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Tourism & Management Studies

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Tourism & Management Studies

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COMPETITIVENESS IN THE TOURISM SECTOR: A BIBLIOMETRIC ANALYSIS

Cristina Estevão¹

Carlos Costa²

Cristina Fernandes³

ABSTRACT

The tourism sector particularly stands out for its sheer capacity to expand as displayed worldwide to a greater or lesser extent and commonly performing a relevant role both as a tool for competitiveness and a driver of regional development. This theme has correspondingly attracted a great deal of interest from many scientists, and there has been exponential growth in research on the area. Hence, the objectives of this present study include the mapping of the intellectual structure of research on “Tourism & Competitiveness” as conveyed by the academic literature, identifying the fundamental contributions of research on the field, determining those lines of research that constitute its intellectual structure and identifying those scientific journals with the greatest impact. To this end, we carried out bibliometric analysis of the “Tourism & Competitiveness” concept in order to ascertain the research undertaken and, among other results, highlighting the identification of three clusters of distinctive core themes to this field of knowledge.

Keywords: Tourism, Competitiveness, Bibliometric Analysis, Clusters.

JEl Classification: L83, Z39

1. INTRODUCTION

Tourism represents one of the most important of all economic sectors with the literature displaying a broad consensus as regards the central role tourism plays in the development and competitiveness of many regions (Lazzeretti et al., 2008; Alberti & Giusti, 2012; Beladi et al., 2015; Banki & Ismail, 2015; Zhang, 2016). According to Crouch (2007), managing to establish, nurture, protect and strengthen tourism destinations, and their positioning in increasingly competitive and global markets, presents a major challenge to the tourism sector (Crouch, 2007). The entities that manage destinations correspondingly play a critical role, alongside local companies, in terms of constructing and sustaining competitive advantages through the choices made over positioning (Sainaghi, 2006).

The level to which a country might benefit from tourism largely derives from the competitive positioning of its sector in the international tourism market (Gomezelj & Mihalic, 2008). We thus consider that the “Tourism & Competitiveness” research field remains relatively fragmented and we did not find any article that used the bibliometric method in the analysis and study of this concept. Our main contributions are: (a) mapping the intellectual structure of research on Tourism & Competitiveness as reflected in the

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academic literature, (b) identifying the fundamental contribution to research on the field of Tourism & Competitiveness, (c) determining the lines of research making up this intellectual structure and (d) identifying the scientific journals with the greatest impact on the field.

This study applies a combination of bibliometric techniques, such as citations, co-citations and social network analysis to survey the “Tourism & Competitiveness” scientific field. We thus seek to provide the scientific community with a map of publications interrelated with this theme, demonstrate their respective evolution as well as identifying the lead researchers on themes around “Tourism & Competitiveness” with graphic representation in terms of the journals, authors and themes so as to better understand the publications approaching this subject area. We begin by setting out the theoretical framework of the research carried out on “Tourism & Competitiveness”; before describing the methodology applied, the data analysed before finally presenting our results and the conclusions resulting.

2. TOURISM & COMPETITIVENESS

Furthermore, throughout many years, governments and populations in general overlooked the economic and social importance of tourism (Crouch & Ritchie, 1999) even while, in fact, this sector has proven not only an authentic source of creation of both value and employment (Botti et al., 2008) but also one of the activities with the greatest potential around the world. This growth potential comes in conjunction with a product that may only be consumed on the spot in a characteristic that has become an integral facet of local development strategies (Ferreira & Estevão, 2009). Jackson & Murphy (2002) back up this idea in affirming how governments themselves identify tourism as a feasible means of leveraging economic development given the lack of employment in the traditional sectors of the economy. Geographic proximity is also considered a relevant factor in perceptions around the performance of tourism organisations that helps ensure the continuity of tourism companies and contributing to the competitiveness of the tourism sector (Crouch & Ritchie, 1999; Botti et al., 2008).

Crouch & Ritchie (1999) and Kim & Dwyer (2003) unanimously affirm that the development of the tourism potential of any country or region depends substantially on maintaining a competitive advantage in the supply of goods and services to visitors and that the competitiveness of a tourism destination stems from the ability that this displays in providing its tourist visitors with goods and services better than the competition. However, boosting the competitiveness of tourism destinations also requires new methods of evaluating them and encapsulating their current situation in order to provide clear indications as to the strategic actions necessary to fostering their competitive factors (Parra-López & Oreja-Rodríguez, 2014). Furthermore, according to Cucculelli & Goffi (2016), the role of sustainability becomes a determining factor for the competitiveness of a tourism destination.

The rising interest in the competitiveness of tourism destinations has reflected in the expanding literature on this field (Vila et al., 2015). Many of these research projects assumed the objective of setting out diagnoses of the competitiveness of specific destinations (Crouch, 2007), including the United States of America (Ahmed & Krohn 1990; D’Hauteserre, 2000; Scott et al., 2004), Las Vegas (Chon & Mayer, 1995), European Cities (Mazanec, 1995; Buhalis, 1998; Go & Govers, 2000), (Pearce, 1997), Sun/Lost City in South Africa (Botha et al., 1999), Austrália (Faulkner et al., 1999; Dwyer et al., 2000; Divisekera, 2003), Toronto (Carmichael, 2002), Mediterranean Resorts (Papatheodorou, 2002; Alegre & Pou, 2006), South Korea and Australia (Kim & Dwyer, 2003), Spain and Turkey (Kozak, 2001; 2003), Canada (Milhalic, 2000; Murphy et al., 2000; Ritchie & Ritchie, 2002; Hudson

et al., 2004), Hong Kong (Enright & Newton, 2004), Asia-Pacific (Enright & Newton, 2005) Zimbabwe (Vengesayi, 2005), Cyprus (Yoon & Uysal, 2005), Slovenia (Omerzel, 2006), Korea and Australia (Gomezelj & Mihalic, 2008), the Caribbean (Croes, 2006; ECLAC, 2009), Slovenia (Gomezelj & Mihalic, 2008), Barcelona and Vienna (d'Angella & Go, 2009), Brazil (Ritchie & Crouch, 2010), Portugal (Estevão & Ferreira, 2015; Estevão et al., 2015) and Italy (Cucculelli & Goffi, 2016). Other studies have centred on particular aspect of destination competitiveness, including its positioning (Chacko, 1998), destination management systems (Baker et al., 1996; Mihalic, 2000; Enright & Newton, 2004), destination commercialisation (Buhalis, 2000), price competitiveness (Stevens, 1992; Dwyer et al., 2000a, 2000b, 2000c, 2001, 2002), quality management (Go & Govers, 2000; Murphy et al., 2000), the environment (Hassan, 2000; Mihalic, 2000), nature-based tourism (Huybers & Bennett, 2003; Claver-Cortes et al., 2007), strategic management (Jamal & Getz, 1996; Soteriou & Roberts, 1998), organised circuits (Taylor, 1995), governance (Costa et al., 2013). Furthermore, there were also studies concentrating on measuring the competitiveness of the tourism destination (Cracolici & Nijkamp, 2009; Cores, 2011; Croes & Kubickova, 2013; Crouch, 2007) and as well as research based on the development of general models and theories for destination competitiveness (Porter, 1990; Crouch & Ritchie, 1999; Kim & Dwyer, 2003; Heath, 2003; Vengesayi, 2005; Gomezelj & Mihalic, 2008; Ferreira & Estevão, 2009; Malakauskaite & Navickas, 2010; Estevão & Ferreira, 2015; Estevão et al., 2015).

As regards the sheer scale and scope of this body of research, we may indeed question just what are the core themes to this field as correspondingly proposed by academics and published in journals as well as evaluating their respective impacts? Just which clusters might thus get identified?

3. METHODOLOGY

The methodology applied to produce the evaluation of the research performance encapsulates quantitative and statistical methods for analysing scientific articles and their respective citations in the ISI *Web of Science* databases in articles published in journals belonging to the categories of management, business and economics. The collection of scientific works on a specific field enables the portrayal of research activities and impacts, especially in terms of the researchers, journals, countries and universities (Hawkins, 1977; Osareh, 1996; Thomsom Reuters, 2008).

Bibliometric analysis currently represents a methodology applied to analyse already published research (Mutschke et al., 2011). This deploys quantitative and statistical analysis specifically to articles and their respective citations (Thomsom Reuters, 2008) with the analysis returning a vast perspective on the activities and impacts of different research projects, in particular, their researchers, the journals, countries and universities (Hawkins, 1977; Osareh, 1996).

We gathered our data from the following indices: Web-of-Science Core collection (1900-2016), as compiled by the online Thomson/Reuters-ISI database, which contains thousands of academic publications coupled with bibliographic details about their authors, affiliations and citations. The search took place in February 2017 in the Web of ScienceTM Core Collection database through the application of the search term “Tourism & Competitiveness” to the title, abstract or keywords of articles and with a chronological filter ending in 2016. This search returned a total of 496 articles with dates of publication ranging between 1992 (1 article) and 2016 (91 articles).

As regards the statistical and analytical methods applied to the database, a first phase saw the descriptive analysis of the articles returned by the search, primarily making recourse to graphical methods, frequency tables and descriptive measures (means and standard deviation) with the same methods serving for analysis of the relevance of the respective journals and the incidence of citations.

Analysis of co-citations became the standard in the 1970s and has since then held a preponderant position in the bibliometric analysis even while there has recently been a resurgence in recourse to bibliographic coupling undermining the historical preference for co-citation analysis (Boyack & Klavans, 2010). Hence, and also due to the only limited number of publications getting identified by the search, this study applies the methodology based upon bibliographic coupling. Therefore, in order to evaluate potential patterns among the publications, we analysed which joint references they established and had then set out a matrix displaying the number of references shared between the publications identified by the search. To graphically map the network of article co-citations based on shared references, we applied network theory and also determining the clusters based upon the hierarchal method of Ward, which generates homogenous groups of articles.

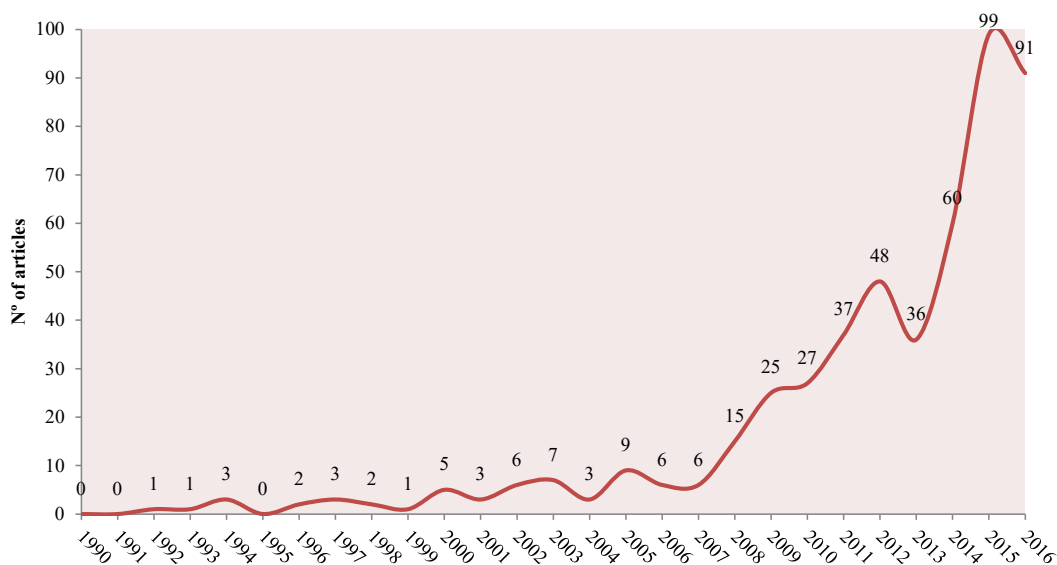
All of these procedures made recourse to Microsoft Excel 2010 (Microsoft Corporation, Washington, USA), UCINET version 6.554 (Borgatti et al., 2002) and NetDraw version 2.148 (Borgatti, 2002) software.

4. RESULTS

4.1 Article Characteristics

Figure 1 presents the annual evolution in the number of articles published. The average year of publication is 2012 and correspondingly reflecting a field of research still in its growth phase. Through to 2000, the number of articles on this topic remained at a very low level with 2008 seeing exponential growth before peaking in 2015 with the largest number of articles published on “Tourism & Competitiveness” (99 articles).

Figure 1. Number of References by Year of Publication



Source: Own Elaboration

Regarding the citations, there is a mean of 10.3 with ± 32.0 citations within the scope of which 180 (36.6%) of the articles do not contain any citation, and 112 (22.6%) were cited at least ten times.

The three articles that contain the largest number of citations are:

1. Yoon & Uysal (2005). An examination of the effects of motivation and satisfaction on destination loyalty: a structural model. *Tourism Management*, 26(1), 45-56 (471 citations, an average of 39.3 citations per year).
2. Crouch & Ritchie (1999). Tourism, Competitiveness and Societal Prosperity. *Journal of Business Research*, 44(3), 137-152 (269 citations, an average of 14.9 citations per year).
3. Buhalis (1998). Strategic Use of Information Technologies in the Tourism Industry. *Tourism Management*, 19(5), 409-421 (184 citations, an average of 9.7 citations per year).

Table 1 sets out the 10 articles with the largest number of citations and their annual citation frequency.

Table 1. Publications most Cited in the Field of “Tourism & Competitiveness” (average number of citations per year in parenthesis)

Rank	Article	Total citations
1	Yoon & Uysal (2005)	269 (39.3)
2	Crouch & Ritchie (1999)	184 (14.9)
3	Buhalis (1998)	183 (9.7)
4	Enright & Newton (2004)	180 (14.1)
5	Murphy et al. (2000)	177 (10.6)
6	Kozak (2001)	129 (11.1)
7	Mihalic (2000)	106 (7.6)
8	Dwyer et al. (2000)	84 (6.2)
9	Leung et al. (2013)	78 (21)
10	Gomezelj & Mihalic (2008)	75 (8.7)

Source: Own Elaboration

As regards the sources, the 496 articles identified by the search received their publication in a total of 172 journals of which 105 (61.0%) published but one article on this theme. Figure 2 presents the journals publishing the largest number of articles with Tourism Management (61 articles) leading the way and followed by Tourism Economics (31 articles), Journal of Travel Research (21 articles), Current Issues in Tourism and International Journal of Tourism Research (19 articles apiece).

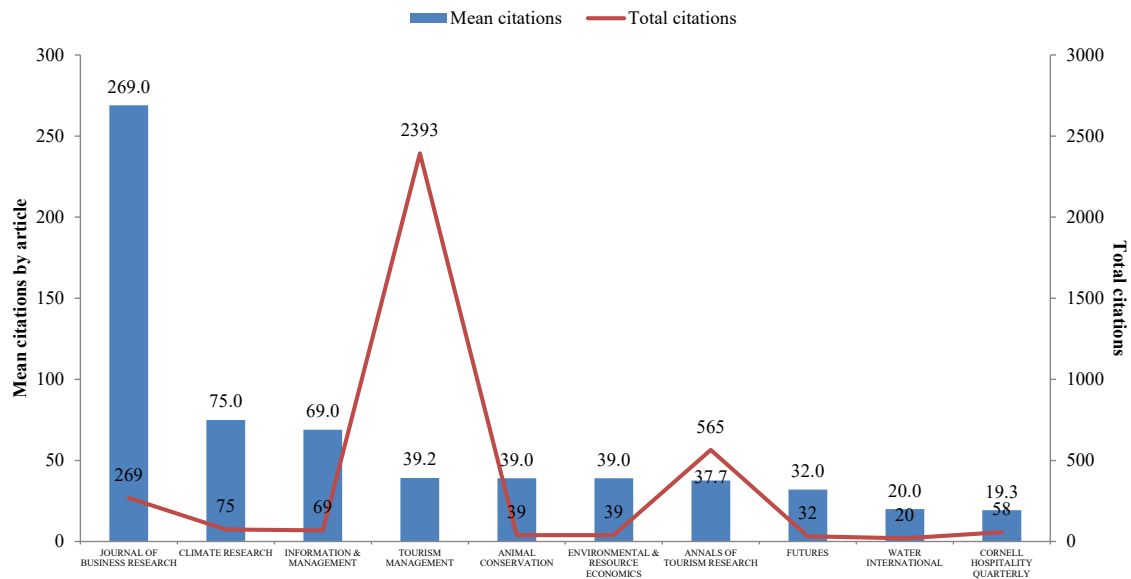
Figure 2. Journals with the Largest Number of Articles Published on “Tourism & Competitiveness”



Source: Own Elaboration

In the case of the total number of citations of published articles (Figure 3), this highlights Tourism Management (2393 citations), Annals of Tourism Research (565 citations) and Journal of Business Research (269 citations). In terms of the average number of citations per article, the leading publications were Journal of Business Research (269 citations per article), Climate Research (75 citations per article) and Information and Management (69 citations per article) even while these journals only contain one article dealing with this theme.

Figure 3. Journals publishing the articles on “Tourism & Competitiveness” with the greatest number of citations



Source: Own Elaboration

4.2 Analysis of Co-citations

We reduced the initial sample of 496 articles to those articles containing at least fifty citations resulting in a total of 21 articles (Table 2). The average year of publication for these 21 is 2004, and ± 4.4 , with this group on average, cited 120.7, ± 100.6 times.

We then established a frequency matrix by cross-referencing the citations through coupling each article with every other article in which the cells then depict the number of times each pair of articles contains the same joint citation. A cell returning a score of zero conveys how one of the articles was not jointly cited with the other article and a line of zeros in the co-citations matrix indicates that a particular article did not get referenced by the other articles.

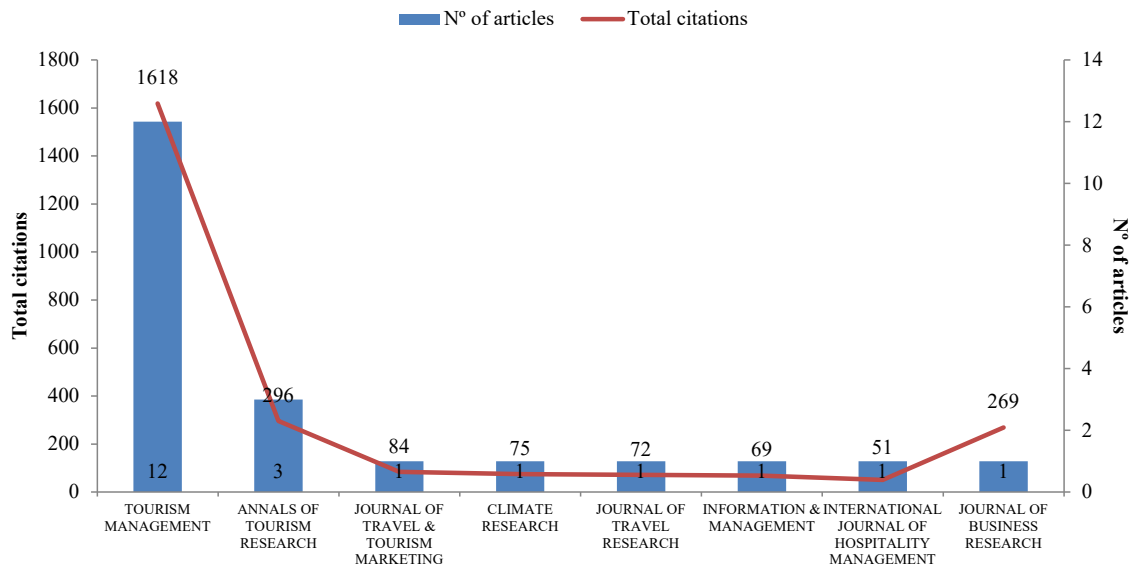
Table 2. Articles Applied in the Co-citations Analysis

Article	Total co-citations	Mean citations by year
Yoon & Uysal (2005)	471	39.3
Crouch & Ritchie (1999)	269	14.9
Buhalis (1998)	184	9.7
Enright & Newton (2004)	183	14.1
Murphy et al. (2000)	180	10.6
Kozak (2001)	177	11.1
Mihalic (2000)	129	7.6
Dwyer et al. (2000)	106	6.2
Leung et al. (2013)	84	21.0
Gomezelj & Mihalic (2008)	78	8.7
Scott et al. (2004)	75	5.8
Crouch (2011)	72	12.0
Buhalis (2004)	69	5.3
Divisekera (2003)	65	4.6
Croes (2006)	61	5.5
Alegre & Pou (2006)	60	5.5
Go & Govers (2000)	60	3.5
Claver-Cortes et al. (2007)	54	5.4
d'Angella & Go (2009)\nparticularly the relationship between the Destination Management\nOrganization (DMO)	53	6.6
Ritchie & Ritchie (2002)	53	3.5
Garay & Font (2012)	51	10.2

Source: Own Elaboration

As regards the journals publishing the 21 articles incorporated into this analysis of co-citations, we find that Tourism Management (12 articles and 1618 citations) and the Annals of Tourism Research (3 articles and 296 citations) are the journals with the greatest impact in the 21 most cited articles (Figure 4).

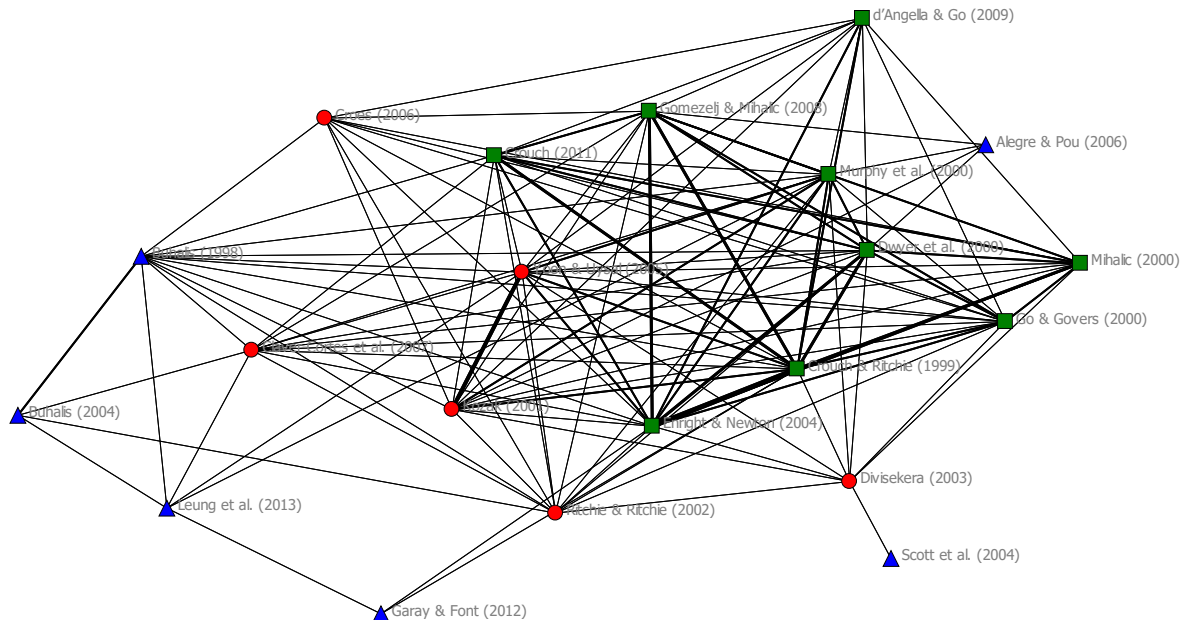
Figure 4. Number of Articles and Citations in the Field of “Tourism & Competitiveness” by Journal (21 article sample applied for co-citation analysis)



Source: Own Elaboration

Based on the matrix of co-citations, we produced a network of co-citations (Figure 5) and correspondingly calculating the centrality measurement in order to identify the core articles on “Tourism & Competitiveness”. Thus, the authors responsible for the most central articles in terms of this research field were Murphy et al. (2000), Crouch & Ritchie (1999), Enright & Newton (2004) and Dwyer et al. (2000).

Figure 5. Network of Co-citations and Clusters



Source: Own Elaboration

We overlaid the clusters on the social network above to ensure better visualisation and a spatial framework before discriminating them in Table 3.

