HR specialists should reshape the banks' career sites to provide further triage guidance and bigger interactivity with internal and external talent pools.	D: Workers Attraction
'Digital employer branding for enabling gen Y in the ITes sector in eastern India' [59]	This study shows how the forces of the digital world play a role in continuing to promote a strong employer brand to attract, motivate, and retain the best talents and to ensure a continuous, high level of performance.	D: Workers Attraction Retention
'Effectiveness of employer branding on staff retention and compensation expectations' [60]	Augmented perceptions of the employer brand are connected to employees with higher levels of retention and lower levels of remuneration expectations. Demographic factors were not relevant to the analysis, although potential tendencies in the employees' difference in age and total number of years were found: the research provides a model for a successful EB strategy.	D: Workers Retention
'Employer branding success through social media' [61]	The study concludes that social networks are the main channel used today by companies to disseminate EB messages.	D: Workers Attraction Retention
'Enticing the IT crowd: employer branding in the information economy' [62]	This research revealed that future IT workers are concerned about eight EB proposals: culture, functional contents, job relevance, rewards, style and management of development opportunities, work/life balance, and brand image. These dimensions are paramount to IT companies and sectors competing for IT qualified workforce.	D: Workers Attraction

Table 2. Cont.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
'Disentangling the strength of the HRM system: effects on employee's reactions' [63]	The authors found out two dimensions of HR management force: consistency and 'reputation' of the HR management system. The latter is a new dimension that combines distinction and consensus. The second set of findings show that the reputation of the HR management system influences positively organisational behaviour and the intention to stay on the job.	D: EB Strategy
'Employer Branding Applied to SMEs: A Pioneering Model Proposal for Attracting and Retaining Talent' [5]	This study introduces a new EB model for SMEs that focuses on the theoretical content based upon the dimensions emanating from the analysis in order to facilitate the attraction of needed talents to these companies.	D: Workers Attraction
'Strategic Talent Management: The Impact of Employer Branding on the Affective Commitment of Employees' [4]	There is a positive relation between EB strategies and employees' affective commitment.	D: Workers Retention
'How do MNCs translate corporate talent management strategies into their subsidiaries? Evidence from MNCs in Thailand' [64]	Following the research findings, this paper suggests that multinational companies within developed economies tend to face skills shortage challenges that affect the translation of talent management strategies at a subsidiary level. On the other hand, multinationals within emerging economies face the same processes in both skills shortage challenges and responsibility at the origin (i.e., a weak employer brand).	D: Workers Attraction Retention
'Inconsistent organisational images of luxury hotels: Exploring employees' perceptions and dealing strategies' [65]	Organisational internal/external image inconsistency plays an important role in the formation of employees' perceptions regarding the attractiveness of the organisation as an employer. It also influences the levels of organisational ties.	D: Workers Attraction Retention
'HRD indicators and branding practices: a viewpoint on the employer brand building process' [66]	EB significance and visibility are associated with consistent messages and provide employees a better understanding of the desired brand image. Employee's psychological behaviour to build a trust relationship with the brand is based upon distinctive features and HRD indicators.	D: Workers Attraction Retention
'Branding Yields Better Harvest: Explaining the Mediating Role of Employee Engagement in Employer Branding and Organisational Outcome' [67]	This study underlines employees' involvement as a mediating role between EB and both employees' performance and intention to stay on the job.	D: Workers Retention
'Much Ado About Little: A Critical Review of the Employer Branding Concept' [16]	The concept of EB lacks a profound innovation related to content. It must, therefore, be faced as no more nor less than a contemporary reformulation of what is and was known for a long time as 'Internal Marketing' or 'HR Marketing'.	D: Workers' Attraction Retention
'Strategic talent management—contemporary issues in international context' [68]	The concept of EB was based upon the signalling theory, reputation, management, and HR strategic management, and it is directly connected with talent management.	D: Workers Attraction Retention
'Employer Branding Practices Amongst the Most Attractive Employers of IT and Engineering Sector' [24]	EB is an important part of the participant companies' responsibilities though not being faced as a priority. Despite its contributions to workers' attraction and retention, both top management and other departments devalue it compared with the founding areas, HR, and marketing. Moreover, according to the results, the process is not yet fully structured.	D: Workers Attraction Retention
'Talent retention strategies and employees' behavioural outcomes: Empirical evidence from hospitality industry' [69]	Both training and development have a positive, direct, and significant effect on employees' commitment and performance on the job. Continuous research on policies and practices concerning HR management is paramount in all economic sectors, both local and global.	D: Workers Retention

Table 2. Cont.