Table 3. Group Resulting from Cluster Analysis of the Co-citations Matrix

Cluster 1 – Strategic and Operational Marketing	Cluster 2 – Quality and Environment Management, Regional Development and Competitive and Comparative Advantages	Cluster 3 – Information and Communication Technologies, Happenstance, Social Responsibility and Segmentation
Kozak (2001)	Crouch & Ritchie (1999)	Buhalis (1998)
Ritchie & Ritchie (2002)	Murphy et al. (2000)	Scott et al. (2004)
Divisekera (2003)	Go & Govers (2000)	Buhalis (2004)
Yoon & Uysal (2005)	Mihalic (2000)	Alegre & Pou (2006)
Croes (2006)	Dwyer et al. (2000)	Garay & Font (2012)
Claver-Cortes et al. (2007)	Enright & Newton (2004)	Leung et al. (2013)
	Gomezelj & Mihalic (2008)	
	d'Angella & Go (2009)	
	Crouch (2011)	

Source: Own Elaboration

5. DISCUSSION OF RESULTS

5.1 Cluster 1 – Strategic and Operational Marketing

Kozak (2001) proposes a model of multiple relationships between tourist satisfaction, prior visits and the behavioural intention to revisit a tourist destination (Spain and Turkey). Within this scope, the analysis identifies differences between mature destinations and their lesser developed counterparts. This author verifies how despite the impact of general satisfaction proving consistent, some factors differ between these two destination types with the general level of satisfaction and the number of prior visits considerably influencing the intentions of repeat visits. This relationship proves stronger in the case of mature destinations than their peers.

In turn, Ritchie & Ritchie (2002) hand down instructions for establishing an information system for complete regional destination marketing. More specifically, they describe the process by which the tourism industry in Alberta (Canada) developed a framework for the acquisition of timely and intelligent research in order to maintain and raise its competitiveness as a travel destination.

Divisekera (2003) puts forward a model of demand for international tourism based on consumer choice theory. This author then applies the model to demand in the United States, the United Kingdom, Japan and New Zealand for tourism in Australia and selected alternative destinations. The elasticities arising stem from the substantial effects of crossed demand, reflecting the diversity in preferences of tourists. This study generated new and important information on the effects and the sensitivity of international tourism to economic parameters. The results advocate the formulation of wide-reaching national policy measures designed to maintain and improve on the relative competitiveness experienced by individual destinations and alongside the development of strategic policies to maximise the gains from tourism.

The study by Yoon & Uysal (2005) provides an integrated approach to grasping tourist motivations and thereby attempting to extend the theoretical and empirical evidence about the causal relations between the pull and push motivations, satisfaction and loyalty to the destination. Consequently, destination management teams need to establish higher levels of tourist satisfaction in order to foster positive, post-purchase behaviours in order to build and sustain destination competitiveness. In the research by Croes (2006), the results convey how small islands that specialise as tourism destinations have turned in good performances despite their limitations in size and the disadvantages experienced in economic terms.

Claver-Cortes et al. (2007) set out thorough analysis of a specialist second generation sun and sea mass destination, Benidorm, Spain. The authors contradict the opinion of many researchers in arguing that such destinations do not inevitably need to decline and are able to remain competitive.

5.2 Cluster 2 – Quality and Environment Management, Regional Development and Competitive and Comparative Advantages

Crouch & Ritchie (1999) recognise the weighting tourism has attained in cities, states and nations as a sector constituting an important factor in economic development. In this study, the authors also examine the relationship between social prosperity and tourism in accordance with a framework for competitiveness and the public perceptions of tourism as one of the leading sectors of the economy, placing this sector at the centre of their attentions and seeking to demonstrate not only its economic efficiency and environmental management but also its social relevance. One way of examining this relevance is evaluating up to what point tourism contributes towards the general wellbeing of a society, which in turn gets perceived as a composite of economic prosperity, environmental and quality of life management and where the capacity of a destination to provide a high standard of living to its residents contributes towards its competitiveness as a tourist destination.

According to Murphy et al. (2000), the rising interest in destination competitiveness has served to focus attention on the definition and description of a destination and just how tourists perceive the complex amalgam of features and experiences. This research identifies two subcomponents in the literature on destinations as products and carries out analysis on how meaning gets perceived by tourists in terms of their perceptions of quality, value and intention of visitors to return.

Mihalic (2000) follows a model that divides destination management into two sections: (1) management and (2) marketing. This research studies the environmental competitiveness of the destination and whether this is susceptible to raising through management efforts targeting the environmental impact and the management of environmental quality (EQ). Subsequently, destination competitiveness might get reinforced by certain environment marketing activities. Furthermore, this categorises environment management into groups: management by codes of conduct, by self-developed environmental practices, by certified best practices or awards and by accreditation schemes.

According to the position of Go & Govers (2000), maintaining and improving the demand for high quality in Europe represents a fundamental dimension to holding a position of leadership as a world tourism destination and correspondingly dealing with the challenges of competitors and boosting market share. The research presents the results of eight case studies of best practices in effect at different destinations in the four participating European countries in this study published by the European Commission (DG XXIII). The study objectives involve determining whether specific European destinations apply quality management as a means of boosting their competitiveness in accordance with the EFQM (European Foundation for Quality Management) model. The results convey how

the integrated management of destination quality remains fairly underdeveloped. In general terms, the destinations tend to display strength in one area of the EFQM model, such as policy and strategy or human resource management but to the contrary of adopting a balanced and integrated approach to quality management.

Dwyer et al. (2000) present conclusions from their analysis of the price competitiveness of 19 tourism destinations. Taking Australia as their reference country, this study then compares the prices for a package of tourism goods and services at a series of competitor destination through setting out an international competitive pricing index. They distinguish between two main pricing categories – those relating to travel to and from a destination (travel costs) and those relating to the prices in effect at the tourism destination (sole costs).

More recently, a huge number of researchers have indicated that the competitiveness of tourism destinations reaches beyond the attributes of conventional destinations and should include the more generic factors of business competitiveness. Given this shortcoming, Enright & Newton (2004) carried out research that applied factors related to the competitiveness of destination attractions and the broader tourism industry. This correspondingly evaluates the factors of importance and relative competitiveness through a performance importance analysis methodology. The study concludes that its methodological approach represents a promising means of undertaking theoretically justified quantitative empirical analysis able to establish the grounds for management and political decision making on the tourism sector.

According to Gomezelj & Mihalic (2008), tourism managers need to identify and explore their competitive advantages and analyse the competitive position of the destination. The findings identify Slovenia as the most competitive destination in keeping with its natural, cultural and created resources but less competitive in terms of its tourism management and, in accordance with the integrated model, there are conditions in which both these facets remain non-competitive and limiting the capacity of Slovenian tourism to aggregate value. Their final discussion highlights weaknesses in the development of models of tourism competitiveness before appealing for both greater unity with competitive factor theory and greater care in choosing the main factors and models of competitiveness.

The Crouch (2011) study objective revolves around proposing a vision on the importance and the impact of the attributes shaping tourism destination competitiveness. Deploying a general conceptual model of destination competitiveness, this evaluates 36 attributes for competitiveness through an online survey of destination managers and academic tourism specialists within the scope of estimating their respective importance and producing measures for determining these attributes. These measures were then statistically tested in order to identify just which attributes were deemed to wield the greatest determining impact on destination competitiveness.

D'Angella & Go (2009), in turn, focus on collaborative tourism marketing practices, especially the relationship between the Destination Management Organisation (DMO) and tourism companies. This applies stakeholder theory as a structure for evaluating the performance and the capacity of a DMO to gain support in decision making, which contributes to optimising the rewards of interested parties while minimising the risks.

5.3 Cluster 3 – Information and Communication Technologies, Happenstance, Social Responsibility and Segmentation

Buhalis (1998, 2004) maintains that information technologies (ITs) prevail throughout every function of strategic and operational management. As information constitutes the vital strength of tourism, ITs generate opportunities and challenges to the industry. Despite the uncertainties experienced around ITs developed for tourism, the “only constant will be change”. Increasingly, organisations and destinations that have to compete will have

to engage in computing. Only creative and innovative suppliers will be able to compete in the new millennium. This research also puts forward a structure for applying technology to tourism, adopting a strategic perspective with this author furthermore proposing a continuous re-engineering of the business processes so as to guarantee they meet a broad range of pre-requisites, such as vision, rational organisation, commitment and training, that enable destinations and their managers to capitalise on the unprecedented opportunities emerging from ITs.

Scott et al. (2004) conclude that tourism amounts to an important sector of the global economy and strongly influenced by the prevailing climate and, at some travel destinations, this represents a natural resource for which the tourism industry becomes an attribute. Global climate changes contain the potential to alter the distribution of tourism with implications for the seasonal nature of tourism, demand and travel patterns.

Buhalis (2004) highlights both how information and communication technologies (ICTs) have revolutionised the entire world of business and the pioneering role played by airline companies in ITCs in keeping with their long history of technological innovation in comparison with many other travel and tourism companies. This research study demonstrates how the airline sector adopted the Internet to improve its distribution strategy and cut costs while turning to intranets and internal systems for developing tactical and strategic management. Furthermore, extranets have gradually entered into usage as a means of communicating with partners and supporting ongoing relationships with companies (B2B). The results convey how ICTs are crucial to the strategies and operational efficiency of airline companies and shall directly shape their respective future levels of competitiveness.

The study by Alegre & Pou (2006) analyses the microeconomic determinants of the time spent in one of the main sun and sea destinations in the Mediterranean. Calculating a functional model of conditional demand reveals the explanatory power of the socio-demographic profile of tourists and the characteristics of their holiday periods as well as the sensitivity of the time spent in resorts to changes in pricing.

Meanwhile, Garay & Font (2012) identify how corporate social responsibility practices almost always get analysed within the context of large manufacturing companies with little attention paid to the service sector and still less to small and medium-sized accommodation companies. This study strove to counter this lack through analysing how such companies deal with this responsibility. Their findings detail how the main motivation for acting responsibly stems from altruism even while competitiveness related reasons also receive considerable importance. Aspects of a “resource-based vision” emerge through the positive impact of reducing environmental costs on financial performances but also because other practices (not always interrelated with economic reason) influence their competitiveness. The authors conclude that the greater implementation of these practices is necessary to achieve the full potential of the competitive advantages held.

Leung et al. (2013) analyse all of the research articles existing on Social Media published between 2007 and 2011, especially in the fields of tourism and hospitality. Based on content analysis of these articles, both from the consumer and the supplier perspectives, this research proposes that consumer-focused studies generally concentrate on the usage and impact of Social Media in the research phase of the process of planning travel and holidays. Suppliers, in turn, concentrate on the functions of promotion, management and research but only a few discuss product distribution. The research results fully and completely demonstrate the strategic importance of Social Media to tourism competitiveness.

6. CONCLUSION

This study methodologically sets out the main contributions arising from the literature on “Tourism and Competitiveness”. Through this bibliometric analysis, we may conclude that through to 2000 the number of articles published remained residual and only after 2008 was there exponential growth in the number of publications that peaked in 2015, the year of publication of the largest number of articles.

We would highlight how the three articles returning the largest number of citations came out in 1998, 1999 and 2005 and the journals publishing the greatest number of articles were naturally those specialising on the field of tourism.

We also identified three large clusters within the research on this field of knowledge: (1) Strategic and Operational Marketing; (2) Quality and Environmental Management, Regional Development and Competitive and Comparative Advantages and (3) Information and Communication Technologies, Happenstance, Social Responsibility and Segmentation.

The first cluster – Strategic and Operational Marketing aggregates a set of studies that, in the majority, testify to the existence of a relationship between the fundamentals of marketing related to satisfaction, motivation and tourist behaviour with IT marketing systems and positioning as determining factors to the competitiveness of tourism destinations.

The second cluster centres around studies considering the importance of management in terms of the level of quality and the environment of tourism destinations in order to render them more efficient and sustainable and consequently also more competitive, alongside the capacity of competitive tourism destinations to boost regional development and the importance of comparative advantages not only at the level of attributes and the resources of tourism destinations but also in terms of the level of management effectiveness in running the respective destinations.

The studies concentrated into cluster 3 essentially approach the utilisation of information and communication technologies as tools for the creation of tourism sector competitiveness, the influence of happenstance (events beyond the control of companies) might have on the competitiveness of a tourism destination and the importance of issues related to corporate social responsibility to tourism firms as competitive factors within the framework of encountering new forms of economic and social growth. This also stresses the importance of segmentation as a determining factor to better knowledge about tourists and ways of efficiently and effectively shaping their actions.

As the main limitation of this study, we would set out how we only made recourse to the cited articles, which does not mean that there are not others of equal importance for analysis and would, therefore, propose a future line of research correspondingly analyses all of the articles. Furthermore, future research might also approach the nationalities of the most cited authors and the interrelationship with the tourism agendas of their respective countries.

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ASSESSING STAKEHOLDERS' RISK PERCEPTIONS IN A VULNERABLE COASTAL TOURISM DESTINATION (FARO BEACH, SOUTHERN PORTUGAL)

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ABSTRACT

Effective coastal management is essential in regions where tourism is a main economic activity. However, poor communication and disagreement between stakeholders hamper the way decisions are conveyed to residents and home/business owners, potentially affecting economic development. We analysed managers and scientists' views regarding risk perceptions of Faro Beach (Algarve) residents, contributing to the identification of differences and similarities towards a sustainable management. We used a qualitative content analysis of managers and scientists' discourses. Managers and scientists recognize that residents, particularly fishermen, are quite knowledgeable about the risks they face by living at the beach. However, scientists and managers believe that residents easily forget about the problems due to an optimism bias and positive previous experience with hazards, that never caused fatalities or serious consequences, leading to an underestimation of the severity of the risks. Managers think that residents are not concerned about the environmental problems of Faro Beach, and both scientists and managers see education as the best solution to increase risk perception and concern of residents. We suggest that truly collaborative approaches to coastal management should be promoted, including an active involvement of residents in the decision process, thus increasing their self-efficacy and behavioural control.

Keywords: Risk Perception, Public Participation, Coastal Hazards, Coastal Management, Content Analysis.

JEL Classification: Q54, D83

1. INTRODUCTION

Although attractive from natural and socio-economic perspectives, coastal areas are rough places to live in, due to their susceptibility to a myriad of coastal hazards. However, population growth in coastal regions and urbanization of coastlines have been increasing worldwide (Neumann, Vafeidis, Zimmermann, & Nicholls, 2015), and therefore the exposure to the hazard, resulting in increased risk. Thus, it is important to consider coastal areas as linked ecological-socioeconomic systems that co-evolve spatially and temporally, where integrated management approaches should be implemented across scientific disciplines (Crooks & Turner, 1999).

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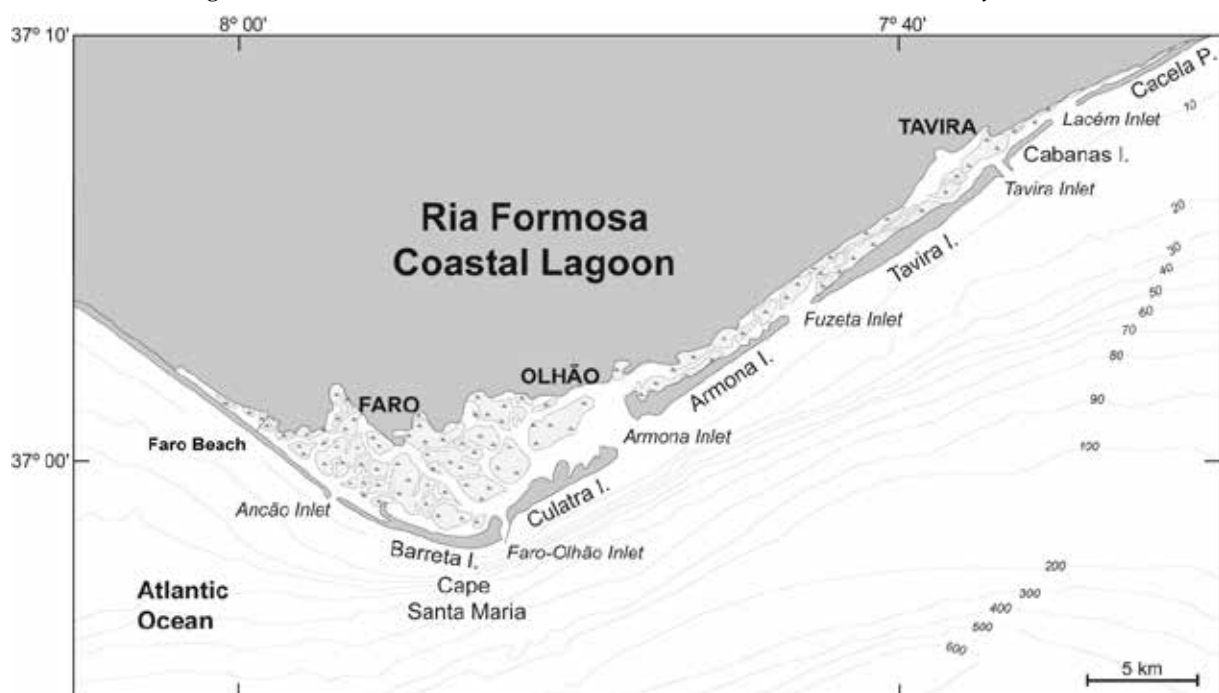
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This is particularly relevant in the Algarve (southern Portugal), where tourism is the main economic driver (Noronha Vaz, Walczynska, & Nijkamp, 2013), driven by “sun and beach” products (Guerreiro, Pinto, & Mendes, 2016), and also by nature and environmental quality (Barreira & Cesário, 2018). However, the Algarve is also extremely vulnerable due to the existence of fragile ecosystems and the location of urban infrastructures in areas subjected to coastal erosion (Noronha Vaz, Cabral, Caetano, Nijkamp, & Painho, 2012). One of the most vulnerable systems is the Ria Formosa coastal lagoon, a multi-inlet system protected by sandy barrier islands that extends over 55 km (Figure 1). Due to its ecological and economic importance, the Ria Formosa and its hinterland, with a total area of 185 km², were established as a Natural Park in 1987. Currently, a multitude of governmental organizations are responsible for its management, including at least five national organizations and five municipalities (Costas, Ferreira, & Martinez, 2015; Guimarães, 2010).

Figure 1. Location of Faro Beach at the Ria Formosa barrier island system



Source: Dr. Ana Matias, CIMA-UAlg

The human occupation of the Ria Formosa with residential and tourist infrastructures has always raised much debate, due to its high vulnerability to coastal hazards; indeed, the safety of human settlements and the restoration of ecological value on the sandy islands and peninsulas have been major concerns of several management plans. These plans aim to preserve landscapes and natural heritage, prevent coastal risks, and promote nature conservation and biodiversity, through the protection and requalification of the coastal zone, using an integrated and sustainable management approach (www.polislitoralriaformosa.pt). Measures to achieve these goals include inlet relocation, beach nourishment, dredging of navigation channels, waterfront requalification, and the demolition of houses. Some measures have been well accepted by residents and home/business owners, but other measures, particularly the demolitions, have generated several public debates and confrontations with the authorities.

Faro Beach, located at the westernmost part of the Ria Formosa, is one of the most threatened locations of the system and is one of the major sources of tension and disagreement between residents, scientists, managers and policy-makers. This location is exposed to several coastal hazards, particularly storm consequences (*e.g.*, overwash and erosion), that

have resulted in house and road destruction, but no casualties were ever observed. Probably because of that, most people living at Faro Beach have voluntarily accepted the risk in exchange for other benefits that the beach provides (Costas et al., 2015). Managers and outside observers believe that Faro Beach residents do not understand the risk to which they are exposed, given that they always return after storms to rebuild their houses (Costas et al., 2015). However, it has been shown that residents, particularly fishermen and their families, possess significant knowledge on coastal hazards and awareness of risks that derive mainly from life experience (Domingues, Santos, de Jesus, & Ferreira, 2018). This incongruence probably reflects the lack of communication between these groups. In order to improve communication and understanding between actors, this study aims to analyse the views/opinions of managers and scientists regarding risk perception and awareness of Faro Beach residents, using a qualitative approach based on a discourse content analysis. Understanding the perceptions of different stakeholder groups towards one another is essential for an effective coastal management, which, in turn, will positively affect this regions' economic activities.

2. METHODS

2.1 Participants and data collection

Participants were scientists and managers involved in the study and management of the Ria Formosa system, particularly Faro Beach. The main method used to collect data were semi-structured interviews (see Costas et al. 2015 for details); in addition, stakeholders' discussions during a meeting to apply a multi-criteria analysis (MCA) method towards coastal management (Barquet & Cumiskey, 2018) were also transcribed and used as a complement to the interviews. Data was collected as part of EU FP7 Collaborative project RISC-KIT (Resilience-Increasing Strategies for Coasts – toolKIT) which, among other goals, aimed to integrate stakeholders' risk perceptions into management tools, to reduce risk and increase resilience to hydro-meteorological events in problematic coastal zones (Costas et al., 2015).

As qualitative research is more interested in searching for depth of meaning through intensive, rather than extensive, research, small groups of respondents (<20) are acceptable (Crouch & McKenzie, 2006). In addition, given the homogeneity of the participants in our study (well-educated individuals working on coastal risks at Faro Beach), we considered that more participants would not add any new or relevant data, according to the saturation principle of qualitative research (Dworkin, 2012). Therefore, our qualitative study is based on semi-structured interviews to eight individuals and a stakeholders meeting with another six individuals.

The semi-structured interviews were conducted in early 2014 to three scientists, three regional-level coastal managers and two local-level coastal managers, selected based on their extensive knowledge of the area. We included one consultant involved in coastal management and a civil protection officer in the managers group as 'managers' is used *sensu lato*. Four main topics were addressed in the interviews, namely socio-cultural and environmental values in the community, risk perception, coastal disaster risk reduction knowledge, and constraints to the application of coastal disaster risk reduction strategies (Costas et al., 2015). The interviewer (S. Costas) used a guide with open-ended questions, and the interviewees could elaborate on their answers. The interviews were recorded, and the content was transcribed. The same method was also applied to residents discourses and published elsewhere (Domingues, Costas, Jesus, & Ferreira, 2017).

Data were also collected during a meeting to apply a multi-criteria analysis (MCA) for assessing disaster risk reduction measures, conducted in September 2016. Stakeholders

present in the meeting included four coastal managers, two scientists, and one resident; two other residents and one business owner were invited but did not attend. The meeting was led by a “content-neutral” facilitator (O. Ferreira); two co-facilitators (one of them S. Costas) in charge of the logistics and one observer with training in psychological sciences (R. Domingues) were also present. The goal of the MCA was to evaluate and rank individual and combined disaster risk reduction measures (*e.g.*, house removal and improvement in communication channels) for Faro Beach. The discussion between stakeholders was registered by the observer, particularly the issues and concerns raised regarding Faro Beach and its residents.

2.2 Data analysis

Data collected in the semi-structured interviews and in the MCA meeting were examined using a qualitative content analysis based on an inductive approach (Gondim & Bendassolli, 2014; Mayring, 2000). The inductive approach was chosen given that the interviews and the meeting were not structured around a specific theory or model; therefore, a more suitable abstraction process that includes open coding and creation of categories derived from the data was used (Elo & Kyngäs, 2008). Three categories of stakeholders were considered in data analysis: scientists (professors and researchers involved in the scientific study of the Ria Formosa), local managers (managers involved in coastal management at a local-level, *e.g.*, municipality, local civil protection), and regional managers (managers involved in coastal management at a regional level, *e.g.*, environmental protection agencies, natural parks).

3. RESULTS

The analysis of managers and scientists’ discourses allowed the identification of three main themes: a) stakeholders’ views on residents’ risk perception and concern (Table 1); b) stakeholders’ explanations for residents’ risk perceptions (Table 2); and c) solutions to increase residents’ risk perception (Table 3).

3.1 Managers and scientists’ views on residents’ risk perception and concern

Overall, managers and scientists believe that residents *‘know about the risk’* they face by living at Faro Beach, given that *‘they are used to live with the risk’* and *‘they have experience’* with the risk, particularly fishermen. Scientists view fishermen as quite knowledgeable about the Ria Formosa, *‘they know a lot about the functioning of the Ria and they know about the risk of building in a barrier island’*. However, managers think that residents *‘do not understand the severity of the risk, or the risk that they are exposed to’*, and they are not concerned about the risk or are only concerned about the risk *‘when it happens’*, *‘when the storm is coming and during the storm’*. Scientists, on the other hand, believe that residents *‘are concerned with storm and storm surges’* and *‘fishermen know that they can lose their houses at any moment’*; one regional manager admits that residents *‘are worried about their homes’*.

When asked about their views on residents’ concern with environmental problems, regional managers believe that residents are not concerned, or are only concerned when the problem *‘affects them directly’*. Some regional managers believe that the environmental concern of residents is seasonal or intermittent, as *‘people only care (about overwash) during the winter’* or *‘they care if something bad happens’*. On the contrary, one local manager thinks that residents *‘are concerned about the environment, because they have an affective relationship with the Ria’*. A scientist suggests that residents may have a utilitarian view of the Ria Formosa, as *‘their vision of the Ria has not changed over time, the Ria is there to be used as their parents did’*.

Table 1. Content analysis of stakeholders discourses. Theme 1 – Scientists and managers’ perceptions of residents’ risk perception and concern. Sc – scientist; LM – local manager; RM – regional manager.

Categories	Codes	Meaning units	Stakeholder
Stakeholders’ perceptions of residents’ risk perception and concern	Risk awareness and perception	The people living here (...) are used to live with the risk.	RM
		The ones that are living (at the Beach) are more at risk but they are used to it and know where they are, and do not demand, and they collaborate because they know that they are at risk.	RM
		They are worried about their homes.	RM
		I would say that people living there are concerned with storm and storm surges, but this is specific of the small area within the Ria where the hazard associated with storms is high and they know it.	Sc
		They do know (about the risk), the fishermen know that they can lose their houses at any moment.	Sc
		Yes, they know, they know a lot about the functioning of the Ria and they know about the risk of building in a barrier island, however, once things are installed in a place, they are very difficult to remove, people react very badly to that.	Sc
		I think fishermen know the kind of risk they face, and they have the experience.	Sc
		I do not think that people are concerned about the risk.	RM
		The people living here do not understand the severity of the risk, or the risk that they are exposed to.	RM
		They are concerned about the risk only when it happens.	RM
		No, I do not think (that people living at the Beach have risk perception), they only have risk perception when the storm is coming and during the storm, but then they forget.	RM
	Concern	People that live here are only concerned when a problem related to the environment affects them directly.	RM
		I think that people only care (about overwash) during the winter.	RM
		They do not care much, although this has improved, but they care if something bad happens.	RM
		Their vision of the Ria has not changed over time, the Ria is there to be used as our parents did.	Sc
		People living here help us to deal with a problematic situation, they are very resilient.	LM
		I do think (that people are concerned about the environment), because they have an affective relationship with the Ria.	LM
	Externalisation of responsibility	I think that the general feeling is that somebody else will solve the problem.	RM
	Trust in authorities	They do not believe in authorities.	Sc
		In many cases people do not like managers’ decisions.	Sc
	Willingness to participate in DRR measures	I think that they would be (willing to participate in the implementation of DRR measures), the fishermen yes, but I am not sure if people with a second house would be interested, because they may think they will lose more than what they’ll get.	Sc

Source: Own Elaboration

Regarding the relationship with authorities and the implementation of disaster risk reduction (DRR) measures, stakeholders think that residents of Faro Beach ‘do not believe in

authorities', but, in contrast, they externalize the responsibility, *'I think that the general feeling is that somebody else will solve the problems'*. One scientist believes that most residents *'would be (willing to participate in the implementation of DRR measures), the fishermen yes, but I am not sure if people with a second house would be interested, because they may think that they will lose more than what they'll get'*.

3.2 Explanations for residents' risk perception and concern

All managers agree that residents of Faro Beach easily forget the problems and the risks they have faced at the beach. They say, *'people have a very short climatic memory'*, *'in the summer, the beach recovers, and they forget'* and *'people have time to forget about the problems'*. Other explanation found by one of the regional managers to justify their apparent lack of concern with coastal hazards is that residents are convinced that serious consequences of coastal hazards will never happen to them, it may happen to their neighbours but not to them.

Table 2. Content analysis of stakeholders discourses. Theme 2 – Scientists and managers' explanations for residents' risk perceptions. Sc – scientist; LM – local manager; RM – regional manager.

Categories	Codes	Meaning units	Stakeholder
Explanations for residents' risk perceptions	Optimism bias	We are convinced that those things (bad things) will never happen to us, it may happen to our neighbors, but not us.	RM
	Availability and affect heuristics	Time deletes everything.	RM
		People have a very short climatic memory.	LM
		In the summer, the beach recovers and they forget.	RM
		I think that they forget, they only have risk perception when the storm is coming and during the storm, but then they forget.	RM
		People have time to forget about the problems.	LM
	Place attachment	I do think (that people are concerned about the environment), because they have an affective relationship with the Ria.	LM
		They do not want to move away from the Beach, because they have everything there.	LM
		(regarding relocations) I would say there are three versions: 'we want to stay here, we have been here forever' (...) they just want to save their homes, even if there is no beach anymore; this is the typical vision of the fishermen. (...) You also have those who would like to preserve the beach in front of their homes (...) and then, there are a few, younger, that say it wouldn't be a problem to relocate if they were compensated.	Sc
		Once things function in a certain way, they are very difficult to change, people react very badly to change.	Sc

Source: Own Elaboration

Some stakeholders refer the affective bond between residents and Faro Beach to justify their attachment to that place. One local manager says that residents *'do not want to move away from the Beach, because they have everything there'* and *'they have an affective relationship with the Ria'*. One scientist referred the length of residence as a factor explaining the willingness (or lack thereof) of residents to move away from the Beach; one scientist says that fishermen *'want to stay there, they have been there forever'*, whereas a few other residents, younger, *'say it wouldn't be a problem to relocate if they were compensated'*. Other scientist refers that *'once things function in a certain way, they are very difficult to change, people react very badly to change'*.

3.3 Solutions to increase residents' risk perception

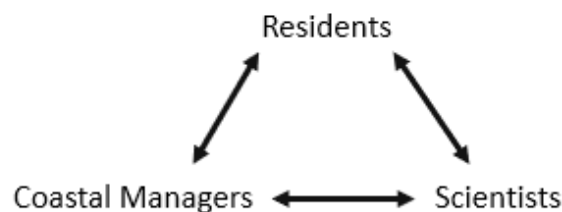
Education is the main (and only) solution referred by stakeholders to increase residents' risk perception and environmental concern at Faro Beach. Managers and scientists agree that *'the only way to change this (risk perception) is to educate the new generations'*, because *'if you educate people, they may help'*. They also believe that people will engage more with environmental issues *'as a result of an investment in education'*. However, not all stakeholders agree that education of residents may lead to good results in the implementation of measures; a regional manager refers that educating residents could not work, as they *'only believe in what they see'* and *'if you go there trying to educate them... they are not open at first, they prefer when people benefit from the experience; if we stand there as doctors, it's over, and you cannot reach them'*. This regional manager also suggests that *'the way to reach them is different, because most of the experience they have is very helpful, so it depends on how we approach them'*.

Despite the importance of education, suggested by all stakeholders, some managers and scientists believe that education may not lead to higher risk perception. One of the regional managers points out, referring to cliff erosion signs warning people to stay away from cliffs at other beaches in southern Portugal, that *'warning signs at the beaches have no effect on people's behaviour'*, and one scientist agrees, *'this says a lot about people's affinity to what we teach them – it's absolutely incredible how people lay there, close to the warning signs (close to sea-cliffs in risk of falling); the information is there, the education is there, but something is missing'*.

Finally, local and regional managers also referred the lack of communication between scientists and managers. A regional manager says that there is *'a lack of communication between the academia and the administration. I am tired of listening to recommendations for managers that do not get out of their research papers'*. Also, a local manager refers that *'all this information (from research) is not transferred to those who actually need it (...) I feel that the information does not reach us...'*. Figure 2 represents expected and actual communication channels between managers, scientists, and residents of Faro Beach, based on stakeholders' discourses (this study and Domingues et al., 2017).

Figure 2. A) Expected communication channels between residents, scientists and managers, and B) actual communication channels between stakeholders at Faro Beach.

A) EXPECTED CHANNELS OF COMMUNICATION



B) FROM INTERVIEWS



Source: Own Elaboration

Table 3. Content analysis of stakeholders discourses. Theme 3 – Scientists and managers’ solutions for problems. Sc – scientist; LM – local manager; RM – regional manager.

Categories	Codes	Meaning units	Stakeholder
Stakeholders’ solutions for problems	Education and information	The only way to change this (risk perception) is to educate the new generations.	RM
		It’s logic that more information will increase the acceptability of this measure (demolition of houses).	
		(People engage more with environmental issues) as a result of an investment in education.	RM
		I do not think (that educating people could be good), I think they only believe in what they see.	RM
		If you go there trying to educate them ... they are not open at first, they prefer when people benefit from the experience; if we stand there as doctors, it’s over, you cannot reach them.	RM
		The way to reach them is different, because most of the experience they have is very helpful, so it depends on how we approach them.	RM
		If you educate people, they may help.	LM
		When people know certain things, they have a totally different reaction (to the implementation of measures).	LM
		Informed people collaborate better in the resolution of problems – I think we can all agree on that.	RM
		People will be more receptive (to change) when they have more information.	
		If there was more information, more explanations regarding the demolitions (maybe residents would agree)...	LM
		If there was a continuous education of residents, like every year or so, then improvements in communication channels could be effective.	LM
		Warning signs at the beaches have no effect on people’s behaviour.	RM
		If there was a continuous education of residents, like every year or so, then improvements in communication channels could be effective.	LM
		People will be more receptive (to change) when they have more information.	Sc
		It’s logic that more information will increase the acceptability of this measure (demolition of houses).	Sc
		This says a lot about people’s affinity to what we teach them – it’s absolutely incredible how people lay there, close to the warning signs (close to sea-cliffs in risk of falling); the information is there, the education is there, but something is missing.	Sc
	Communication between scientists and managers	It looks like all this information (from research) is not transferred to those who actually need it. I do not need very deep information, I need the results to understand the risk, and I feel that the information does not reach us...	LM
		(There is) a lack of communication between the academia and the administration. I am tired of listening to recommendations for the managers that do not get out of their research papers.	RM

Source: Own Elaboration

4. DISCUSSION

This study aimed to understand the opinions of managers and scientists involved with the Ria Formosa system on the risk perception and awareness of Faro Beach residents. Overall, managers and scientists believe that residents' risk perception and awareness of coastal risks is relatively high, given that they have experience with risks, but residents easily forget the problems and the risks that they face at the beach, demonstrating a low concern; education is seen by these stakeholders as the best solution to increase risk perception and environmental concern of Faro Beach residents.

4.1 Risk perception and awareness

In the interviews and MCA meeting, managers and scientists consistently referred to risk 'perception' when what they meant was risk 'awareness'. These two terms are commonly used interchangeably by stakeholders, the public and the media, but they represent distinct, although related, psychological constructs. Risk awareness refers to having information about hazards and risks (Gifford, 2014; Luís, Pinho, Lima, & Roseta-palma, 2016), or to recognize the risk, accept its possibility and understand its mechanisms and impacts. Raising awareness of a risk has been used as a synonym of increasing risk perception (*e.g.*, Cologna et al. 2017), but psychological research shows that being aware of a risk does not necessarily lead to increased risk perception (Schuetz et al., 2011). In fact, risk perception is not a rational, analytical or objective process, but rather a subjective judgment that an individual makes regarding the characteristics and severity of a risk (Slovic, 1987). It is driven by unconscious emotional processes, such as feelings of fear or anxiety (Gifford, 2014), and cognitive heuristics, that are mental shortcuts expressed as simple information-processing rules that individuals use when making decisions and judgments, and that may lead to biases in decision making (Tversky & Kahneman, 1974). The cultural and social context may also influence risk perception and lead to social representations of risk (Michel-Guillou & Meur-Ferec, 2017), given that individuals tend to shape their views to match those of people with whom they identify (Brown, 2014).

Most stakeholders agree that Faro Beach residents, particularly fishermen, have high risk awareness, as they know that they are at risk, they are worried about their homes, they know the kind of risks they face, and they know that they can lose their houses at any moment. Scientists see residents as very knowledgeable about the functioning of the Ria Formosa, but managers believe that residents do not understand the severity of the risk, and they are concerned only when something bad happens. Drawing from the stakeholders' discourses, residents of Faro Beach apparently have a considerable risk awareness, *i.e.*, they have information about hazards and they are aware of the potential risks; the lack of concern that managers refer may be interpreted as a low risk perception, *i.e.*, residents, unconsciously and subjectively, underestimate the severity of the risks.

Risk perception has been evaluated at Faro Beach in previous studies using both qualitative and quantitative approaches, and results are inconsistent. Qualitative analysis of residents' discourses suggested that residents are well aware of the risks, but nonetheless their risk perception is low, as they feel safe at the beach and feel that their lives are not at risk (Costas et al., 2015; Domingues et al., 2017). However, a quantitative approach based on the psychometric paradigm demonstrated that residents have medium/high levels of risk perception, informed by past experience with hazards, but they believe hazards are not very dangerous and are distant in time (Domingues et al., 2018).

4.2 Cognitive biases, heuristics and place attachment

Managers and scientists explained residents' apparent lack of concern making references to cognitive biases, which are systematic deviations from norm or rationality when making judgements, leading individuals to draw inferences or adopt beliefs in a non-logical manner, without or with insufficient evidence to do so (Haselton, Nettle, & Andrews, 2005). One of the managers referred that residents believe that bad things only happen to other people, expressing their optimism bias, and several managers pointed out the '*short climatic memory*' of residents, related to the availability heuristics.

Individuals with an optimism bias usually believe that they are personally less likely to experience negative events, and more likely to experience positive events, than other people (Breakwell, 2014). Optimism bias has been observed not only in regard to natural hazards, such as hurricanes (Trumbo, Lueck, Marlatt, & Peek, 2011) and earthquakes (Helweg-Larsen, 1999), but also in relation to other hazards, such as health-related or terrorism events (see Breakwell, 2014 and references therein). Optimism bias is informed by personal experience with hazards; experience may either increase or decrease risk perceptions (see review by Wachinger et al. 2013), depending on how individuals interpret their experiences (Lindell & Perry, 2004). At Faro Beach, optimism bias is rooted in the 'positive' personal experience that most residents have with coastal risks, particularly storms and beach erosion that have led to the destruction of buildings, but never to the loss of lives (Domingues et al., 2018). This represents a behavioural barrier that may hamper residents' preparedness in case of disaster (Domingues et al., 2018), as optimism bias might be at the root of the unwillingness of individuals to take precautions to protect themselves from hazards (Breakwell, 2014). Optimism bias is, indeed, an important psychological barrier that hinders self-protective and proenvironmental behaviours (Gifford, 2011).

Optimism bias is closely associated with the availability heuristic, a mental shortcut that individuals use when estimating the probability of an event, based on how easily previous similar events can be recalled. This is what stakeholders called a '*very short climatic memory*', referring that Faro Beach residents only have high risk perception/awareness when the storms are happening, in the winter; when the summer starts and the beach recovers, residents easily forget the hazards and the risks they faced in the winter. Events that people recall and probability judgements that people make are influenced by many variables, including beliefs, expectations, and frequency of exposure (Tversky & Kahneman, 1973). Faro Beach residents are frequently exposed to storms and other hazards, which could, according to the availability heuristic, lead to an easier recall of problems and risks. However, the positive emotions, feelings, and expectations associated with hazards at Faro Beach, informed by the 'positive' personal experience that residents have with hazards, lead to the opposite effect: high-frequency storm events that never had serious consequences (*e.g.*, fatalities) are easily forgotten or underestimated. The same has been observed in a location in Jakarta exposed to tsunamis, typhoon storm surges and dyke-break induced floods, where residents are aware of the risks they face, but seem to underestimate their severity, most likely due to a high frequency of exposure to hazards in the recent past (Esteban et al., 2017). If the severity of personal disaster consequences were high, the intensity of negative emotions would be higher; according to the affect heuristic, or the risk-as-feelings hypothesis, negative emotions increase risk perceptions (Loewenstein, Weber, Hsee, & Welch, 2001), which would lead to an easier recall of events; consequently, the probability of occurrence of disaster events would be judged as higher. As the personal consequences of disasters cannot be exacerbated from an ethical viewpoint, one way to increase risk perception would be to decrease optimism bias, by increasing the availability heuristics (Jolls & Sunstein, 2005), *i.e.*, making frequent events, such as storms, more prominent and easy to recall. Exposing individuals to more information about the risk does not necessarily eliminate optimism and it may even

strengthen their belief that bad things only happen to others (Weinstein, Lyon, Sandman, & Cuite, 1998).

In addition to cognitive biases and heuristics that affect judgements, residents have affective connections with Faro Beach, as referred by one local manager. Place attachment, defined as an affective bond or link between people and specific places (Hidalgo & Hernández, 2001), may have contributed to lowering residents' risk perceptions, as already observed for other environmental risks, such as seismic (Armaş, 2006) and volcanic risks (Donovan, Suryanto, & Utami, 2012). However, increases in risk perception have also been observed in association with place attachment, for volcanic (Bird, Gísladóttir, & Dominey-Howes, 2011), hurricane (Burley, Jenkins, Laska, & Davis, 2007) and drought risks (Stain et al., 2011).

One scientist referred that length of residence is a factor that differentiates residents who have been living at the beach '*forever*' and refuse to leave the beach, from younger residents who may accept a potential relocation. Indeed, length of residence is a significant predictor of place attachment, thus influencing risk perception. Most residents have lived at the beach for most of their lives (Domingues et al., 2018), and a longer length of residence is associated with higher familiarity with the risk. This familiarity with the risk leads to an increase in an individual's sense of control over the risk (Bernardo, 2013), and, consequently, a decrease in risk perception.

4.3 Education and normalization of risk

Providing more education to residents was exhaustively referred by managers and scientists as the best way to increase their risk perception and, more important, their acceptance of measures, particularly house removal. Environmental education was referred several times as one of the measures that should be implemented to get people on board with managers' decisions, by increasing people's awareness of coastal risks and, hence, their risk perceptions. Information is indeed a major variable influencing risk awareness and risk perception, and it may be very effective in increasing awareness of hazards (Charrière et al., 2017; Hajito, Gesesew, Bayu, & Tsehay, 2015). However, information may not always act in the way that is intended by managers and policy-makers; this approach to risk communication is naïve and ignores fundamental aspects of psychological functioning, such as the use of cognitive biases and heuristics, and the conflict with existing beliefs (Lindell & Perry, 2004). The idea, known as the information deficit model, that public misunderstanding, scepticism, objections or hostility towards science and technology is due to a lack of knowledge that can be overcome by providing more information to the public (Rowe & Frewer, 2000), still persists in coastal management strategies, probably due to its logic and simplicity. However, psychological research has shown that the effects of awareness on risk perception are not straightforward.

Higher awareness about hazards and risks may lead to higher risk perceptions, as desired by managers, but it can also lead to a decrease in risk perception (Lima, 2004; Lima, Barnett, & Vala, 2005; Luís et al., 2016; Luís, Vauclair, & Lima, 2018) - the opposite of what is intended with more education. Awareness about coastal risks may not result in higher risk perceptions because people develop strategies to psychologically cope with the threats, hence decreasing the subjective judgment they make about the risk (Luís et al., 2016). This psychological strategy is known as risk normalization, and it commonly occurs when people expose themselves voluntarily to risks (Twigger-Ross & Breakwell, 1999), like Faro Beach residents (Costas et al., 2015).

Residents of Faro Beach are fully aware of the risks they face by living there (Domingues et al., 2017, 2018); in fact, most individuals living in coastal zones demonstrate high levels

of awareness and knowledge about coastal hazards and associated risks (Delicado, Schmidt, Guerreiro, & Gomes, 2012; Schmidt, Gomes, Guerreiro, & O’Riordan, 2014). However, due to their physical proximity, emotional bonds and previous experience with hazards, they developed strategies to cope with the threats, namely by normalizing the risk and thus decreasing their risk perceptions.

Despite the general belief that more education will result in higher risk perception, some managers and scientists have already realized that more information may not always work, referring to cliff erosion signs that have no effect on people’s behaviour. A higher public involvement may be achieved, not by educating people, but rather by directly involving the public in the decision process, leading to higher compliance to measures and reducing the need for enforcement (Smith, 2012). In fact, the most important source of knowledge on coastal hazards at Faro Beach is not formal education or environmental education campaigns, but rather life experience (Domingues et al., 2018). In addition, stakeholders are well aware that residents do not trust the authorities, given that they feel that their opinion is not considered by coastal managers (Costas et al., 2015; Domingues et al., 2017).

4.4 Communication among stakeholders

Overall, managers and scientists are quite accurate regarding the views, beliefs, and risk awareness and perception of Faro Beach residents (Costas et al., 2015; Domingues et al., 2017, 2018). The most prominent discrepancy relates to the role of education/information on risk perception. Most managers and scientists believe that education is the most effective way to increase environmental concern and risk perception, but some recognize that more information may not work, as already observed with beachgoers in beaches with sea-cliffs in risk of falling.

Conversely, residents regard education (includes environmental education, formal education and public discussions) as the least important source of information on coastal hazards and risks, in comparison with life experience, which they consider their major source of information (Domingues et al., 2018). Only one of the stakeholders, a regional manager, expressed that education may not work with these individuals, due to the important role that their personal experience with coastal hazards plays.

Communication between actors is, thus, a major issue in Faro Beach, and improvements in communication channels are deemed necessary for a sustainable management of this coastal system (Cumiskey et al., 2018). As scientists and managers have an appropriate understanding of residents’ opinions and beliefs regarding coastal hazards and risks, this knowledge could be applied to improve communication with residents. To begin with, residents should feel that their opinion matters. Public discussions should be discussions between actors, not one-way information exchanges that leave no room for higher levels of engagement (Rowe & Frewer, 2000). An active involvement of people whose lives are affected by the program under discussion must be pursued in all phases of the process, including the selection and evaluation of measures. If residents’ opinions were heard and taken into consideration, their perceived behavioural control and self-efficacy would increase – people would feel that they can make a difference. In addition, higher public engagement based on participation (and not just communication) could also help individuals cope with threats in more adaptive ways (Luís et al., 2016), eliminating risk normalization and hence developing more realistic risk perceptions. However, residents’ cognitive biases and heuristics, which can affect judgements and decision-making, must be firstly identified. Thus, psychology experts should be included in coastal management programs to work not only with residents, but also with the other stakeholders, and help them overcome their cognitive shortcuts. Indeed, decision-makers, like every human being, make decisions based on their values, beliefs, and

past experiences; scientists can also play an important role in helping decision-makers, by shaping their beliefs (von Winterfeldt, 2013) with adequate scientific evidences.

However, communication between scientists and managers is often poor, as scientific results are not readily accessible to managers, and scientists may not understand which information is the most relevant for decision-makers (von Winterfeldt, 2013). In order to bridge the gap between these stakeholders, scientists should be trained to write for policy-makers, scientific results should be actively communicated and marketed, and precise recommendations to policy-makers should be included (Choi, McQueen, & Rootman, 2003). Although it can be challenging for decision-makers, the legitimacy and acceptance of coastal management decisions can only be achieved with truly collaborative approaches that include the opinions of residents and the recommendations of scientists.

5. CONCLUSION

The qualitative content analysis of managers and scientists' discourses regarding risk awareness and perception of Faro Beach residents showed that managers and scientists recognize that residents, particularly fishermen, are aware and quite knowledgeable about the risks they face by living there. However, managers and scientists believe that residents easily forget the risks due to an optimism bias and positive personal experience with hazards that lead to an underestimation of the severity of the risks. An effective communication between all stakeholders is essential for a sustainable coastal management, but managers are aware that residents mistrust the authorities and externalize the responsibility for coastal problems. Additionally, managers complain about the lack of communication between them and scientists, as scientific results that could be useful for coastal managers seldom reach them. A possible approach to improve coastal management and decrease risks would be to promote an active participation of all stakeholders in the discussions and decision-making processes, based on trust and on the sharing of experiences among stakeholders. Long-term collaborative projects that include all stakeholders and multidisciplinary teams are thus necessary for a sustainable coastal management at Faro Beach.

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COMPOSITE INDICATOR FOR MEASURING THE WORLD INTEREST BY PORTUGAL'S TOURISM

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ABSTRACT

Tourism is a phenomenon with unique characteristics and particularities, which makes its measurement difficult. The rapid changes in society and consumer behaviour associated with the countries' economic situation have made the collection of statistical data difficult, impacting on the dissemination of updated and relevant indicators. This fact evidences the difficulty in having timely knowledge of the sector and consequently the tourism stakeholder's hard and imprecise decision-making. The Internet has proved to be an important source of data, and it is possible, through tools like Google Trends (GT), to know timely the interests and intentions of potential consumers in tourism. The objective of this paper is to present a methodology for building a composite indicator to measure the world interest of Portugal as a tourist destination. The composite indicator is conceptually based on the classification of activities and products' characteristics of tourism that are part of the proposed tourism supply defined in the Tourism Satellite Accounts (TSA). Primary indicators were collected over a year using GT and weighted with indicators of total tourist consumption in Portugal. Our findings indicate that the interest of Internet users worldwide by tourism in Portugal varies throughout the year and the interest of search differs according to the tourism product characteristics.

Keywords: Composite Indicator, Google Trends, Portugal, Internet Searches, Tourism.

JEL Classification: Z30, Z32

1. INTRODUCTION

Due to tourism complexity, statistical tools and indicators are essential. Indicators published by the official authority in Portugal are, in the case of tourism, mostly statistical operations based on the application of surveys. The carrying out of these statistical operations, particularly those in which the survey unit is the international visitor, is expensive because mainly the visitor uses different means of transport and means of communication to travel to the holiday destination and stay in different accommodation types. However, the tourism consumer motivations, needs and desires are multiple and are continually changing, which makes its characterisation even more difficult, and their knowledge cannot be substantiated by using the visitors of only a few stakeholders of the tourism supply.