Article Title	Main Conclusions	EB Dimensions Mostly Explored (D)
'Perceived work–life balance and organisational talent management: mediating role of employer branding' [70]	All EB dimensions correlate positively with the affective component of organisational commitment. 'Mission, vision, and values' strategies are the EB strategies mostly impacting positively on COA. The strategy with the least positive impact corresponds to 'compensation and benefits'.	D: Workers Retention
'Factors Affecting Job Announcement Competitiveness on Job Listing Websites' [71]	This study introduces two models to explore the most relevant factors that affect job searching intentions regarding the rising interest in using social networks among HR activities.	D: Workers Retention
'Exploration of patriotic brand image: its antecedents and impacts on purchase intentions' [72]	In addition to the largely recognised impact of perceived quality on buying intentions, the patriotic brand image is considered effective in the improvement of local consumers' buying intentions towards domestic brand products.	D: National EB
'Enhancing Employer Brand Evaluation with Collaborative Topic Regression Models' [73]	This study suggests improving the employer brand using collaborative regression to grasp latent structural patterns of employer brands.	D: EB Strategy
'Impact on Employer Branding through Talent Retention and Motivation in Insurance Companies' [74]	Within the sample companies, most of the respondents declare they are satisfied with the working conditions as long as more efforts are applied to make their job challenging and interesting in order to improve the employees' satisfaction on the job.	D: Workers' Retention
'Top employer awards: A double-edged sword?' [75]	Concerning well-known companies, although rewards increase organisational attractiveness, they also reduce the person/organisation adjustment effect over organisational attractiveness.	D: EB Strategy
'The contribution of human resource development managers to organisational branding in the hotel industry in India and Southeast Asia (ISEA): a dynamic capabilities perspective' [76]	This research explores the significant contribution of HR managers in building hotel industry brands. It emphasises the HR function brand alignment with the organisational brand. Though many studies have already established the HRD's strategic importance to improve human capital, this study highlights that several dimensions are yet to be found.	D: Workers' Retention

4. Conclusions

The first goal of the present study was to analyse the scientific literature of the last ten years indexed to the two most reputed databases in the scientific arena—WoS and SCOPUS—regarding talent management and EB themes, using bibliometric indicators, and content analysis.

This analysis provided a broader understanding that, although the EB process is not clearly structured, some stages can be identified as common [24] and serve as indicators that bring light to the concept according to the most successful companies in practice. Authors suggest that EB is in fact a reformulation of the long-term used notion of 'internal or HR marketing' and still lacks a lot of innovation [16]. On the contrary, though the majority of findings point out that this is a simplistic approach because the concept has become extraordinarily important to organisational success, encompassing the employer brand proposed value and fundamental dimensions to employees' attraction and retention such as affective commitment [4], rewards strategies [70], commitment expectations [26], reputation [68], or employees' development [49].

While exploring the selected articles, we clearly understood the connection between talent management and EB; there are studies defending that organisational talents management is strongly related to EB perception [70] and that a positive employer brand is essential to attract and retain the best talents, conferring a competitive advantage to organisations [50], considering that HR employees believe in a strong connection between EB and talent strategic management [45].

Concerning our second goal—identify EB dimensions explored by the authors—we identified four main EB dimensions among the selected articles: employees' attraction (18 articles), employees' retention (16 articles), simultaneous employees' attraction and retention (17 articles), EB strategies (models, conceptual, analytical frames, 7 articles), and national EB (2 articles). Regarding the latter, the articles surprisingly establish an analogy between organisational EB and the way countries should apply the concept to nations in order to attract a qualified workforce. This shows how attraction and retention of talents have become major EB concerns; talent attraction alone is analysed in approximately one-third of the selected articles, a fact that underlines the notion that this is a tool used by organisations to enhance their attractability in the market; therefore, securing a talent pool grants them a quality of choice at the moment of selection.

The strength of the connection between the keywords analysed with VOSviewer also shows that EB is directly linked with recruitment, and talent management is connected with EB through strategy. This strongly reaffirms that EB is a tool included in the broader process of talent management regarding the promotion of the EB power of attraction enhancement.

Concerning the last goal of the study—identifying talent management dimensions contained within the concept of EB—from the analysis of the talent management model present in Figure 1, we conclude that some intra-organisational talent management dimensions are always explored by EB, having employee's attraction and retention in mind: recruitment and selection, engagement and retention, and rewards. We unexpectedly found out that EB is also starting to provoke impact at the macro (extra-organisational) level of the same model due to the creation of national EB. We were able to answer the question that guided this SLR and conclude that talent management is much broader than anticipated because of the dimensions that do not concern EB, but on the other hand, EB is a powerful tool to achieve talent management goals, as it addresses key dimensions of talent management.

It is in our opinion worth noting, considering the digital revolution we are living in today, that despite more recent years being those that clearly concentrate the largest scientific production in this field of research (70% of the selected articles range from 2016 to 2020), only four articles directly mention digital resources as a privileged mean of disseminating and reinforcing EB strategies. From a certain perspective, this can be interpreted as a gap that prevents the dialogue between organisations and the diverse generations nowadays in the market, some already born in the digital era. Gregorka, Silva, and Silva [24] defend that the EB process and its consequences have not yet been fully studied, despite the common use of the concept in the past 20 years. Many cited authors likewise refer to the need for innovation and larger consistency regarding the concept. Therefore, we conclude that though unquestionably being a major theme, the organisational world still has at present a long road ahead of it to improve the knowledge and definition of EB models and strategies that would enable the organisations to make better use of this tool on their 'war for talent'.

By providing a summary of the most relevant literature of the past decade and exploring its findings, the present study contributes overall to the continued scientific effort of knowledge enhancement in this field of study. The obtained results bear important guidelines to both academics and managers linked to talent management, suggesting new pathways for further investigation to shape the concept of EB more consistently and to clarify which are the truly relevant dimensions to build a positive and distinctive employer brand.

As with any other research, we have encountered limitations, especially concerning the non-compliance of some selected articles with language criteria and, above all, with the fact that many were not directly related with the subject though presenting the defined keywords because they focused on details not relevant for our research.

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