Global trends increasingly determine the selection of tourism destinations and the success of the tourism sector will depend on how these trends are incorporated into their management and planning (Buhalis & Costa, 2006). Furthermore, knowledge about the

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evolution of consumers, their preferences and travel and tourism's patterns of consumption are determinant in guiding the development of tourism in a given territory (TP, 2013b). Information and communication technologies, more specifically the Internet, have changed the way tourism consumers plan and organise their holidays and how they share their experiences (Buhalis & Law, 2008, Xiang & Gretzel, 2010). This means that the Internet, beyond the source of information is now also an important source of data, being the electronically stored data an admirable new world for statisticians (Macfeely, 2009).

The Google search engine is the search market world leader (StatCounter, 2018a). The GT tool provides real-time data based on searches performed on Google search engine that can be very useful for the decision-making of tourism stakeholders, since this data reflects the intentions and needs of potential consumers in tourism, with the advantage of being available before the publication of official tourism indicators.

The aim of this paper is to propose a new composite indicator based on GT's data that intends to measure the online interest of the Internet users of the world by tourism in Portugal. For that purpose, GT data were collected daily for a year for a set of primary indicators proposed based on the TSA conceptual framework and a set of keywords that were considered identifiers of the destination Portugal.

This paper starts with a literature review followed by a description of the used methodology for the construction and validation of the composite indicator. Finally, we present the results and the performed analysis, ending with the conclusion. Our results contribute to increase the knowledge on the potential of Google-based search data to construct new indicators that allow knowing the interest, intentions and behaviour of the potential consumer in tourism by a specific destination.

2. LITERATURE REVIEW

Tourism is a relatively recent activity (Cooper, Fletcher, Fyall, Gilbert & Wanhill, 2005). Nevertheless there are several researchers and definitions that have arisen to conceptualise and delimit this phenomenon. Tourism can be approached from a demand perspective or the tourism supply. If the identification of the demand agent does not offer great doubts, in the case of the tourism supply the difficulties are more significant, either by the identification of the supply agent or through the product offered (Matias, 2007). This difficulty together with the intrinsic and unique characteristics of this sector led to the perspective "from the final demand for goods and services acquired by visitors, and not by the nature of the goods and services that are produced" (Eusébio, Marujo, Borges & Serra, 2012: 11).

One of the main problems in the tourism supply definition is to separate the activities that are exclusively used by the tourism consumer of those that also provide services to the resident population and/or to other sectors of activity. With the main objective of quantifying the tourism economic impact, several international organizations, with emphasis on UNWTO and Eurostat, have proposed a conceptual and methodological framework within the TSA. This instrument of international reference, proposes a classification for the products and economic activities that make up the tourism supply such as: i) specific products, which include products characteristic of tourism, comprising all products that would cease to exist, or whose consumption would reduce significantly in the absence of tourism, and which are normally considered the core of the tourism activity and related products; and (ii) non-specific products. (UN, UNWTO, EUROSTAT & OECD, 2010).

Tourism demand can also be analysed according to other perspectives. If viewed from a physical or geographical perspective, it can be measured using volume variables, such as "arrivals at the borders of each country" or "international arrivals", "number of visitors",

“number of overnight stays” and/or “number of guests” in the accommodation facilities. From an economic point of view or a monetary perspective, tourism demand can be obtained through “tourism consumption”, “tourism expenditure” and/or “international tourism receipts”. Measuring tourism demand through the indicators listed above has advantages being, however, their relevance as a measure limited.

At European level, the European Tourism Statistics System is organized on the basis of Regulation 692/2011 of the European Parliament and of the Council of 6 July, which recommends the Member States to collect, process and disseminate harmonized statistics on tourism demand and supply and the transmission of indicators to Eurostat, some of which are mandatory and others not, concerning domestic and national tourism. For this study, it should be noted that the indicators to be transmitted in the field of internal tourism focus on tourist accommodation and seek to show, on the one hand, the existing supply and capacity in terms of accommodation and, on the other, the demand and occupation of these accommodations.

In Portugal, due mainly to budgetary restrictions in the period 2007 to 2017, external tourist demand was quantified by the number of guests and/or the number of overnight stays by country of residence, there is no statistical data on the number of international tourists and visitors. Failure to carry out the statistical operations that allowed knowing the tourist movements in Portugal's borders also prevented the realisation of the TSA and consequently, the obtaining and dissemination of other indicators, such as tourism consumption indicators. In general, tourism consumption is understood as the “total consumption by visitors or others in favour of the visitor for and during their travel and stay at the place of destination” (Libreros, 2006: 6), provided that the products and services purchased are related to travel (UNWTO, 1999). Tourism consumption, taking into account the individuals country of residence, is classified as outbound, inbound, domestic and may be broken down by type of product purchased and visitor category (hiker or tourist) (UN, UNWTO, CEC & OECD, 2001). In this study, it is important to emphasise the concept of internal tourism consumption, which results from the aggregation of domestic tourist consumption and inbound tourism consumption and refers to the consumption made by resident and non-resident visitors in the country of travel (UN et al., 2010).

The approaches mentioned above regarding tourism demand and the way it can be quantified are related to the effective tourist demand, that is, to the “current number of people who participate in the tourist activity as buyers of the services and who have the means and the willingness”(UNWTO, 1998: 62). However, it is important to conceptualize the latent or suppressed tourist demand that “is formed by people who do not participate in the tourist activity (do not travel)” and that integrates the potential demand, formed by persons who do not travel for a particular reason but who may do so in the future, when the circumstances which prevented the trip from being fulfilled change; and deferred or deferred searches, which includes people who “could not travel due to any problem related to the surroundings or caused by the tourism supply” (UNWTO, 1998: 62), and that in Mathieson and Wall (1982) opinion can be tourists if they are motivated. This type of tourism demand is difficult to measure and is therefore rarely addressed by researchers.

In recent years we have witnessed the decision-making and consumer choice process changing from the “funnel” to the “calyx” (TP, 2014). For decades, tourism consumers have based their travel planning and booking decisions on traditional information sources, including tourist guides, brochures, magazine and newspaper publications made available through traditional distribution channels. However, this scenario has changed with the proliferation of information available online and the popularisation of the Internet among consumers, leading to a revolution in the way consumers access information, choose the tourism destination, make reservations, and share their experiences (Buhalis & Law, 2008).

The fact is that in all decision-making process steps, ICT plays an essential role (Buhalis & Law, 2008).

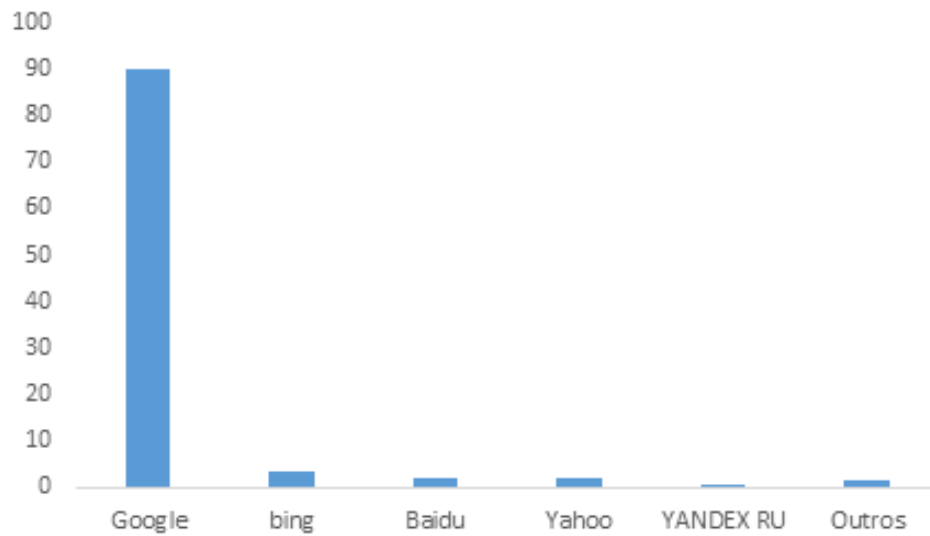
Understanding information search behaviour is critical for any tourism product or service provider who wants to improve marketing communication with tourism consumers (Hyde, 2006 in Grønflaten, 2009). Cai, Feng and Breiter (2004) report that the information-seeking behaviour of a potential tourist involves decisions about which content and which information channels to look for. Regarding the online consumer, Fesenmaier (2012) refers in his travel information search model that, in the digital world, the search occurs in the trip's different phases. Xiang and Fesenmaier (2006) argue that a search engine is an essential tool for consumers to plan their trips and is often referred to as the "first step" in a trip decision-making process. According to Dinis, Costa and Pacheco (2016), a study based on data from the "Customer Journey to Online Purchase" tool, search engines influence throughout the decision-making process, although for most consumers in the study countries is relatively superior in the pre-purchasing decision phase. A Google study (Google, 2011) for the UK market also found that in the travel purchase decision process the user starts the process on a search engine, then heads to different sites, returning to the search engine search and browse among the several suppliers' websites before making the purchase.

The online search process begins with the query formulation when the user enters the search terms (Pan, Xiang, Fesenmaier & Law, 2009). Levene (2006) in Pan, Xiang, Law, & Fesenmaier (2011) and Xiang, Pan, Law, & Fesenmaier (2010) mention that the formulation of the search query is influenced by the user's knowledge of the scientific field of search, the user's understanding of the operation of the search engine and the objectives of the search. Taking into account the search objectives, these can be classified in: i) navigation searches, when the user intends to find the website of a specific organization; ii) informational searches, when the user wishes to obtain information about a certain content or theme; and (iii) transactional search, when the purpose is to locate a site with the purpose of performing a certain action or to obtain another product (Jansen, Booth & Spink, 2008). In the study conducted by the authors, 80% of the search queries were informative, 10% navigational and 10% transactional.

In recent years, several authors have developed research to understand the nature and characteristics of search in search engines related to tourism (e.g. Jansen, Ciamacca & Spink, 2008; Xiang & Pan, 2011). Although studies have limitations, such as not analyzing all search engines or focusing on analyzes in very short time periods, their results shows that the search terms used in the query formulation are related to the local geography, prevailing the term "city", which sometimes appears in conjunction with hotels and other aspects of travel (i.e. attractions, transportation and restaurants). In the study developed by Xiang and Pan (2011), with regards to the most searched aspects of travel, is mentioned accommodation, highlighting the term "hotel", and "transport" and less-researched "restaurants" and "shops". The authors also concluded that searches depend on the size and level of tourist development of the cities, and found that, in larger cities, in addition to the consultations related to accommodation and transportation, there are, among other generic terms, maps, parks and attractions; while in a small or medium-sized tourist cities, searches focus on these places specific attractions..

As shown in Figure 1 the search engine market worldwide is dominated by Google, with a market share of 90.1% in May 2018. In terms of market share by country, only in Russia, the search market is dominated by YANDEX RU (51%) and Google (45,3%), and in China by Baidu (70%) (StatCounter, 2018).

Figure 1. Search Engine Market Share Worldwide



Source: Own elaboration from StatCounter data (2018)

The use of search engines when searching for information leaves a digital footprint. This data, mainly due to their quantity, diversity and ubiquity can provide information on the consumers' intentions and needs and assist in the prediction of mass behaviour. Several authors in various areas of knowledge (for example Ginsberg, Mohebbi, Patel, Brammer, Smolinski & Brilliant, 2009; Choi & Varian, 2009; Li, Pan, Law & Huang, 2017) have already demonstrated that the search data is correlated with the official statistical data and can be used to predict, in due time, phenomena such as the appearance of influenza epidemics, tourist demand for a destination, private consumption and unemployment rate.

For reasons of confidentiality, Google Inc. does not provide search engine data in absolute terms but makes the information available in relative terms on a daily or weekly basis through the GT tool. The GT data related to travel searches is subdivided into 11 subcategories of the first level and 14 of the second level, as can be observed in Table 1.

Table 1. Travel Category and subcategories from GT

	Subcategories	Subcategories
Travel Category	Travel Agencies & Services	Tourist Boards & Visitor Centres Vacation Offers
	Car Rental & Taxi Services	n.a
	Bus & Rail	n.a
	Cruises & Charters	n.a
	Tourist Destinations	Beaches & Islands Historical Sites & Buildings Lakes & Rivers Museums Mountain & Ski Resorts Regional Parks & Gardens Theme Parks Zoos-Aquariums-Preserves
	Travel Guides & Travelogues	n.a
	Hotels & Accommodations	n.a
	Luggage & Travel Accessories	n.a
	Carpooling & Lift-sharing	n.a
	Air Travel	Airport Parking & Transportation Recreational Aviation (Personal Aircraft)
	Specialty Travel	Adventure Travel Agritourism Ecotourism Sightseeing Tours Vineyards & Wine Tourism

n.a- not available

Source: Own elaboration from GT data

In our opinion, the areas included in the GT travel category do not reflect the real scale of the tourism phenomenon. Also, the existing tourism indicators in Portugal are insufficient due to the constant changes in the consumer behaviour and the travel arrangements, made available late to tourism stakeholders, making decision-making more difficult and increasing the risk uncertainty. These facts all together justify this study. In the literature there is no single methodology for the construction and evaluation of composite indicators, however, there are some authors and organizations that have studied this subject and that served as reference for the development of the methodology that is presented in the following section (for example UNWTO, 1996, 2004; Silva, Mendes & Guerreiro, 2001; OECD, 2003, 2008; Mendola & Volo, 2017).

3. METHODOLOGY

The main objective of this paper is to propose the creation of a composite indicator, called the Google Output Relevance Indicator Internal [GORI (WORLD) _PT: TOURISM], which measures online public interest, from 118 countries including Portugal, by the tourism in Portugal.

In order to achieve this objective, it was considered that the most appropriate conceptual framework to represent the tourism supply is the one developed within the scope of the TSA, which was discussed in the previous section. As such, the characteristics products of tourism were listed, subsequently, the tourism characteristic products that map in terms of search in the GT

were selected as primary indicators, and the respective acronyms were defined, as can be seen in Table 2.

Table 2. Characteristic tourism products, primary indicators and respective abbreviations

	Primary indicators	Abbreviations
Food & Beverage Services	Restaurants	RESTAUR
Accommodation	Hotels and accommodation	HTALOJ
Transportation	Air travel	VAEREA
	Buses and trains	AUTCOMB
	Cruises and charters	CRUZECH
	Rental car and taxi services	RENTACAR
Travel Agencies and Tour Operator and Tourist Guides	Travel agencies: holidays offer	AVFERIAS
Cultural Services	Zoos-aquariums-reservations	JARDZOO
	Historical sites and buildings	EDIFHIST
	Library and museums	BMUSEU
	Concerts and music festivals	CFESTIV
Recreation and Leisure Services	Thematic parks	PTEMATIC
	Mountain resorts and Ski	MONTSKI
	Golf	GOLFE
Others	Beaches and islands	PRAIA

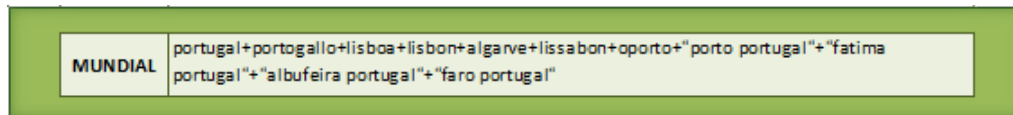
Source: Own Elaboration

In the construction of the composite indicator, we considered as primary indicators the tourism characteristic products that GT classified in the “travel” category, but also products classified in other categories, such as restaurants classified as “food and beverages”, libraries and museums classified in the category “reference”, concerts and music festivals classified in the subcategory “events and listings”, which in turn are in the category “arts and entertainment”.

As can be seen from Table 2, the GORI (WORLD) _PT: TOURISM indicator is composed of 15 primary indicators grouped in seven parameters, corresponding to the tourism characteristics products considered in the TSA. For each product, it was identified a primary indicator, with the exception of “cultural services” and “recreational services”, which due to the diversity of the products they integrate, we have chosen to assign four and three indicators, respectively, that were considered as being the most representative of the product.

The next phase was the search terms identification used by the Internet users that best represented “Portugal” destination. It was considered the municipalities or cities that presented a greater number of overnight stays in establishments in Portugal according to known statistics. Also, the search term “Portugal” and the capital of the country “Lisboa” were placed in other languages, namely English and Italian, as can be seen in Figure 2.

Figure 2. Search terms of the composite indicator



Source: Own Elaboration

Before aggregating the primary indicators, the data was analysed to ensure that the conditions are met to apply the intended statistical techniques. In this study, we opted for no data processing because the primary indicators are available in the same unit of measure, the extreme values and outliers were not considered relevant, and the indicator does not present missing cases. Thus, whenever the data generation of the GT indicated that there was not enough search volume to show results, the observation assumed the value "zero".

As it was verified in the literature review, that potential consumers of tourism seek information in search engines according to their needs and knowledge about tourism products and destinations. Therefore, it was considered that the primary indicators should have different weights, obtained with based on the effective tourist demand, similar to the indicators developed by PriceStats (PriceStats, 2013) that combines in their construction published data with data obtained through the Internet.

As there is no statistical data on the number of tourism consumers in Portugal and abroad who are looking for the products characteristic of tourism in national territory, it was decided not to consider physical demand, but rather the monetary demand, proposing different weights for the primary indicators based on the tourist consumption of visitors, namely the internal tourist consumption of 2007 of CST Portugal, obtained through the weight of each of the parameters of the internal tourist consumption in the total monetary tourist consumption of the products characteristic of tourism.

In the following equation, it is possible to observe the weight of each parameter of the composite indicator:

$$0.34(\text{RESTAUR})+0.28 (\text{HTALOJ})+ (0.15 (\text{VAEREA})+0.04 (\text{AUTCOMB})+0.006 (\text{AUTCOMB})+0.002 (\text{CRUZECH})+0.042(\text{RENTACAR})]+0.03(\text{AVFERIAS})+0.005 [(\text{JARDZOO})+(\text{EDIFHIST})+(\text{BMUSEU})+ (\text{CFESTIV})]+0.054[(\text{PTOMATIC})+(\text{MONT SKI})+(\text{GOLFE})]+0.041(\text{PRAIA})$$

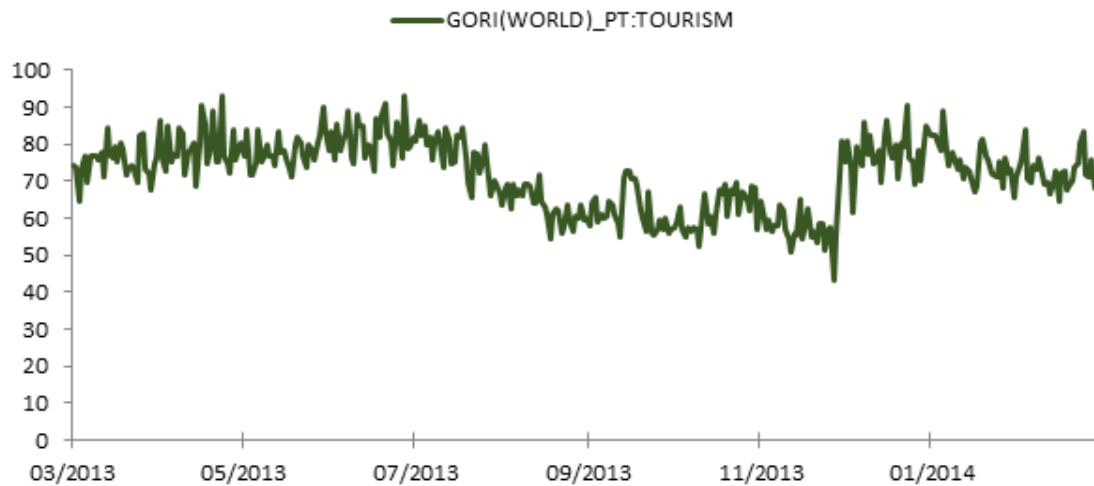
Data from the primary indicators were collected daily in the GT during one year (March 28, 2013, to March 27, 2014). Although the values obtained for each primary indicator are available daily, they are obtained based on the searches carried out in Google in the broader period "the last 90 days", this methodological option is due to the fact that it is difficult to obtain data for lower temporal periods.

The composite indicator was validated based on the methodology of Carmines and Zeller (1979). Thus, in relation to criterion validity, the GORI (WORLD) _PT: TOURISM indicator was related with a similar indicator, the search volume index obtained in the GT for the category "trips", which was obtained following the same methodology and collected from GT in the same period. The indicator is validated concerning content because it was considered the internationally recognised TSA conceptual framework. In relation to reliability, that is, the consistency over time, the indicator was validated with the Cronbach's Alpha coefficient.

4. RESULTS

Analysing Figure 3, we can observe the indicator GORI (WORLD) _PT: TOURISM obtained in the period from 28/03/13 to 27/03/2014. It can be verified that the whole world Internet users search interest by the tourism destination Portugal assumes medium/high values (over 55) between April and July. From August to December, Portugal's popularity decreases, reach high values again in January 2014.

Figure 3. Graphic representation of the composite indicator



Source: Own elaboration from GT (www.google.pt/trends/)

Regarding the descriptive statistics presented in Table 3, it can be seen that the GORI (WORLD)_PT: TOURISM indicator shows a high mean value (71.91) and a standard deviation of 9.36. The indicator presents a modal value of 69.3, which is the lowest value that is repeated more times in the data series. The higher search interest by the tourism destination Portugal takes place on May 20 and July 24, 2013, reaching a peak of interest of 93.2. On the other hand, Portugal's lowest popularity is on December 24, 2013, with a search volume index of 43.4.

Table 3. Descriptive statistics of the composite indicator

DESCRIPTIVE STATISTICS	GORI (WORLD)_PT: TOURISM
Average	71.91
Standard deviation	9.36
Mode	69.3*
Minimum	43.4
Maximum	93.2
Observations	365

*Multiple modes exist. The smallest value is shown.

Source: Own Elaboration

Looking at the primary indicators that constitute the composite indicator, it can be observed that, in average, the Internet users from all over the world show a lower interest in Concerts and Festivals (CEFESTIV), Golf (GOLFE) and Theme Parks (PTEMATIC) in

Portugal, with a search index of less than 50, but still higher than 40. On the other hand, the characteristic products of tourism which, on average, are of more significant interest to Internet users are transport, namely air travel (VAEREA) and buses and trains (AUTCOMB) (68.0), accommodation (HTALOJ) (69.5), zoos-aquariums-reservations (66.9) and restaurants (RESTAUR) (66.3) (see Table 4).

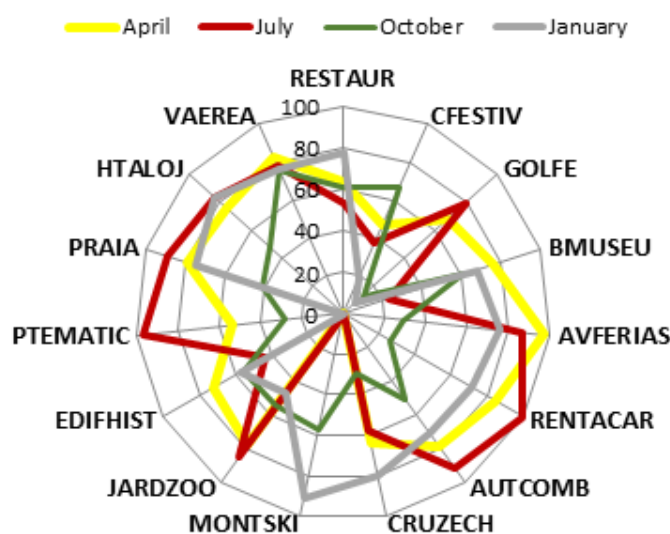
Table 4. Primary Indicators Average

Composite Indicator	RESTAUR	CFESTIV	GOLFE	BMUSEU	AVFERIAS	RENTACAR	AUTCOMB	CRUZECH	MONTSKI	JARDZOO	EDIFHIST	PTEMATIC	PRAIA	HTALOJ	VAEREA
GORI (WORLD)_PT:Tourism	66.3	41.8	43.5	56.5	57.5	58.7	68.0	54.8	51.5	66.9	60.7	46.6	57.0	69.5	73.2

Source: Own Elaboration

Analysing Figure 4, it can be seen that the world search interest in products characteristic of tourism differs according to the month of the year. In this way, it can be seen that there is a greater interest in car rental (RENTACAR), beaches and islands (PRAIA) and theme parks (PTEMATIC) in July (01/07) compared to other products. Travel agencies/holiday offerings (AVFERIAS), air travel (VAEREA), historical buildings (EDIFHIST) and libraries and museums (BMUSEU) are more popular products in April (01/04) than in the other months under review. The mountain and ski resorts (MONTSKI) product is the subject of increased search interest in January and October, as well as restaurants (RESTAUR) in January (01/01) and concerts and festivals (CFESTIV) in October (01/10).

Figure 4. Graphical representation of the primary indicators from GORI(WORLD)_PT: TOURISM



Source: Own elaboration from GT data (www.google.pt/trends/)

The composite indicator was analysed in relation to the concurrent validity, that is, the indicator was correlated with the search volume index (ISV) obtained in the GT with the same methodological criteria, in terms of time period, geographic location of Internet users, collection of the data and selection of the search terms, in the general category entitled “trips”. The GORI (WORLD) _ PT: TOURISM presents a high correlation with the “travel” ISV, with a Pearson coefficient of 0, 85, which means that there is a great similarity between the indicators.

Regarding the internal consistency or reliability of the composite indicator, analysing Table 2 with the Cronbach's Alfa results and the inter-item correlations, it is possible to observe that the GORI (WORLD)_PT: TOURISM indicator present a Cronbach's Alpha of 0.73, which indicates that the composite indicator has good reliability. In addition, it was observed that primary indicators are generally important for the computation of the respective composite indicator; however, it is important to mention that if the primary indicator Mountain resorts and Ski (MONTSKI) was excluded from the proposed composite indicator the Cronbach's Alpha value would have a significant increase, reaching the value of 0.82.

Table 5. Reliability of the indicator, according to Cronbach's Alpha value

Indicator	Cronbach's Alfa	Cronbach's Alpha based on standardised items	N. of items
GORI(WORLD)_ PT: TOURISM	0.73	0.77	15

Source: Own elaboration from SPSS

5. CONCLUSION

The objective of this article is to create a new composite indicator that is able to measure the online interest of Internet users by tourism in Portugal. In order to achieve this objective, a methodology was developed which consisted of the selection of primary indicators, having as theoretical conceptual framework the TSA characteristic products; in the selection of research terms that identified the geographical area under study, which was based on the municipalities with the highest number of overnight stays in hotel establishments in the Portugal; in the criterion for the weighting and aggregation of the indicators, choosing to consider as a weighting the proportion of the internal tourism consumption per product characteristic of tourism. Finally, the composite indicator was validated in relation to a competing indicator (ISV in the "trips" category) collected under the same methodological conditions as the primary indicators, and the reliability and internal consistency of the indicator were tested using the Cronbach's Alpha value.

The composite indicator proposed and developed in the article is called GORI (WORLD)_PT: TOURISM and is thus a weighted average of the fifteen primary indicators that compose it, whose data was obtained using the GT tool daily for a year. The results show that the interest of Internet users in Portugal is almost always higher than 50, assuming higher values in the period from April to July 2013 and from January to March 2014. The average of the indicator is approximately 72.0, and the lowest value the indicator reaches is 43.4. From the analysis carried out on the primary indicators, it was concluded that the average interest of tourists in Portugal differs according to the tourism characteristic product and the popularity of the product among potential consumers also varies according to the time of year. Concerning the validation and reliability of the composite indicator, it is concluded that it has a high correlation with the competing indicator and that the reliability of the indicator is good, being in general necessary all the primary indicators for its construction.

The study presents limitations associated in part with the type of data made available by the GT, which does not allow to know the index of the volume of search in absolute terms nor the obtaining of daily data based only on the searches done by the Internet users in that period. Moreover, the difficulty in collecting data from the GT due to the fact that it is performed daily for a considerable number of indicators makes it impossible for it to be presented for a longer and, especially, more recent period of time. The GT's limitation

relative to the limit on the number of search terms that can be used also limited the selection of the search terms chosen to identify Portugal.

For future research, we suggest that the composite indicator should be construed with terms of search that include other municipalities in Portugal and that it should also be tested with other primary indicators, especially those selected to represent cultural services and recreation and leisure services. Besides, the methodology for constructing the indicator could be applied to know the online interest of Internet users by other tourism destinations.

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THE EFFECT OF SPECTATORS' CULTURAL VALUES AND THEIR INVOLVEMENT ON THE ATTITUDE TOWARDS THE CONTENTS OF THE TELEVISION SERIES

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ABSTRACT

The purpose of this research is to verify that attitudes towards the contents included in a television series are affected by the level of involvement of the viewer with it and by the cultural dimensions at the individual level. Through a self-administered questionnaire, a sample of 240 subjects whose data is submitted to ANCOVA is obtained. The data show significant differences in attitudes toward violence, sex and stereotypes included in television series, such as *Game of Thrones*, depending on the level of involvement of the viewer. In addition, they also demonstrate the effect of individual cultural values on the attitudes of viewers on television content. This research yields information of interest for the audiovisual sector given that at high levels of involvement, viewers will present more favourable attitudes towards the contents of the television series. On the other hand, cultural values also play an important role in the perception and attitude of the spectators, affecting significantly. They will also be more prone to interaction, creating content and buying related objects. Consequently, it would be key, for companies in the sector, the analysis and empowerment of the audience's involvement. This research provides new data regarding the involvement of viewers with television series and the attitudes they present to the different contents included in them, analysing the specific case of a current series such as *Game of Thrones*. In addition, the sixth dimension of Hofstede, Hofstede and Minkov (2010) is proposed and validated at the individual level, as a contribution to literature.

Keywords: Consumer, Cultural Values, Psychological Involvement, Sex, Spectator, Stereotypes, TV Series, Violence.

JEL Classification: M31, M37, D87

1. INTRODUCTION

This research focuses attention on a growing sector and with increasing importance, which is immersed in the "Third Golden Age" as is the sector of television series (Pantoja, 2015). New platforms such as HBO or Netflix are also assuming a change in the way television content is consumed, with the viewer taking a more active role viewing and monitoring the series, through the Internet and social networks (García, 2014; Pantoja, 2015). In this

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market, more and more productions incorporate violent scenes, high doses of sexual content and marked stereotypes in their scripts (Bourdaa, 2014).

In this sense, involvement plays an important role in the perception of television viewers. Involvement has been commonly used in investigations related to media and audiences. It refers to the degree of connection created between the viewers and a certain program or television series (Godlewski & Perse, 2010; Chang, 2016). The level of involvement also plays an important role in the formation of attitudes and behaviours of the audience with respect to the visioned series (Zurbriggen & Morgan, 2006), and thus affecting the attitudes that are formed with respect to certain contents included in the television series.

On the other hand, cross-cultural research has experienced remarkable growth (Alcántara-Pilar, Del Barrio-García, Crespo-Almendros & Porcu, 2017). Several studies on television have used a cross-cultural perspective on violence, sex and stereotypes and the effects of these contents on television (Nelson & Paek, 2005; Hetsroni, 2007a, 2007b; Hetsroni, 2010; Paek, Nelson & Vilela, 2011).

The objective of this research is to discover if the attitudes towards three characteristic elements of television series such as sex, violence and stereotypes (Bourdaa, 2014; Cvitanovich, 2013) are affected by the level of viewers' involvement towards a certain series and by individual cultural dimensions (Sharma, 2010; Yoo, Donthu, & Lenartowicz, 2011), analyzing the case of Game of Thrones. Consequently, the producers and marketing managers of the audiovisual companies will be able to make the appropriate adaptations in their creations and communication campaigns, in order to benefit from the levels of involvement of their viewers, as well as from the different levels of the cultural dimensions of the spectators as consumers of TV series.

2. LITERATURE REVIEW

2.1 The new TV Golden Age

Television is maintained as one of the favourite media by spectators and advertisers, with average consumption in Spain of 225 daily minutes per person (Kantar Media, 2018). New technologies and online platforms such as Netflix have influenced the growth of television series in recent years, generating the so-called "Third Golden Age of television" (Pantoja, 2015), enabling the viewing of a wide range of topics and genres. This breadth of themes and genres makes it easier for the viewer to find the one that best suits their interests (García, 2014).

Literature and the media highlight the great presence of violent, sexual and stereotyped content (Xie & Lee, 2008; Galán, 2009; Stevens & Garret, 2016; Rojas-Lamorenna, Alcántara-Pilar & Rodríguez-López, 2019). Violence is included very commonly in the programs that are broadcast every day on television, with the representation of 42.5 violent acts per hour (Coyne, Robinson & Nelson, 2010).

The sexual content has also increased, being more and more graphic (Ybarra, Strasburger & Mitchell, 2014). This is due, in a certain degree, to the presence of Premium channels such as HBO, which have overcome censorship and taboos by not being subject to the limits of the Federal Communications Commission of the United States or advertisers (García, 2014).

The inclusion of violent and sexual content in the advertisements of films and series attracts attention and interest in watching the production, in such a way that they significantly increase the expectations of the audience towards the amount of violence in the film or series (Xie & Lee, 2008). However, Bushman (2005) conducted a study to verify

whether sexual and violent content served as a method of attraction, concluding that they reduce the intention to purchase the advertised product.

Regarding the stereotypes, Galán (2009) considers that they are usual because they simplify the psychological characteristics of the characters, facilitating the understanding of the same and making their behaviour predictable in order to identify it quickly by the spectator.

In the case of *Game of Thrones*, an adaptation of HBO, it is the most-watched series among cable channels without advertising (Nielsen, 2017). In addition, during the seventh season has reached 2.6 million interactions on Facebook and Twitter (Nielsen, 2017). This series usually stands out due to the great presence of violence, sex and stereotypes towards women (Frankel, 2014; Nae, 2015). According to Bourdaa (2014), he presents very graphic violent scenes, in which characters are often killed in a violent way (Nae, 2015).

With regard to sexual content, *GoT* resorts to this type of content on a regular basis with the introduction of nudity and prostitutes, and using sex as a mechanism for the preservation of the integrity of a population or group of people, so that women become in means to access power by third parties (Frankel, 2014).

As for stereotypes, the *GoT* represents a patriarchal society in which the majority of female characters are controlled by men regardless of the social level of the female character, which in many cases prevents their development (Cvitanovich, 2013), although producing a certain empowerment on the part of them with the evolution of the series.

In relation to these contents, the involvement of the viewers with the series plays an important role in the attitudes that are formed with respect to it, given that the different levels of involvement affect the attitudes and behaviours of the audience (Zurbriggen & Morgan, 2006).

2.2 The involvement with the series as a moderating element of attitudes towards violence, sex and stereotypes

Involvement is defined as an unobservable state of motivation created by an object or product, brand or idea and that affects our behaviour, being this object significant or attractive and creating commitment with the product (Stevens & Rosenberger, 2012; Johnson & Rosenbaum, 2018). In this sense, the involvement of individuals as members of the audience of a television program has been analysed in several studies (Godlewski & Perse, 2010), is an important construct in the field of audiovisual media (Kim, 2012). When viewers habitually consume a television series, the relationship that is generated between the viewer and series increases, in such a way that the audience joins the story and the characters creating a certain degree of commitment (Chang, 2016). The viewers invest time in watching the episodes and, also, they make an emotional investment with respect to the series and its characters, buying some related products like dolls, posters or soundtracks (Kim, 2012). The viewing of television series causes viewers to develop a long-term relationship with the contents (Chang, 2016).

Thus, we can define the involvement of the audience as the degree to which viewers connect with specific audiovisual content, interacting psychologically with the medium and its messages (Godlewski & Perse, 2010). In this way, given the importance of violent, sexual and stereotyped content on television (Xie & Lee, 2008; Galán, 2009; Stevens & Garret, 2016), and the importance of these elements for society and marketing (Bushman, 2005), the different levels of involvement that spectators have regarding the series play an important role in the attitude and behaviour of people (Zurbriggen & Morgan, 2006). In addition, related research has determined that users who identify strongly with personages

of the series or who identify the programs and series as realistic are more affected by the contents they visualise (Zurbruggen & Morgan, 2006).

Involvement may effect spectator's process of evaluation (Johnson & Rosenbaum, 2018). In this sense, consumers with high involvement have a greater probability of paying more attention and making a greater effort in processing relevant information (Stevens & Rosenberger, 2012), as well as being more active in the search and dissemination of information related to the product that they are interested. This can influence the way in which the GoT spectators, according to their level of involvement, perceive and present a more or less favourable attitude towards the elements analysed.

2.3 Cultural differences in the audiovisual sector

Cross-cultural research in the framework of marketing has experienced remarkable growth, maintaining a debate, since the 1980s, on which is the most appropriate approach to study and make comparisons between cultures (Alcántara-Pilar et al., 2017), being the Hofstede (2001) approach the most used by literature.

For the study of culture there are two main approaches. The first, ecological or country level, was developed by Hofstede in 1980 using data from more than 116,000 IBM employees to derive the dimensions obtained through the sample in more than 60 countries. This study revealed the existence of four dimensions: power distance, masculinity, individualism and uncertainty avoidance, obtaining the average scores of each national culture studied (Hofstede, 1980). Subsequently, in 1988 and in 2010, two new dimensions were included: long-term orientation and indulgence vs. restriction (Hofstede et al., 2010).

According to Hofstede (2001), power distance (PD) is understood as the degree of acceptance and how members of a society that have less power expect, that power is distributed unequally. Uncertainty avoidance (UA), on the other hand, refers to the degree to which a society tolerates uncertainty and risks. Individualism/collectivism (IND) is the degree to which the members of a society create more or less strong bonds with groups. Masculinity/femininity (MAS) refers to the distribution of roles between genders. In terms of long-term orientation (LTO) or short-term, refers to the future prospects that have the individuals of a particular society. Finally, Hofstede et al. (2010) propose a sixth dimension, indulgence/restriction (IVR), the most recent and unknown. It focuses on aspects not covered by the above dimensions and refers to the degree to which a society allows compliance, in a relatively free, basic human and natural desires related to fun, or if on the contrary there are strict social standards (restriction) (Hofstede, 2011).

However, Hofstede's proposal also has criticism. Some authors consider that Hofstede's approach, due to its antiquity, has not adapted to the changes that have taken place in cultural values since its proposal. In addition, they also consider that there is variability among the different individuals of a country so that a national score represents all individuals (Alcántara-Pilar et al., 2017). This is because Hofstede's cultural dimensions are conceptual and empirically different from individual cultural values as measured by other authors (Sharma, 2010). For this reason, authors such as Sharma (2010) or Yoo et al. (2011) have developed adaptations of Hofstede's work at the individual level. Sharma (2010) realises a reconceptualisation of the five dimensions of Hofstede (2001), developing a scale of 40 items to measure ten individual cultural orientations, establishing the validity and reliability of the scale.

Yoo et al. (2011) developed CVSCALE, since they consider that Hofstede's dimensions are not appropriate when carrying out a study that analyses the effect of the cultural orientation of individuals, since national data are interpreted as if they were applied to individuals. This individual approach is necessary given the great heterogeneity of the members of a country,

because of the great diversity of the inhabitants of a country. Yoo et al. (2011) enable the study of individual attitudes and behaviours, with information coming from the same primary source, individuals. This way of measuring cultural dimensions allows companies to find equivalent market segments between countries that are based on groups with similar cultural orientations (Yoo et al., 2011), enabling the creation of common or similar strategies for these equivalent segments, and making adaptations when necessary.

In the context of the audiovisual sector, various cross-cultural studies have been carried out, although it has mainly focused on the advertising aspect (Hetsroni, 2007a). Regarding violence on television, countries with high masculinity scores such as the United States, present higher rates of violence than countries with lower scores in masculinity such as Israel (Hetsroni, 2010). On the other hand, several studies confirm a greater degree of censorship of violent contents in those societies that are more collectivist as opposed to individualistic (Hong, 2015). In addition, Hofstede (2011) considers that aversion to risk also affects the degree of anxiety, emotion or stress.

Regarding sexual content on television, the masculinity dimension of Hofstede (2001) seems to play an important role in its perception. Those countries with higher scores on masculinity, such as the United States, present a more marked vision regarding traditional sexual roles and imposing certain taboos, while countries or feminine cultures, such as the Scandinavian countries or Israel, have a more open approach to sex (Hetsroni, 2007b). The masculinity dimension has also been applied to other studies on this element at a cross-cultural level in advertising (Nelson & Paek, 2005). Nelson and Paek (2005) also considered that the cultural masculinity dimension was negatively related to the degrees of female nudity in advertising. In addition, according to Hofstede (2011), countries with high levels of indulgence have less sexual norms, while for those collectivist countries the transgression of the rules entails feelings of shame, a fact that can be associated with explicit sexual content on television.

On the other hand, roles and stereotypes in television influence society because they perpetuate stereotypes through behavioural norms for men and women (Paek et al., 2011). Paek et al., (2011), they also analysed stereotypes and gender roles in advertising in seven countries, presenting those countries that are lower in masculinity equal gender roles, that is, male and female characters in similar positions.

With respect to the effect of the cultural dimensions in these relationships, due to the few previous works, in this work we are going to carry out an analysis that we could call exploratory. We will include all the individual cultural dimensions that we are measuring in relation to the attitude towards violent, sexual and stereotyped contents and the level of involvement.

Consequently, we can propose the following hypotheses:

H₁: The attitude toward violent content in GoT is affected by the level of involvement and cultural dimensions.

H₂: The attitude toward sexual content in GoT is affected by the level of involvement and cultural dimensions.

H₃: The attitude towards stereotypes and female roles in GoT is affected by the level of involvement and cultural dimensions.

3. METHODOLOGY

3.1 Measures of the variables

The items were formulated using a Likert scale of 7 points (1 = Strongly disagree / 7 = Strongly agree). In order to measure the attitude towards violent and sexual contents, habitual in

television, the items have been adapted from attitude scales with classic items by Muehling and Laczniak (1988) and Petty, Cacioppo and Schumann (1983). In the case of female stereotypes and roles, a semantic differential scale of 7 points has been used (Zaichkowsky, 1985). The variable implication with GoT is based on an adaptation of the scale proposed by Bourdaa and Lozano (2015) and the one proposed by Russell, Norman and Heckler (2004) so that it could reflect the involvement with GoT. The individual cultural dimensions have been adapted from the contributions of Yoo et al., (2011) and Sharma (2010).

3.2 Data collection process

The data was collected through an online survey provided through various social networks and forums related to television series and GoT. 283 responses were received, of which 43 had to be discarded because they incorrectly answered the control questions included to verify the correct follow-up and reading of the questionnaire, obtaining, therefore, a final sample of 240 subjects, with a sampling error of 6%.

4. RESULTS

4.1 Description of the sample

The sample of 240 individuals is composed of 127 women and 113 men (52.91% and 47.08%, respectively). Among them, 159 individuals (66.25%) are between 18 and 29 years old, 66 subjects (27.5%) with an age between 30 and 44 years, and 15 individuals (6.25%) between 45 and 65 years old. Regarding the level of studies, 10 respondents (4.16%) have a secondary education level, 24 (10%) with a baccalaureate level, 44 (18.33%) with a professional training level and 162 (67.5%) with studies university. Finally, regarding another variable of interest for this study, for the number of seasons seen in the GoT series, 4 individuals (1.67%) have seen a single season, 8 (3.34%) have visualized two seasons, 12 (5%), three seasons, 7 (2.91%) have seen four seasons, 11 (4.58%) five seasons and 198 (82.5%) have seen the six seasons issued until the date of this study.

4.2 Analysis of psychometric properties

We have proceeded to perform a Confirmatory Factorial Analysis (CFA) in order to verify the reliability and validity of the scales used (Table 1 and Table 2).

Table 1. CFA

Construct	Items	Coef (t value)	R²	CR	AVE
Involvement	INV1: I watch Game of Thrones immediately after its broadcast in the United States.	0.83	0.69	0.84	0.64
	INV2: I watch Game of Thrones in the original version to not wait.	0.76	0.57		
	INV3: I consider myself an expert follower of Game of Thrones.	0.82	0.67		
Violence	VIO1: The violence reflected in the series is appropriate for its style	0.74	0.55	0.88	0.65
	VIO2: The violence reflected in the series has not made me ask myself to stop watching it.	0.76	0.54		
	VIO3: The violence reflected in the series does not bother me.	0.83	0.74		

Sex	SEX1: The inclusion of sexual content does not bother me.	0.70	0.50	0.86	0.68
	SEX2: The inclusion of sexual content seems appropriate for its development.	0.93	0.87		
	SEX3: The inclusion of sexual content is presented in an adequate amount.	0.83	0.70		
Stereotypes and roles	ROL1: From your point of view, the protagonist role of the woman in Game of Thrones is less / very important	0.85	0.72	0.88	0.65
	ROL2: From your point of view, the protagonist role of the woman in Game of Thrones is little / very relevant.	0.82	0.67		
	ROL3: From your point of view, the leading role of the woman in Game of Thrones is little / very interesting.	0.79	0.72		
	ROL4: From your point of view, the leading role of the woman in Game of Thrones is little / very characteristic.	0.75	0.57		

Chi-squared SB (g.l.): 173.00(62); RMSEA: 0.08; NFI: 0.92; NNFI: 0.94; CFI: 0.95; IFI: 0.95

Source: Own Elaboration

Table 2. CFA (Cultural values)

Construct	Items	Coef (t value)	R ²	CR	AVE
Power Distance (PD)	PD1: People in higher positions should make most decisions without consulting people in lower positions.	0.77 (*)	0.59	0.86	0.67
	PD2: People in the highest positions should not consult people in lower positions.	0.90 (14.75)	0.82		
	PD3: People in the highest positions should avoid social interaction with people in lower positions.	0.78 (10.08)	0.61		
Long-Term Orientation (LOT)	LOT1: Careful management of money (Thrift)	0.73 (*)	0.53	0.80	0.50
	LOT2: Continue despite opposition (persistence)	0.66 (7.19)	0.43		
	LOT3: Personal stability.	0.79 (10.56)	0.62		
	LOT4: Working hard for success in the future.	0.65 (4.87)	0.42		
Uncertainty Avoidance (UA)	UA1: It is important to have instructions spelt out in detail so that I always know what I'm expected to do.	0.74 (*)	0.55	0.90	0.54
	UA2: It is important to closely follow instructions and procedures.	0.84 (15.39)	0.71		
	UA3: Rules and regulations are important because they inform me of what is expected of me.	0.90 (15.93)	0.81		
	UA4: Standardized work procedures are helpful.	0.71 (12.44)	0.51		
	UA5: Instructions for operations are important.	0.82 (12.60)	0.67		
Individualism (IND)	IND1: Individuals should sacrifice self-interest for the group.	0.78 (*)	0.60	0.90	0.56
	IND2: Group welfare is more important than individual rewards.	0.88 (17.10)	0.77		
	IND3: Group success is more important than individual success.	0.84 (13.92)	0.71		
	IND4: Individuals should only pursue their goals after considering the welfare of the group.	0.75 (13.90)	0.56		
	IND5: We must maintain loyalty to the group even if it is against individual objectives.	0.72 (14.11)	0.51		

Indulgence vs. Restraint (IVR)	IVR1: Have free time for my leisure time.	0.65 (*)	0.48	0.83	0.62
	IVR2: Enjoy life.	0.84 (9.04)	0.71		
	IVR3: Have fun.	0.83 (9.94)	0.69		
Masculinity (MAS)	MAS1: It is more important for men to have a professional career than for women.	0.69 (*)	0.50	0.81	0.58
	MAS2: Men often solve problems with logical analysis; Women often solve problems with intuition.	0.84 (7.55)	0.71		
	MAS3: Solving difficult problems, in general, requires an active force approach, which is typical of men.	0.74 (8.36)	0.55		

Chi-squared SB (g.l.): 350.30 (215); RMSEA: 0.05; NFI: 0.92; NNFI: 0.96; CFI: 0.97; IFI: 0.97

Source: Own Elaboration

The standardised factorial loads of all the variables present values higher than 0.70, while the R² have values higher than 0.50 (Alcántara-Pilar, del Barrio-García, Porcu, & Crespo-Almendros, 2015). Regarding the composite reliability (CR) and the extracted variance (AVE), all the items presented values higher than the acceptance limit of 0.70 and 0.50, respectively (Hair, Black, Babin & Anderson, 2010).

Finally, in terms of adjustment measures, (RMSEA = 0.08, NFI = 0.92, NNFI = 0.94, CFI = 0.95, IFI = 0.95) present a good fit (Hair et al., 2010). In addition, the discriminant validity was examined (Fornell & Larcker, 1981), showing that the square root of the variance extracted exceeds the correlation values between constructs (Table 3 and Table 4), determining that the constructs are substantially different between them (Hair et al., 2010).

Table 3. Discriminant validity

	VIOLENCE	SEX	ROLES	INVOLVEMENT
VIOLENCE	0.81			
SEX	0.51	0.82		
ROLES	0.19	0.10	0.81	
INVOLVEMENT	0.35	0.23	0.19	0.80

Note: The diagonal entries (in bold) represent the square root of the estimates of the extracted variance. The data below the diagonal represent the correlations between the different constructs.

Source: Own Elaboration

Table 4. Discriminant validity (cultural values)

	PD	LOT	UA	IND	IVR	MAS
PD	0,82					
LOT	-0,16	0,70				
UA	0,14	0,34	0,73			
IND	0,17	0,31	0,24	0,75		
IVR	-0,12	0,41	0,33	0,29	0,79	
MAS	0,31	-0,17	-0,03	0,05	-0,29	0,76

Note: The diagonal entries (in bold) represent the square root of the estimates of the extracted variance. The data below the diagonal represent the correlations between the different constructs.

Source: Own Elaboration

4.3. Hypothesis contrast

For the contrast of H^1 , H^2 and H^3 , the sample has been divided into two subgroups according to the level of involvement. For this, with the scale of involvement used, the sample was divided according to the total score obtained in IMP1, IMP2 and IMP3, plus 1 point per season of the six issued until the study date, given that when the spectators are exposed to a series or program on a regular basis, the viewer's relationship with the series intensifies, reaching a greater knowledge of the story and the characters (Chang, 2016). In this way, the maximum score to reach is 27 points, with an average of 13.5 points. Those with total scores equal to or less than 13 points make up the group of spectators with low involvement with GoT. On the other hand, those who score more than or equal to 14 points, have a high involvement with HBO fiction. This shows the existence of two groups differentiated by scores of the level of involvement with the series, obtaining a group of 73 respondents with low involvement with GoT, compared to 167 subjects with high involvement (Table 5).

Table 5. Sample by level of involvement with GoT

Item	Subgroups	Low Involvement GoT		High Involvement GoT	
		N	%	N	%
Sex	Man	32	13.33	81	33.75
	Woman	41	17.08	86	35.83
Age	18 - 29	47	19.58	112	46.67
	30 - 44	18	7.5	48	20
	45 - 65	8	3.33	7	2.92
	> 65	0	0	0	0
Studies level	Without studies	0	0	0	0
	Mandatory studies	2	0.83	8	3.33
	High School	11	4.58	13	5.42
	University degree	42	17.5	120	50
	Vocational education	18	7.5	26	10.83
Season watched	1	4	1.67	0	0
	2	7	2.92	1	0.42
	3	11	4.58	1	0.42
	4	5	2.08	2	0.83
	5	5	2.08	6	2.5
	6	41	17.08	157	65.42
TOTAL		73		167	

Source: Own Elaboration

Once the sample is divided into two groups according to the level of involvement with GoT, for the contrast of the hypotheses, the Analysis of Covariance (ANCOVA) has been used by SPSS 23.

The results obtained through the application of ANCOVA (Table 6), show the existence of an interaction between attitudes toward violent content and the level of involvement of the viewer. We see that there are significant differences between both levels of involvement so that viewers with high involvement have on average (24.11) a more favourable attitude towards violent content than viewers with low involvement (20.79), these differences are significant ($p < 0.05$). Also, taking into account the individual cultural dimensions, which act as covariates, we see that LOT positively affects (0.16) and significantly ($p < 0.05$) the attitudes of the viewers towards violent contents, being able to accept H^1 .

Table 6. ANCOVA (Violence, involvement and cultural values)

Treatment	Involvement	Average	F	p-value
Involvement X Violence	Low	20.79	16,16	0,00
	High	24.11		
Covariates		BETA	F	p-value
Long-term Orientation (LOT)		0,16	5.50	0,02

Source: Own Elaboration

In the second ANCOVA, we contrast H^2 in which the attitude towards sexual contents and the levels of involvement are related and affected by the individual cultural dimensions. Thus, we see how there are significant differences ($p < 0.05$) in the average response of the spectators between low involvement (15.40) and high involvement (17.10). In addition, we see how the LOT and PD dimensions affect positively and significantly ($p < 0.05$) this relationship as covariates, with positive Betas of 0.14 and 0.17, respectively (Table 7). Consequently, we can corroborate H^2 .

Table 7. ANCOVA (Sex, involvement and cultural values)

Treatment	Involvement	Average	F	p-value
Involvement X Sex	Low	15.40	6.04	0.01
	High	17.10		
Covariates		BETA	F	p-value
Orientación a largo plazo (LOT)		0.14	4.20	0.04
Power Distance (PD)		0.17	6.11	0.01

Source: Own Elaboration

In the third ANCOVA, the effects of the attitude towards the stereotyped contents and the level of involvement with GoT are contrasted, in relation to the individual cultural dimensions. In this case, there are quasi-significant differences ($p < 0.10$) between the means, given that the spectators with high involvement have a higher mean in their answers (22.24) than the spectators with low involvement (23.76) (Table 8). In addition, we see how the cultural dimensions LOT, UA and IVR present a positive and significant effect on the previous relationship ($p < 0.05$), whereas MAS presents a negative and significant effect in this relation, being able to corroborate H^3 .

Table 8. ANCOVA (Roles, involvement and cultural values)

Treatment	Involvement	Average	F	p-value
Involvement X Roles	Low	22.24	3.24	0.07
	High	23.76		
Covariates		BETA	F	p-value
Long-term Orientation (LOT)		0.13	4.24	0.04
Uncertainty Avoidance (UA)		0.17	7.78	0.01
Indulgece vs. Restraint (IVR)		0.20	9.04	0.00
Masculinity (MAS)		-0.13	4.31	0.04

Source: Own Elaboration

5. CONCLUSION

In this research, we have focused our attention on a variable commonly used in marketing and in the audiovisual sector such as involvement (Godlewski & Perse, 2010; Kim, 2012), and how this variable affects the attitudes and behaviours of viewers (Zurbriggen & Morgan, 2006). In this way, the data show significant differences in the attitudes toward the contents that are included in a television series depending on the level of involvement of the viewer with respect to the series in question. Consequently, the higher the level of involvement with a series, the more favourable will be the attitude towards the different contents that are incorporated into the television series. Therefore, the level of involvement or connection of the audience with a series or television program is vital for the formation of the attitudes of the viewers regarding them.

On the other hand, this study has been given a cross-cultural perspective, in which we can see how the individual cultural dimensions significantly affect the attitudes of the viewers towards the elements included in the television series. Thus, we see that although the literature considers that the MAS dimension plays a relevant role in the perception and evaluation of the viewers, the data show a different view. In this way, MAS only plays a negative role with respect to stereotyped content. However, the results show that LOT plays an important role in attitudes toward the three elements studied.

It should be noted that, at the time of the study, a maximum of six seasons had been issued. From this, it is observed that a large majority of the sample (82.5%) confirms having consumed the first six seasons of the series, so it is evident that there is high involvement in general, in 65.42% of the sample as indicated by the results. However, it is curious that the next stratum of spectators who have consumed the first five seasons constitute 4.58% of the sample, presenting a marked turning point from which the implication is triggered. This can be translated into a possible relationship of the implication with the continuity and durability of a series, a temporal aspect whose scale does not reflect, but which could well be approached in future studies, from the point of view that a greater visualization of a content and lengthened this in the time, greater is the implication, independently of the attributes.

Ultimately, this research provides a new perspective on how the involvement of users or consumers of a service or product is related to the formation of attitudes that consumers present to that product, and how they affect the individual cultural dimensions to that relationship.

5.1 Implications, limitations and future lines of research

This study contributes to the existing literature regarding the involvement of viewers with television products and regarding the cross-cultural field, since the sixth dimension of Hofstede et al. (2010) has been proposed and validated, which had not been adopted by authors such as Yoo et al. (2011) or Sharma (2010) previously at individual level. In this sense, the cultural values of individuals play an important role to be taken into account by different researchers and companies, since as the results show, it plays an important role in the perception and attitudes towards television content.

This study provides useful information for the audiovisual sector, given that companies need to know the degree of involvement of their audience. The implication influences the spectators of diverse forms, affecting the formation of attitudes or decision making and behaviours. High levels of involvement imply a more favourable attitude towards the different elements to be included in a series or television program. In addition, these high levels of involvement cause viewers to be prone to interact, create related content and buy objects associated with a certain series (Kim, 2012). Consequently, producers and television networks should know and understand viewers and their ways of consuming and watching

series. Audiovisual companies and marketing managers should make an effort to retain the highly involved viewers, making them see the value and quality of the series that follow. These users present more favourable attitudes toward the contents included in the series, so they will be less likely to leave it than those viewers with low involvement.

On the other hand, companies in the sector should enhance the degree of involvement with their products in order to be less harmed by the inclusion of this type of television content in a timely manner. Television networks should enhance involvement through various tools such as competitions, appearances as extras, meet some of the cast members or participate in special events or promotions of the series.

A large audience does not guarantee that people pay attention to the advertising that is included in the series. However, viewers with high involvement are also more likely to search for related information and process information centrally (Petty et al., 1983). Consequently, advertising companies can use the levels of involvement of viewers to segment the market. In addition, they should include their ads in series that have a high involvement of their viewers, in order to increase the likelihood that they pay attention to the advertisement.

Finally, the degree of involvement with a series, such as GoT, plays an important role in the attitudes and behaviour of viewers with respect to other sectors. Thus, high levels of involvement contribute to a more favourable perception and attitude towards the tourist destinations that appear on television (Kim, 2012). This influences the so-called film tourism. Consequently, knowing the levels of involvement with a series can also help tourism companies, since they can develop communication campaigns that focus attention on issues related to the series to attract tourists who are highly involved with the series analysed.

Regarding the limitations, the sample of this research has been obtained through an online survey, which can present problems of representativeness of the population as it is web links to the survey in different social networks and forums.

As for future lines of research, this same study could be done once the broadcast of the eighth and final season of the series has finished. New studies could also be made with other series of the moment such as *The Walking Dead*, *Vikings*, *WestWorld* or *American Gods*, among others. These other series should be analysed in depth in order to determine the generalised presence or not of scenes of violent, sexual and stereotyped content, in order to verify the functioning of this model with other fictions. It could also be an adaptation of this research to books, or the videogame sector, expanding the spectrum of analysis to other areas. However, the possibilities in terms of gender or type of product or service to be analysed could be extended to include drama or comedy, among others. To do so, it would be necessary to analyze if the elements studied in this research are present, or if different ones should be taken into consideration.

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STATE OF TRANSPORT ADMINISTRATIVE STRUCTURE IN LAGOS, OGUN AND OYO STATES, NIGERIA

Umar Obafemi Salisu¹

ABSTRACT

A well-organised transport administrative structure serves as a necessary tonic for transport system development of any society. This study identifies existing state of transport administration and major challenges facing transport administrative structure in Lagos, Oyo and Ogun States, Nigeria. It adopted cross-sectional research design and anchored on both primary and secondary sources of data. Transport administrative structure (consolidation and unbundling designs) were used to show state of transport administration operating in the selected States, while Analysis of Variance (ANOVA) was used to prove statistical variation among problems associated with transport administrative structure. Findings revealed that the transport administrative structure in the selected States is not uniform as Lagos State operates consolidation design; Ogun State follows unbundling design; while Oyo State operates on neither consolidation nor unbundling designs. Findings further revealed that fragmented administrative bodies with overlapping responsibilities; incomplete supervision mechanisms; corruption and mismanagement of funds are major challenges affecting existing transport administrative structure. ANOVA result shows significant variation among the observed problems. Thus, study recommends that Ministry and Agencies in charge of transport systems should run on consolidated structure that allows for easy day-to-day planning, monitoring and coordination of various transport modes under one administrative body.

Keywords: Transportation, Administration, Administrative Structure, Consolidation, Unbundling.

JEL Classification: R40, R41, L91, O18

1. INTRODUCTION

Transportation is as old as existence of man and cannot be separated from historical development of man as mobility no doubt remains an essential need for human existence on this planet 'earth'. As tribal and geographical identities are formed, transportation is increasingly needed to open hinterlands, link regions for development as well as provides access to natural resources, markets and basic needs of man (Oyesiku, 2012). Society as it exists in cities throughout the world is entirely dependent upon three industries: agriculture, public health and transport. The importance of the first that is agriculture is crystal clear, while the second which includes sewerage and refuse disposal as well as clean water, can do more than medicine to keep up a disease free environment. Yet, each of them is dependent upon the efficient movement of goods, people and services (Hibbs, 2000). Cities and indeed every community rely on transport to move materials for the manufacture of goods and

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distribution of the finished products to consumers. People rely on it to find their way to where they work, engage in business and home again. However, without transport and travel, trade as well as interaction among geographical locations would be merely impossible (Hibbs, 2000; Oni, Okanlawon, & Asenime, 2006).

Development of efficient, flexible, safe, response functional, affordable, comfortable, well-coordinated and integrated transport system is vital for meaningful development in any given society and its success depends on effective implementation of various administrative machinery, formation, plans and structure (Oyesiku, 1998). Transport administration which represents a very significant aspect of the industry, discipline and profession, is the process of directing, organising, coordinating, planning and provision of infrastructural facilities as well as controlling group of people, things or entities towards achieving definable and desirable goals through advancement in formulation and implementation of government policies and management of public projects (Oyesiku 1998, 2012; Oni et al., 2006). Transport administrative structure is a cohesive body and structure that sees to the management and supervision of the planning, provision, directing, organising, coordinating, controlling and regulating transport system operational characteristics and infrastructural facilities. However, administrative or organisational structure as observed in literature is designed in different ways, these include consolidation or unbundling, formal or informal, flat or hierarchical, and matrix or hybrid designs.

Despite the significance of transportation to the economic development and growth of Nigeria, the inappropriate in transport administration has left the transportation sector of this country since independence in 1960 continue to wallow in noticeable operational characteristics and management crisis (Dickey 1995; Adeniji, 2000; Sumaila, 2013). The management crisis is directly connected to the non-uniform and uncoordinated transport administrative structure operating in different states of the country, the transport administrative structure is characterised with many issues which are but not limited to the following fragmented administrative bodies, poor management structure, uncoordinated and non-uniform administrative functional configuration and framework, inadequate trained personal and manpower skills, overlapping responsibilities among the three tiers of government transport administrative levels and institutions, corruption and mismanagement of funds among others. These issues are sum-up in one word 'Management Weakness' and has however, resulted and left transport systems of these states as undeveloped, and has hindered the performance and sustainability of transport development within the states.

These noticeable transport administrative and management problems unfortunately resulted to the increasing operational service characteristics problems of the functioning transport systems which include but not limited to the following: poor and inadequate planning, weak intermodal coordination, insufficient public transport to cope with ever increasing demands for movement, urban traffic congestion, neglect of rural transport, safety and security challenges, environmental pollution, non-functional integrated transportation system, over reliance on road mode of transport that leads to quick deteriorating of road ways, road crashes (Sumaila, 2013; Salisu, 2016). Important gaps are how the best practicing transport administrative structure could be designed or adopted and how the challenges of existing transport administrative structure could be addressed towards achieving efficient, response functional and sustainable transport system development in developing nations including Nigeria. It is against this backdrop that the study analyses transport administrative structure in Lagos, Ogun and Oyo States in Nigeria through critical examination of existing nature of transport administrative structure.

2. CONCEPTUAL CLARIFICATION (TRANSPORT ADMINISTRATIVE STRUCTURE)

There is need for an authority structure to control and coordinate the activities of people and that of organisations involved in transport planning, operations and services. No doubt, for every public administration, authority structure and division of labour remains the major contents and ways of achieving something tangible in administrative setup, for instance, the need for proper authority structure and division of labour necessitated how best practices of planning, coordination, control are achieved. Administration is defined as the activities of groups cooperating for the accomplishment of pre-determined goals. However, the administration of any organisation or entity requires a good organisation of cooperative human action directed towards achieving a common goal, which is perhaps, a function of why individuals have been brought together (Jessib, 2013). However, transport administration is seen as what various government legislations empower public and private professionals to do and the right of ordinary citizen to all aspect of transport and economic development (Oyesiku, 1998).

Transport administrative structure is a cohesive formation and body that see to the management and supervision of the planning, provision, directing, organising, coordinating, controlling and regulating transport system operational characteristics and infrastructural facilities. Transport administrative structure for clear understanding is anchored on two broad formation and designs (consolidation and unbundling). Consolidation design is one with several agencies and parastatals under one administrative umbrella which allows for day-to-day planning, monitoring, and coordination of various transport modes towards achieving higher quality of service delivery and intermodal system, while unbundling design is one with related ministries, transport agencies and parastatals rendering mobility services separately, rather than as one unit (See Figures 1 and 2).

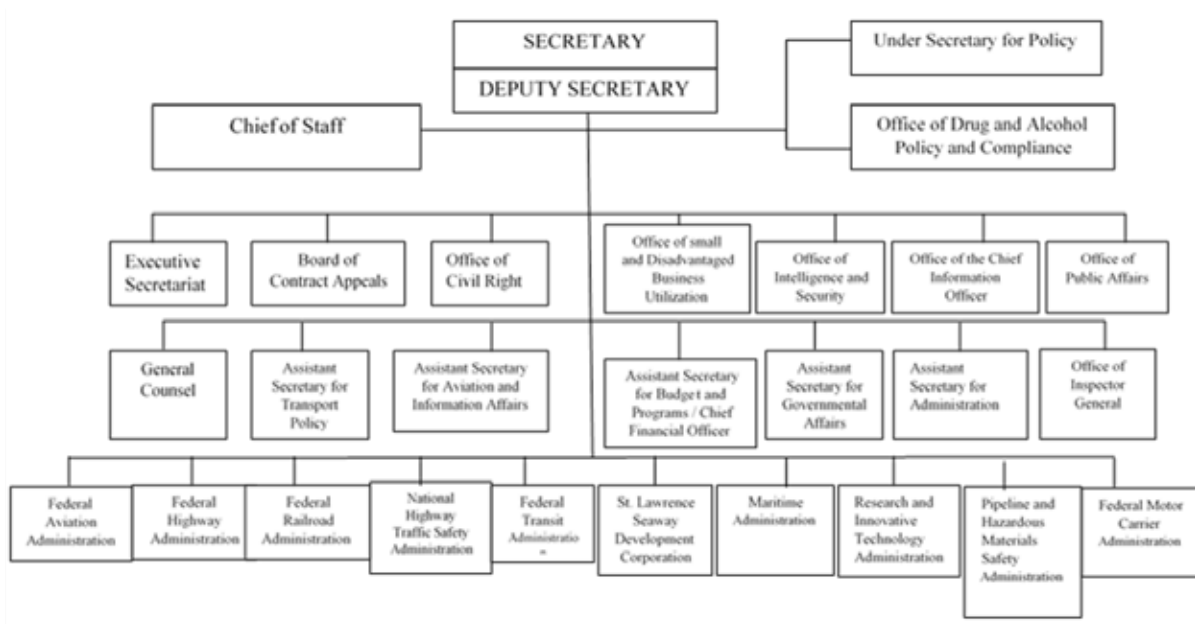
Consolidation design with reference to transport administrative structure implies bringing together all transport administrative units and/or departments under related ministries, agencies and parastatals into one large administrative unit such as a Ministry. Oyesiku (2012) conceptualised consolidation as the combining transport and related agencies into one big ministry rather than merging transport agencies with other unrelated agencies such as bringing together Ministry of Works and Transport or Ministry of Housing with transport or Ministry of Urban Development with Transport. In other words, consolidation of transport systems including air, water and land transport modes under one large administrative umbrella or unit such as ministry is no doubt embedded with both social and economic benefits for all stakeholders involved in transport regulation and administration including government administrators, transport expert or transportant and the users or public. Obviously, consolidation design encourages well-practice intermodal level of transport systems coordination where civil aviation, maritime, rail, pipeline, cable, and road including public transport, private automobiles, cycling, walking are perfectly coordinated. Consolidation design gives room for a large administrative unit mainly to focus on formulating transport policies effectively, implementing policies as well as coordinating various transport modes for higher quality of service delivery. It also ensure general control of transport fares by ensuring affordable rather than monopoly fares and guarantee concessionary fares for the young, old and physically challenged. More so, it allows for a continuous monitoring of day-to-day operations and more importantly planning regulation, monitoring and coordinating for changes occasional by unanticipated circumstances is easily achieved while intermodal transport connectivity is easily achieved (Oyesiku, 2012). However, this structural design has been adopted and in practices for effective transport administration and transport system sustainability across the world particularly the developed and rapidly developing countries

e.g United States of America, China, United Kingdom, Sweden, and United Arab Emirate since it is more prudent, cost effective and more cheaper to run by the government and affordable for users. In other words, the major problem of consolidated design of transport administrative structure under one ministry is that of limited expansion infrastructural development and professionalism and distinction of various abilities and specialisation. More so, resources organisation and sharing in order to improve efficiency among modes is perhaps difficult to achieve, particularly as one ministry who is in charge resources, shares resources among modes without considering the role of various division of transport as well as enormous responsibilities of each mode it is supervising.

Unbundling model is conceptualized as the process of separating those relating agencies offering specific transport administrative and regulatory services separately to be an autonomous administrative entity of their own. Hence, the consequential benefits of unbundling design gives room for several transport ministries, agencies and parastatals rendering mobility services and administrative responsibilities to function and stand separately under different administrative units with expansion of specialised positions, rather than function as one unit or ministry (See Figure 2). The example of unbundling design is to have Ministry of Aviation, Ministry of Land Transport, and Ministry of Sea Transport, etc. separately etc. However, the socio-economic benefits of unbundling structural design revealed in its encouragement of additional job opportunities creation and expansion of specialised positions. It allows for advancement in transport sector professionals, that is encourages sub-sectoral professionals and knowledge specialisation, and equally encourage productive competition among management bodies where competent manpower along with trained personnel are available. In other words, unbundling administrative structure is posed with numerous problems including high tendency of proliferation of agencies leading to waste of resources; effective coordination among modes becomes very difficult to meet; intermodal connection and modal shift that enhances effective transport connectivity and services among modes for users satisfaction becomes difficult and the policy strategies of each of the fragmented administrative bodies or institutions without overlapping responsibilities and functions becomes difficult. However, unbundling design is very expensive and not cost effective to both the government as well as to the service users.

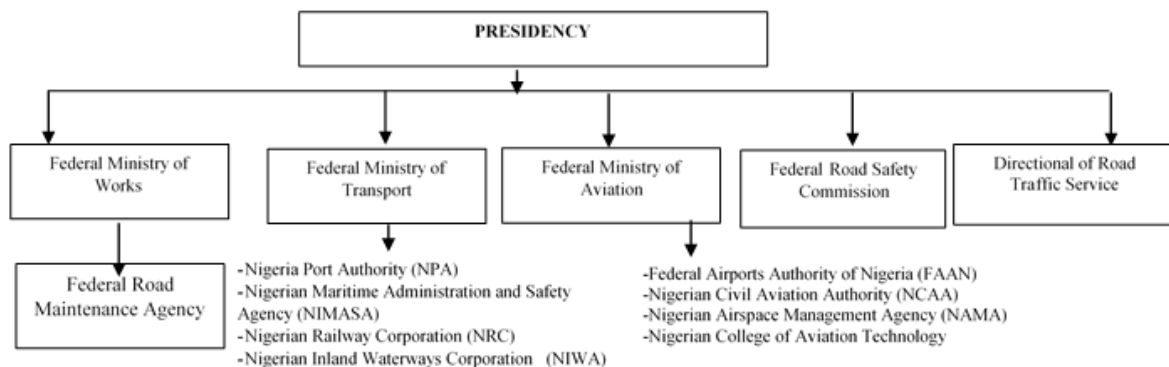
In other words, both have distinct contributions to the achievement of a well-organised and functional transport system management if well adopted as model and practiced. Oyesiku (2012) opined that regardless of the structural design in practice, every transport administrative structure generally ensures a fast, safe, efficient, accessible and convenient transport system that would meet the vital national interests and enhances the quality of life of the people at present without compromising the future.

Figure 1. United State Department of Transportation Administrative Structure with a Consolidation Administrative Design



Source: US. Department of Transportation, 2015; Adopted from Salisu, 2016

Figure 2. Nigeria Transport Administration Organogram with Unbundling Administrative Design



Source: Author's fieldwork, 2016

3. MATERIAL AND METHODS

This study adapted cross-sectional research design of descriptive, explanatory and exploratory designs. Descriptive design was used to present observations based on questionnaire administration while explanatory and exploratory design was used to give explicit information on structural design for transport administration (consolidation and unbundling designs) which the study was anchored on. Consolidation design is one with several agencies and parastatal under one administrative umbrella which allows for day-to-day planning, monitoring, and coordination of various transport modes towards achieving higher quality of service delivery, it allows for inter-modalism, and makes transport administrative body to focus in formulating, implementing and enforcing transport polices effectively with no contradictions. While unbundling design is one with several agencies and parastatal under

different administrative units which encourages sub-sectoral professionals and knowledge specialisation, increase job opportunities and expansion of specialised positions.

The study adopted both primary and secondary sources of data. Primary data were obtained by the use of a set of pre-tested questionnaire administered to selected transport administrators in Lagos, Ogun and Oyo States. Transport administrators are transport ministry, agencies and parastatals staff or officers in-charge of the provision, planning, organising and directing, staffing, coordinating, controlling, construction and regulating the transport systems in each identified states and not unconnected with the formulation, implementation, evaluation and maintenance of state transport policies to meet a well-developed and sustainable transport system. In other words, the questionnaire were administered by the author to only the director in charge transport policy coordination and planning in the selected transport ministries, agencies and parastatals in each selected states (Lagos, Ogun and Oyo States respectively), since they are in charge of planning information, policy coordination and equally have all other required information. The questions were asked based on the following sub-headings: socio-economic characteristics of respondents; transport systems situation and organisational structure aimed at exploring the state and implications of the existing structure of the systems by modes in each state; challenges posed by the existing administrative structure; and strategies towards achieving efficient, response functional and sustainable transport system development in developing nations through best designed administrative structure. However, three copies of questionnaire (a copy each to a Ministry, Agency and Parastatal) were purposely administered to the director in charge of policy coordination and planning in each selected state. Altogether nine (9) copies of the questionnaire administered were returned and used for analyses (see Table 1).

In other words, the study questionnaire design adopted the use multiple option of Likert scale (Strongly Disagree (SD) and Disagree (D) scored as 0, while, Agree (A) and Strongly Agree (SA) scored as 1) was employed to code some information obtained from respondents based on the study objectives. A scoring system of two point ordinary scale of dichotomous variables (0 and 1) was used to transform the qualitative data to quantitative data and used for analysis.

Secondary data were obtained through published and unpublished sources. Data on organisational structure sourced from Lagos State Ministry of Transport (MOT); Lagos Metropolitan Area Transport Authority (LAMATA); Lagos State Traffic Management Authority (LASTMA); Oyo State Ministry of Transport; Oyo State Road Transport Management Authority (OYRTMA); Oyo State Drivers Institute (OYDRI); Ogun State Bureau of Transportation; Ogun State Traffic Compliance and Enforcement Corps (TRACE); and Parks and Garages Development Board (PAGADEB) of Lagos, Oyo and Ogun States respectively were used to provide more explanation on the exiting administrative structure.

Both descriptive and inferential statistics were used to analyze quantitative data collected for the study while qualitative data were contentment analyzed. Inferential statistics techniques of Analysis of Variance (ANOVA) was used to show statistical variation among the problems associated with exhibited transport administrative structure in the study areas.

Table 1. Number of Questionnaire Administered to Transport Administrator

S/N	State	Ministry	Size	Agency	Size	Agency	Size	Total
1	Lagos	Lagos State Ministry of Transport	1	Lagos State Traffic Management Authority (LASTMA)	1	Lagos Metropolitan Area Transport Authority (LAMATA)	1	3
2	Ogun	Ogun State Bureau of Transport	1	Traffic Compliance and Enforcement Corps (TRACE)	1	Parks and Garages Development Board (PAGADEB)	1	3
3	Oyo	Oyo State Ministry of Transport	1	Oyo State Road Transport Management Authority (OYRTMA)	1	Oyo State Drivers Institute (OYDRI)	1	3
	Total		3		3		3	9

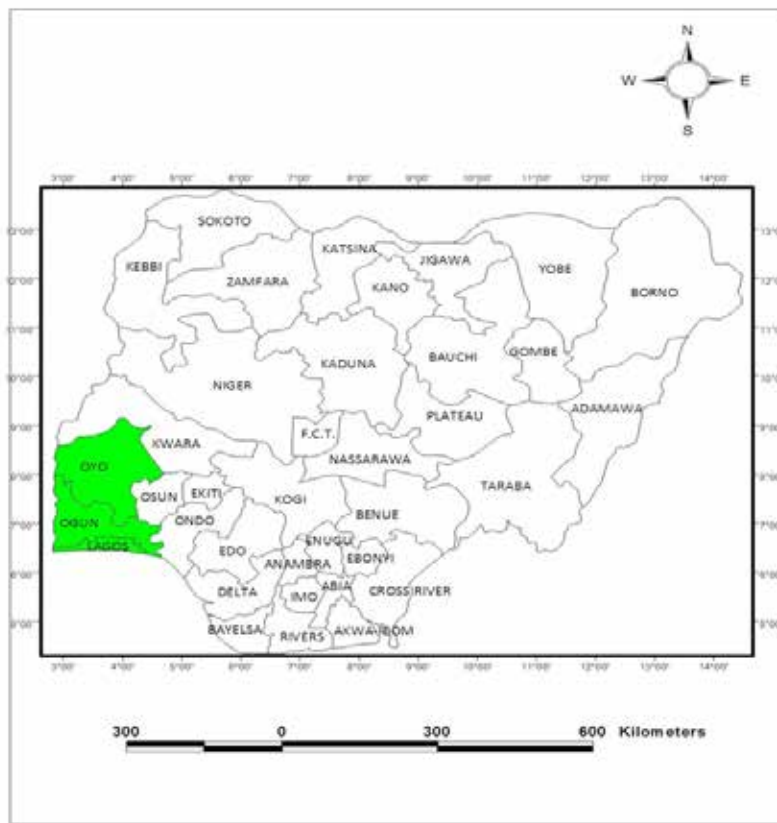
Source: Author's fieldwork, 2016

3.1 Study Area

The study area comprises Lagos, Oyo and Ogun States of the Southwestern part of Nigeria. Southwestern Nigeria lies between latitude 6° N and 8½° N of equator and longitude 3° E and 5° E of Greenwich Meridian Time (GMT) and comprises six states namely Lagos, Ogun, Oyo, Osun, Ondo and Ekiti states with the total area of 79,048 sq. kilometres. However, the justification for the selection of the three states was based on the fact that they are fast growing, characterised with fast growing cities in terms of level of physical development and functioning transport modes with noticeable transport infrastructural facilities such as seaports, airports, rail stations and more significantly highways. In other words, these states are also characterised with various commercial activities that facilitate high daily traffic.

In respect of Lagos state, it is the most populous city in Nigeria, the second fastest growing city in Africa and the seventh in the world. The population of the state is estimated at 12,100,616 in 2015 (Salisu, 2016). The geography of the state is characterised with 999.6km² (385.9sqm) of land: 738km² (285sqm), water: 2616km² (101.0sqm), metro: 3577km² (1381sqm) and elevation 41m (135ft). It lies in the West of the Niger River Delta and the Atlantic coast in the Gulf of Guinea (Lagos State official report, 2015). Ogun state covers about 16,762 square kilometres, approximately 1.82% of Nigeria land mass. The gateways state has the estimated population of 4,980,587 in 2015 and Abeokuta as the state capital. Ogun state is bounded on the north side by Oyo state and Osun State, in the south side by Lagos state and Atlantic Ocean, in the east side by Ondo state and at the west side by Benin Republic and Ondo State. However, Oyo State which is popularly known as the peace setters' state is bounded in the north by Kwara State, in the east by Osun state, in the south by Ogun state and in the west partly by Ogun state and partly by the Republic of Benin. The peace setters' state covers approximately an area of 28,454 square kilometres with the capital city as Ibadan (Oyo State official website, 2018).

Figure 3. Map of Nigeria Showing the Study Area (Lagos, Ogun & Oyo States)



Source: Ministry of Physical Planning, Lagos State

4. FINDINGS AND DISCUSSIONS

Findings of the study were presented and discussed under three sub-headings: state of transport administration operating in Lagos, Oyo and Ogun states with the view of understanding the administrative structure in the selected states; challenges facing transport administrative structure; and strategies for improving the transport administrative structure in sustaining transport development.

4.1 State of Transport Administration Operating in Lagos, Oyo and Ogun States

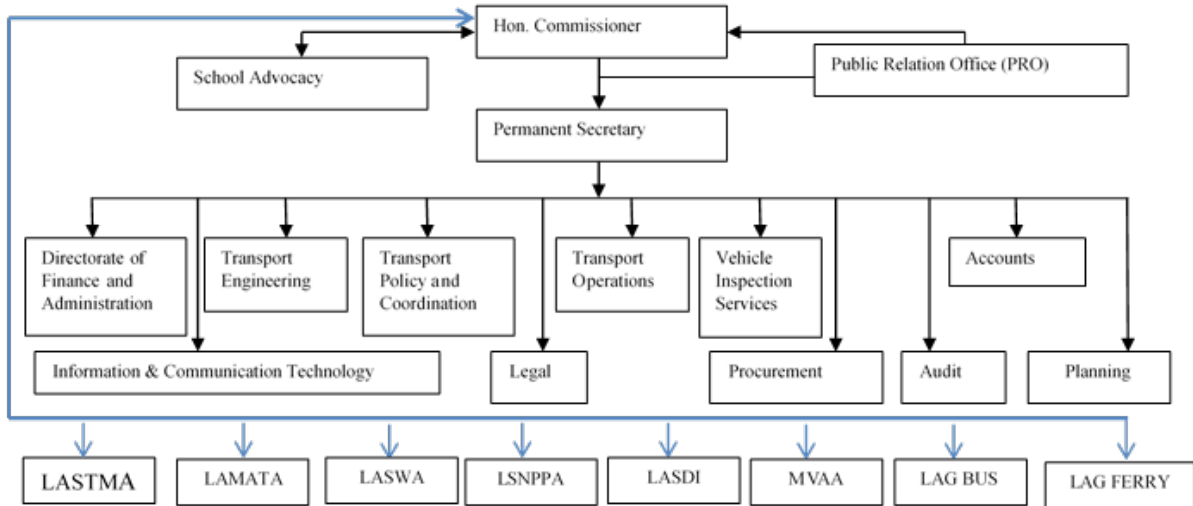
4.1.1 Lagos State

Findings revealed that the Lagos State Public Transport Administration came into existence in 1979 as a unit under the Ministry of Works and Planning. Due to the increasing mobility demands and traffic situations, the Ministry of Works and Planning was unbundled in 2001 and this process gave room for the establishment of Lagos State Ministry of Transport with some of its core responsibilities as, to see to public transportation policy direction and control; formulation and enforcement of all relevant laws affecting transportation; supervision, monitoring and evaluation of the implementation of all transportation related agencies in Lagos state; formulation of policies and programs to enhance free flow of traffic in Lagos state; provision of road infrastructure and furniture right for transportation and traffic management control; and supervision and control of machine village, motor parts, terminals, and transportation unions etc.

It was also revealed that the Ministry has six Departments and eight transport agencies directly under it with their technical staff strengths which include: Lagos Metropolitan

Area Transport Authority (LAMATA) twenty (20); Lagos State Traffic Management Authority (LASTMA) two thousand, one hundred and ten (2,110); Lagos State Water Ways Authority (LASWA) ten (10); Lagos State Number Plate Production Authority (LSNPPA) eight (8); Lagos State Drivers Institute (LASDI) thirty (30); Motor Vehicle Administration Agency (MVAA); Lagos State Ferry Services (LAG FERRY) twenty (20); and Lagos State Bus Assets Management (LAG BUS) twenty (20). Hence, the transport administrative structure adopted in Lagos state follows the consolidation model of having all agencies and parastatal under one large unit Lagos State Ministry of Transport (MOT) (see Figure 4). In other words, it is imperative to note that this consolidation administrative structure being practiced by this State to a considerable extents, have made Lagosian (users) to keep enjoying the prompt accessibility to public transport services and equally ensure general control of transport fares across all modes services particularly rail, road and ferry services by ensuring affordable fares rather than monopoly fares and guarantee accessibility to the disadvantaged group including young, pregnant women, nursing mothers, aged and physically challenged.

Figure 4. Organizational Structure of the Lagos State Ministry of Transportation



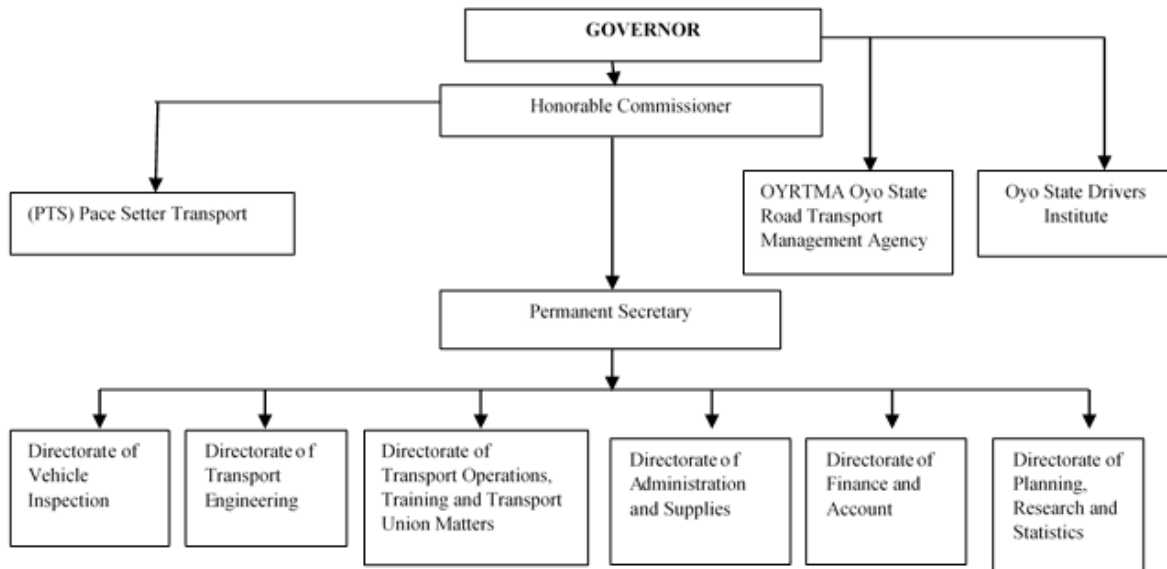
Source: Author's fieldwork, 2016

4.1.2 Oyo State

Oyo State Ministry of Transportation being the parent administrative body for transport systems in the state was established by the in-state law 3 in February 2013 and merged with the Ministry of Work to formed Ministry of Works and Transport. It was later demerged to form Oyo State Ministry of Transport with the overall responsibility of providing and maintaining safe, effective and dependable transport operation and services in the peace setter state. It was also revealed that the Ministry has six departments with some of the statutory responsibilities of the Ministry as to advise government on policy matters in respect to road transport including road safety measures and public transport system; and as well supervise the agency under the government establishment relating to transport operations and services. In other words, the state has three transport agencies in charge of transport operations and management services functioning independent of one another. The pace setter transport agency operate directly under the supervision of the Ministry while the other two (Oyo State Road Traffic Management Authority - OYRTMA and Oyo State Drivers Institute - OYRDI) operates and reports directly to the office of the governor. However, the transport administrative structure adopted in the state cannot be categorised as unbundling or consolidation administrative Structure (see Figure 5). In other words,

it is worth knowing that, this exhibited administrative structure being practiced by this State, have kept the transportation system in the state of dilemma. Particularly, the public transport services schemes both mass transit and public private commercial services are not well-organised, operate disjointedly, far from reliability with poor response functional and absolute zero control of transport fares. This disjointed administrative structure has left the state transport system with users to a single mode of intra-city and inter-regional transport services to be limited to road modes without exploring the benefits of other modes particularly rail and ferry services where in order to guarantee accessibility to all a sundry including the disadvantaged group.

Figure 5. Oyo State Ministry of Transport Organogram



Source: Author's fieldwork, 2016

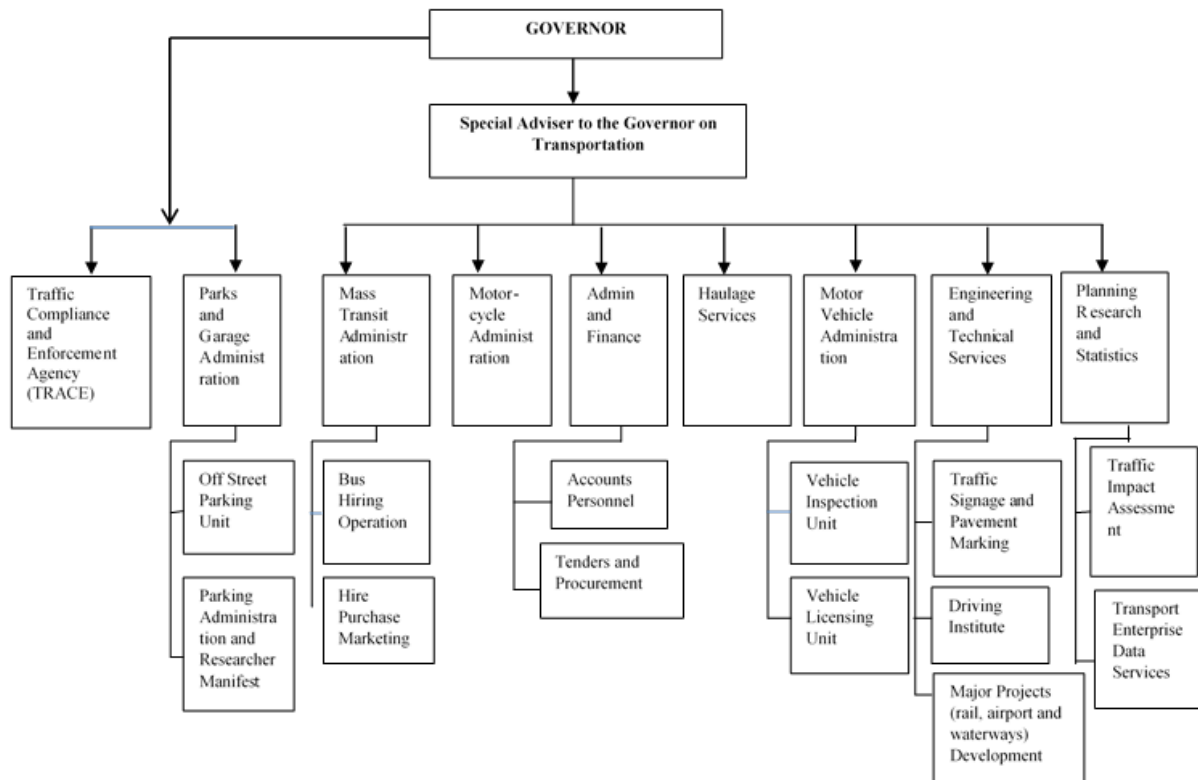
4.1.3 Ogun State

Bureau of Transportation (BOT) is known to be the primary organ administering the state transportation. Prior to the establishment of the BOT, the ministry of works and infrastructures managed the affairs of the state transportation operations and services characteristics through the transport unit. It is important to note that the Bureau of Transportation was established in 2003 to oversee the coordination, regulation, planning, operations and services of transport within the gateway state. The BOT have some of its statutory responsibilities as monitoring and regulating transport operations and services within the State; public transport policy formulation, implementation, direction and control; transportation planning management; implementation of transport projects; provision of road infrastructural facilities appropriate for transport and traffic management control; and provision of mass transit control of road use and parking management.

It is important to note that the state has two notable transport agencies -Traffic Compliance and Enforcement (TRACE); Parks and Garages Developmental Board (PAGADEB) and one parastatal (Bureau of Transportation). These agencies and parastatals are directly under the office of the governor and operate independent of one another. However, the transport administrative structure adopted in the administration of transport system operations and management services in the State follows the unbundling model (see Figure 6). It is noteworthy that the situation this unbundling administrative structure being practiced by this State is perhaps similar to the case of Oyo State where transportation system particularly public transport services are in the state of dilemma since users satisfaction on exhibited

public transport services schemes both mass transit and public private commercial services are nothing to write home about, they are not well-organised, not reliable with poor response functional, poor control of transport fares and equally serves as death trap to the disadvantaged group including young, pregnant women, nursing mothers, aged and disabled. The improper understanding of the exhibited administrative structure (Unbundling Design) on the part of the major stakeholders including the government and its administrators made them to focus only on road expansion project particularly overhead bridges (flyovers) constructions without given priorities to other means which perhaps will encourage sustainable urban transport and rural-urban transport since our rural transport system is being neglected, making farmers and agricultural products to rotten on the farm.

Figure 6. Ogun State Bureau of Transport Organogram



Source: Author's fieldwork, 2016

4.2 Challenges Facing Transport Administrative Structure

Socio-economic characteristics of the transport administrators (respondents) as observed revealed that majority (78%) were male while 22% were female which implies that sampled administrators are more of male than their female counterpart; 89% of them fall between the age group of 41-50years and 56% had a postgraduate degree of M.Sc. or its equivalent in engineering courses; majority (56%) had between 10-20years working experience and earn between ₦100,000 - ₦150,000 as monthly income. It is worth knowing that these findings indicate that almost all the respondents were still in their very productive stage of their lives with tertiary education, implying that the sampled population could comprehend the need for the study and hence could provide reliable information, although not well-grounded on contemporary transport systems planning and management related issues.

In other words, Table 2, shows the descriptive presentation of the respondents' perceived challenges of transport administrative structure in the selected states. Findings show that about 78% of the respondents affirmed that fragmented administrative bodies

with overlapping responsibilities and obvious contradiction is a major challenge facing transport administrative structure. This implies that having several ministries and agencies with overlapping responsibilities adversely influence the efficiency and effectiveness of administrative structure and in the long run affect the development of transport system. Majority (56%) opined that lack of functional transport policy is not a major problem affecting the transport administrative structure, reason being that, they have adequate policies that can sustain the development of transport.

It was also unveiled in Table 2, that about 67% affirmed that they have formidable administrative configuration of functions designed for effective discharge of duties, thus, the problem of undefined administrative functional configuration with low administrative efficiency is perhaps not applicable as a major issue affecting transport administration. Again, over 85% of the respondents agreed that incomplete supervision mechanism is a serious problem confronting transport administrative structure. This is however true, as they revealed that poor supervisory mechanism has become a tradition in public administration particularly in developing nations. Furthermore, findings revealed that majority of the respondents affirmed that overlapping and unclear responsibilities given to all tiers of government on transportation system (44%), inadequate transport professional training institute (67%), inadequate legal institutional support (about 56%), lack of transport research and information centres on all modes of transport (78%), unclear federal government responsibilities by the Nigerian federal constitution on transport administrative structure (56%), corruption and mismanagement of funds allocated to transport sector (78%), and incomplete communication and coordination mechanisms (67%) are noticeable problems affecting transport administrative structure in sustaining the transport system (see Table 2). These problems and weaknesses have for long time remain heartburning issues among the stakeholders particularly the government and professionals, and no doubt left transport systems as undeveloped, unsatisfactory and failed to achieve the overall objectives for the nation's transport sector including urban public transport, pedestrian and cycle infrastructural provision and promotion of railroad transport services that would be accessible to all a sundry most especially women, elderly and physically challenged group.

Table 2. Problems of Transport Administrative Structure

S/N	Problems	Strongly Disagree SD		Disagree D		Agree A		Strongly Agree SA		Total Strongly Disagree/ Disagree (0)		Total Agree/ Strongly Agree (1)		Total	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%
I	Fragmented administrative bodies with overlapping responsibilities	0	-	2	22	7	78	0	-	2	22	7	78	9	100
Ii	Lack of transport policy	1	11	5	56	3	33	0	-	6	67	3	33	9	100
Iii	Undefined administrative functional configuration	2	22	6	67	1	11	0	-	8	89	1	11	9	100
Iv	Incomplete supervision mechanism	1	11	3	33	5	56	0	-	4	44	5	56	9	100
V	Overlap and unclear responsibility among tiers of government	1	11	3	33	4	44	1	11	4	44	5	56	9	100
Vi	incomplete communication and coordination mechanism	0	-	3	33	6	67	0	-	3	33	6	67	9	100
Vii	Unclear government responsibility by Nigerian Constitution on transport system administration	0	-	2	22	5	56	2	22	2	22	7	78	9	100

Viii	Unclear definition and responsibility of the existing transport agencies	0	-	6	67	2	22	1	11	6	67	3	33	9	100
Ix	Inadequate professional training institute	1	11	2	22	4	44	2	22	3	33	6	67	9	100
X	Lack of legal and institutional support	1	11	2	22	5	56	1	11	3	33	6	67	9	100
Xi	Lack of research and information centre on all modes of transport	1	11	1	11	3	33	4	44	2	22	7	78	9	100
Xii	Corruption and mismanagement of funds	1	11	1	11	2	22	5	56	2	22	7	78	9	100

NOTE: SD-Strongly Disagree; D-Disagree; A-Agree; SA-Strongly Agree; F-Frequency of Response; %- Percentage of Response

Source: Author's fieldwork, 2016

4.2.1 Hypothesis Testing

Further investigations on possible statistical variation among the problems associated with exhibited transport administrative structure in the study areas, presented descriptively in Table 2 was conducted using Analysis of Variance (ANOVA) statistical technique with the view of establishing whether there is an observed statistical difference or not among identified problems. The hypothetical results however was presented in Table 3.

H₀: There is no statistical significant variation in the problems associated with transport administrative structure

H₁: There is statistical significant variation in the problems associated with transport administrative structure

Table 3. Summary of ANOVA Result on Analysis of Problems Associated with Transport Administrative Structure

Tests of Between-Subjects Effects					
Measure: Problem Associated With Transport Administrative Structure					
Transformed Variable: Average					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	37.926	1	37.926	80.457	.000
Within Groups	5.185	11	.471		
Total	43.111	12	38.397		

Source: Author's field survey, 2016

Result of the Analysis of Variance (ANOVA) revealed that F-ratio is 80.457 (Table 3). The observed significant value is 0.000 which is less than 0.05 confidence level while comparing the two values. It is important to note that the observed significant value is less than the table value at 95% level of significance. Hence, we accept H₁ (alternative hypothesis) and reject H₀ (null hypothesis). This implies that there is a statistical significant variation among the problems associated with transport administrative structure in Lagos, Ogun and Oyo states. It can be argued that the variation is not due to chance. In other words, it is noteworthy that the problems associated with exhibited transport administrative structure in selected states are not only descriptively varies but also statistically varies. This is no doubt true since the exhibited administrative structure of the sampled administrative units in the study areas is not uniform as Lagos State operates consolidation design; Ogun State follows unbundling design; while Oyo State operates on neither consolidation nor unbundling designs.

4.3 Strategies for Improving Transport Administrative Structure

Findings on strategies for improving transport administrative structure in the study areas are revealed in Table 4. About 89% of the respondents affirmed that the transport ministries and agencies need to be integrated under one administrative unit with clear responsibilities. It was also noted by all sampled respondents that, the formulation and implementation of transport policies and laws at the three tiers of government will help the transport administrative structure in sustaining transports system. They were all of opinion that effective communication and cooperation among transport institutions should be encouraged in other to have a formidable and functional transport administrative structure.

Table 4. Strategies for Improving the Transport Administrative Structure

S/N	Variable	Strongly Disagree SD		Disagree D		Agree A		Strongly Agree SA		Total Strongly Disagree/ Disagree (0)		Total Agree/ Strongly Agree (1)		Total	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%
I	Consolidation of transport ministries and agencies	0	-	1	11	2	22	6	67	1	11	7	78	9	100
Ii	Formulation and implementation of transport policy and law at three tiers of government	0	-	0	-	3	33	6	67	0	0	9	100	9	100
Iii	Effective communication among transport institutions	0	-	0	-	3	33	6	67	0	0	9	100	9	100
Iv	Encouragement of intermodal and integrated transport system policy with option of public transport, cycling with walking facilities	0	-	0	-	5	56	4	44	0	0	9	100	9	100
V	Designation of duties to agencies in charge of different modes	0	-	0	-	2	22	7	78	0	0	9	100	9	100
Vi	Effective training of personnel to gain new ideas	0	-	0	-	1	11	8	89	0	0	9	100	9	100
Vii	Exclusive definition and division of institutional responsibilities	0	-	0	-	1	11	8	89	0	0	9	100	9	100

NOTE: SD-Strongly Disagree; D-Disagree; A-Agree; SA-Strongly Agree

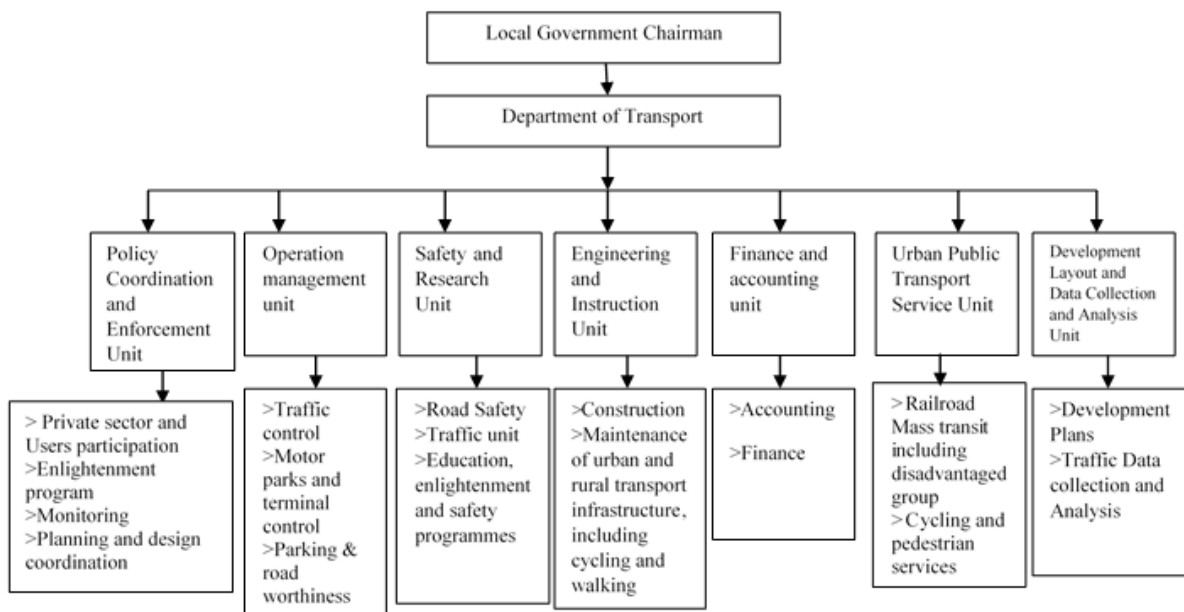
Source: Author's field survey, 2016

Findings also showed that, all the respondents affirmed that, there is need for the encouragement of intermodal transport system and integrated transport system policy with option of public transport system (railroad mass transit), cycling and pedestrian infrastructural facilities and proper designation of duties to agencies in charge of different modes of transport in other to achieve effective and efficient transport administration with both social (prompt accessibility to all users including disadvantaged group) and economic (affordable fare charges) benefits. It was also deduced from the findings that about 89% revealed that, through effective training of personnel to gain new ideas in the areas of transportation planning and management systems; and exclusive definition and division of institutional responsibilities without overlapping functions will greatly assist transport administrative structure in sustaining transport system operations and management characteristics at present without compromising the future needs.

4.4 Proposed Transport Administrative Structure for Local and State Authority

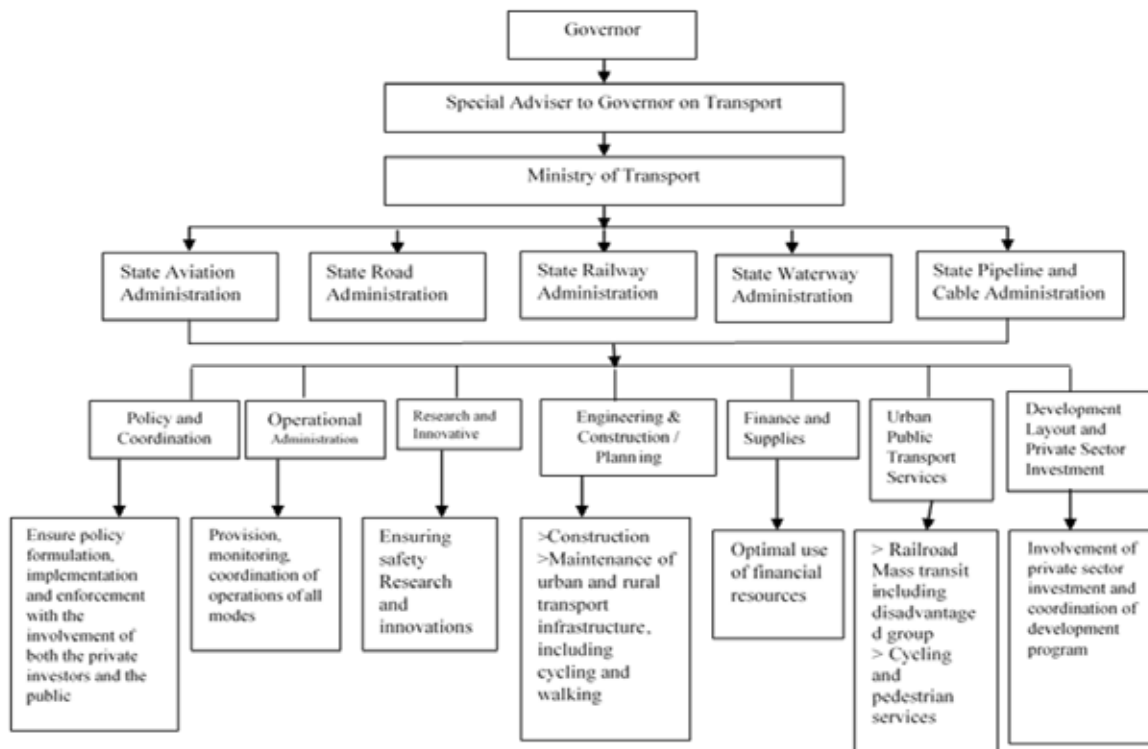
As observed, the state's transport ministry and agencies with the same statutory roles and responsibilities as observed does not have a uniform structure, they either operate as consolidated or unbundled. This perhaps hindered effective and efficient transport administration as well as the development of the nation's transport sector. In the quest to achieve sustaining transport system operations and management characteristics at present without compromising the future needs, through government intervention must be by appropriate regulation mechanisms of well-coordinated large body of related units and agencies under one administrative body known as Ministry. A single Ministry of Transport with highly functional intermodal coordination departments will serve transport sector of each state and the country at larger better, going by the experience of several other developed countries including USA. However, the States Ministry and Agencies in-charge of transport administration should be consolidated under one administrative body in order to have a functional and formidable transport administration and sustainable transport development. Thus, administrative structure at the local and state authorities should follow the proposed administrative structure for operational and management services efficiency (see Figure 7 and Figure 8 respectively).

Figure 7. Proposed Administrative Structure for Local Authority



Source: Own Elaboration

Figure 8. Proposed Administrative Structure for State Authority



Source: Own Elaboration

5. CONCLUSION

A well-organised transport administrative structure has a significant effect on transport system development of any society and however serves as a necessary tonic for the achievement of a functional transport system in any economy including developed and developing. The demand for transport services which is a function of human survival, societal interactions and cities development and livability significantly require a well-planned, organised and functional transportation system, embedded with new technological driven infrastructural facilities and well-structured operational and management functions. It is based on this backdrop that the research study analyses transport administrative structure in Lagos, Ogun and Oyo states of Nigeria towards expatiating on the government important roles in managing and regulating the complex pattern of mobility, its infrastructural network and services. The success of transportation system of any society greatly depends on effective implementation of appropriate administrative machineries and structure and however represents an important aspect of the industry. In other words, major findings of this study revealed that the transport administrative structure with respect to the sampled states follows the two models as earlier mentioned: consolidation and unbundling, though the administrative structure in the study areas does not have a well-designable and uniform structure as they operates on different administrative structure. It is imperative to note that only Lagos state out of the purposively selected sampled states operates on consolidation model, Ogun operates on unbundling design administrative structure while Oyo state is operating on neither consolidation nor unbundling design. Therefore, effective planning and coordination of operational service functions of modes becomes difficult to achieve in states operating on unbundling transport administrative structure.

Based on this study findings, some basic transport management and operational recommendations for strategic directions were drawn. It is important to note that recommendations are needed for stakeholders in transport industry to act upon and as such relevant for strategic development of transport systems of the study areas and other state particularly in developing nations with similar challenges. However, the study thus recommended that, there is need to integrate the ministry, agencies, parastatals and other units in charge of transport systems administration which is *sin-qua-non* to adequate infrastructural provision, effective regulatory and management activities, as well as successful transport operational services under one large Ministry of Transport. It is worthy to note that, if all these agencies, parastatals and other related regulatory units are holistically integrated under one large Ministry of Transport, the certainty of achieving a functional and formidable transport system and administrative structure embedded with holistic approach for day-to-day planning, monitoring, regulating and coordination of various transport modes for better quality of service delivery and intermodal system as well as sustainable transport development demands particularly at the urban areas where integration of land use and transport planning shouldn't be compromised, would undoubtedly be guaranteed. It is also recommended that the practice of intermodal urban transport system which involves the use of more than one mode of transport, to reduce over dependency on a particular mode, increasing environmental and social issues, should be encouraged so that the advantages of each mode particularly rail and dedicated bus rapid transit are better explored for better administrative configuration and mobility satisfaction among all categories of users including young, pregnant women, nursing mothers, aged and physical challenged through total exploitation of the proposed structures.

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THE DISSEMINATIVE CAPABILITY OF THE SOURCES IN CROSS-BORDER KNOWLEDGE TRANSFER PROCESS: A CASE STUDY OF A FRANCO-JAPANESE JOINT VENTURE IN BRAZIL

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ABSTRACT

The objective of this research was to examine the contribution of the disseminative capability of the sources in the knowledge transfer between two international mother companies and a joint venture installed in Brazil. Successful research on international knowledge transfer generally emphasises the absorptive capability of the receivers and other factors, while the role of the knowledge source(s) has been neglected. Considering this gap, the literature review synthesised the main attributes related to the source's disseminative capability in the knowledge transfer process, among them, the ability to transfer and the motivation to engage in the process. The joint venture involved representatives of companies based in France and Japan. A qualitative, longitudinal cross-sectional approach was used. This methodology afforded a unique opportunity to examine the phenomenon of the cross-border knowledge transfer process from the perspective of the sources. The results suggest that, in terms of the knowledge transfer capability, the sources used experiences from other projects, experienced expatriates and the exploitation of social integration mechanisms, which allowed satisfactory results concerning the knowledge transfer. Regarding the motivation to transfer, the enthusiasm of the sources was more significant in the initial phases.

Keywords: Disseminative Capability, Absorptive Capability, Cross-Border Knowledge Transfer, Joint-Ventures, Mother Companies.

JEL Classification: P52, P11, O57

1. INTRODUCTION

Knowledge is an indispensable organisational resource capable of increasing productivity, fostering growth and ensuring the survival of business enterprises (Szulanski, Ringov, & Jensen, 2016). However, few companies have all the necessary information and know-how to effectively manage complex and dynamic business environments, as in globalised markets, for instance (Park, Vertinsky, & Becerra, 2015).

In this scenario, organisations whose units learn from one another's experience are more productive and competitive than counterparts that are less adept at knowledge transfer (Argote, 2012). Thus, strategic assets such as superior marketing knowledge, product differentiation, patent-protected technology and managerial know-how skills constitute a large set of strategic motivations for companies to engage in international acquisitions (Deng & Yang, 2015). Therefore, in many cases, building cross-border partnerships and

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international alliances to acquire knowledge can be a business-attractive strategy (Park et al., 2015). Among the various forms of international strategic alliances, joint ventures provide an opportune learning environment between partners, particularly between partner companies (Tsang, Nguyen, & Erramilli, 2004); further, the knowledge obtained through mother companies increases the organisational ability of these joint ventures to interpret and respond to their environment, leading to a superior performance (Park et al., 2015).

The literature discusses several factors that may facilitate or hinder the transfer of knowledge, including absorptive capacity (Szulanski et al., 2016), the nature of knowledge (Park et al., 2015) and the dynamics of the relationship between source and receiver (Battistella, De Toni, & Pillon, 2016). The literature on cross-border knowledge transfer, both in theoretical and empirical terms, has focused primarily on the discovery of how certain factors affect the results of knowledge transfer (Park et al., 2015) and, further, on the role of the absorptive capacity of the receiving firms. In this context, little attention has been given to the counterpart of the recipient's absorptive capacity, i.e., the disseminating capacity of the knowledge source (Schulze, Brojerdi, & Krogh, 2014).

Considering this research gap, the purpose of this article is to analyse how dissemination capacity contributes to the results of successful knowledge transfer, especially in cross-border alliances such as joint ventures. This study contributes to this gap in knowledge.

2. THEORETICAL REFERENCES

2.1 Disseminative capability of the knowledge source

The inter-organisational knowledge transfer is seen as an exchange, or a network, of knowledge between the source and the receptor, in which the characteristics of both are relevant to the process (Martinkenaite, 2012). Studies on the efficiency and effectiveness of knowledge transfer raise the question of how sources transfer knowledge to receptors (Tang, Mu, & MacLachlan, 2010; Noblet & Simon, 2012); research has shown that the ability of the source to disseminate knowledge is a critical factor for the transfer process (Minbaeva & Michailova, 2004; Schulze et al., 2014).

Knowledge transfer is an indispensable process in mergers and acquisitions. However, factors that facilitate this process require greater understanding, particularly in hybrid organisational forms such as joint ventures (Ranucci & Souder, 2015). Thus, although companies form joint ventures for a variety of reasons, improving organisational learning has become an important rationale for their creation and survival (Park et al., 2015). Considered as legally independent entities, joint ventures present independent decision-making processes, have a certain autonomy, and provide platforms through which knowledge transfer occurs (Park & Vertinsky, 2016).

The disseminative capability can be defined as the ability of knowledge holders to efficiently, adequately, and convincingly frame knowledge in a way that other people can understand accurately and put into practice (Tang et al., 2010). The efficiency and effectiveness of dissemination capacity is a result of the ability and willingness of organisational actors to transfer knowledge, where and when it is necessary for the organisation (Minbaeva & Michailova, 2004). In the literature, two disseminative capability attributes are often discussed: (i) the ability (Minbaeva & Michailova, 2004; Mu, Tang, & MacLachlan, 2010) and (ii) the motivation to transfer knowledge (Minbaeva, 2007; Schulze et al., 2014).

The first attribute is the ability of the source to transfer knowledge. The effectiveness of knowledge-sharing between companies demands a collaborative effort between the source – the knowledge holder – and the receiver (Mu et al., 2010). In many cases, knowledge-sharing depends on the ability of the source to communicate its knowledge in a way the receiver

can understand and benefit from in performing their activities (Minbaeva & Michailova, 2004) However, if the knowledge holder does not have sufficient capacity to articulate and communicate its knowledge to the receptors, the transfer results can be seriously affected (Mu et al., 2010).

Joint ventures are formed, at least in part, to leverage knowledge of mother companies (Park & Vertinsky, 2016), especially when they are newly established. Thus a higher level of active participation of firms is likely to be required by mother companies in promoting a satisfactory learning environment, given their still incipient absorption capacity (Park et al., 2015). As well, the ability of the source to transfer knowledge can be evaluated, among other indicators, through: (i) the previous experience of the mother companies in the management of alliances (Minbaeva & Michailova, 2004; Park, Vertinsky, & Lee, 2012); (ii) sending expatriate experts originally from the mother companies (Park, 2011; Chang, Gong, & Peng, 2012; Choi & Johanson, 2012) and (iii) the adoption of social integration mechanisms (Noblet & Simon, 2012; Penna & Castro, 2015).

Previous experience relates to the previous partnership activities between the mother companies, or each of them with other companies, before the current enterprise (Pak & Park, 2004; Rotsios, Sklavounos, & Hajidimitriou, 2014). Therefore, know-how, knowledge and experience are specific company features that can improve its ability to transfer knowledge and technology to another firm (Park, 2011). Studies have shown that the prior collaborative experience from mother companies is not only associated with the acquisition of relevant technologies by the joint venture and the understanding of local business practices, but also with improvements in problem-solving abilities and reduction of uncertainty concerning the local environment (Pak & Park, 2004; Park, 2011).

Previous experience in forming and managing a joint venture, for example, can provide useful insights to be applied in the management and training of future joint ventures. In many cases, the accumulated knowledge and competencies of a partner can also be valuable for the mother companies (Park et al., 2015). This is because managers' mental models, based on past experiences, provide useful frameworks capable of interpreting new knowledge (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004). In other words, the experience of previous managerial experiences, related in many cases to the tacit knowledge of other operations, creates connections such that knowledge is transferred efficiently and, consequently, is better assimilated and interpreted.

The use of expatriate experts to assist in other alliance units is another feature of the source transfer ability (Park, 2011; Chang et al., 2012; Choi & Johanson, 2012). Expatriates are individuals with knowledge that helps to improve the performance of foreign units (Choi & Johanson, 2012); in joint ventures they may disseminate their personal experience and individual knowledge in order to improve the capacity of foreign companies (Minbaeva & Michailova, 2004; Fang, Jiang, Makino, & Beamish, 2010).

Organisations and their members acquire knowledge of others through the 'grafting' of individuals with special skills who assume the role of moderators in the knowledge transfer process between the company headquarters and its subsidiary in a foreign country (Choi & Johanson, 2012). Therefore, the interaction between the employees from the mother companies and the joint venture tends to be triggered by visits of foreign experts as part of the process of implementation and absorption of new practices and/or technologies (Park & Vertinsky, 2016).

Finally, regarding the capability of the source to transfer knowledge, it is considered relevant to observe the role of social integration mechanisms in the transfer dynamics. Social integration mechanisms are systematised routines that enable the disseminative capability of the source (Penna & Castro, 2015), reducing barriers to information exchange, intensifying

the interchange of ideas within the organisation and facilitating knowledge sharing and exploration, mainly those of a tacit nature (Vega-Jurado, Gutiérrez, & Fernández, 2008).

The main mechanisms of social integration include the use of teams and work groups, technical visits and development programmes, and may also be associated with job rotation practices, quality circles, problem-solving methodologies, participation in the decision-making activities, multifunctional teams, meetings and others (Vega-Jurado et al., 2008; Armstrong & Lengnick-Hall, 2013). Hence, knowledge transfer is expected to be significantly accelerated by the interaction between the external environment and the organisation, as well as the functional interrelationship between the subunits and the knowledge distribution within the organisation itself, obtained through the adequate use of social integration mechanisms (Park, 2011).

The second attribute of disseminative capability is the motivation for transfer knowledge. Discussions about the disseminative capability of the source maintain that the knowledge holder does not always want, nor are they capable of, transferring their knowledge to the receiver. Thus, although companies can transfer knowledge to others, knowledge holders may not do so, either by choice or because they do not see motives that justify the efforts for sharing (Martinkenaite, 2012).

Three aspects may contribute to the reduction of source motivation: (i) low trust among alliance partners (Becerra, Lunnan, & Huemer, 2008); (ii) 'spillovers' of knowledge (Inkpen, 2008; Park et al., 2015) and (iii) opportunistic behaviours that may lead to inappropriate use of transferred knowledge (Massaro, Moro, Aschauer, & Fink, 2017).

For example, according to Minbaeva (2007), the motivation for knowledge transfer is a decision of each company, and the perception of the willingness to share is a determining factor for this decision. In such instances, only those who believe it is worth sharing, and who can establish some trustworthy relationship with the partner, will be motivated to share knowledge (Becerra et al., 2008). Therefore, the knowledge source can protect the knowledge, choosing not to transfer it to the partners, thereby increasing the legitimacy of the knowledge source and, consequently, reducing its vulnerability within the alliance (Becerra et al., 2008).

Regarding the joint ventures, the overlapping competition among mother companies can make them reluctant to share, leading to a limited incentive to transfer their knowledge (Inkpen, 2008; Park et al., 2015). Since the joint venture forming members may be partners or competitors at the same time, there is a high risk of knowledge overflow, which could increase competition and favour a knowledge spillover (Inkpen & Curral, 2004; Inkpen, 2008). In fact, knowledge overflows are seen as an inevitable result among alliance partners (Park et al., 2015); thus, organisations should focus on avoiding or minimising such effects (Inkpen, 1998).

Finally, alliance partners may engage in opportunistic behaviour and misuse knowledge for their own sake (Massaro et al., 2017). The fear of losing ownership and control also represents a significant barrier to the transfer of knowledge, posing a threat to collaboration, mainly in newly formed alliances (Nielsen & Cappelen, 2014). Table 1 summarises the attributes and indicators of the disseminative capability in the knowledge transfer process.

Table 1. Attributes and indicators of disseminative capability

Disseminative capability	Attributes	Indicators
	Transfer capability	(i) Previous experiences (ii) Expatriate experts (iii) Use of social integration mechanism
	Motivation for knowledge transfer	(i) Trust between the involved companies (ii) Spillovers of knowledge (iii) Opportunistic behaviour

Source: Own Elaboration

3. METHODOLOGY

In order to investigate the role of the source's disseminative capability in the transfer of knowledge from mother companies to a joint venture, a case study of a qualitative nature (e.g. Yin, 2013; Eisenhardt, Graebner, & Sonenshein, 2016) was undertaken. The qualitative case study is particularly useful when there is a need for in-depth understanding of an event or phenomenon of interest in a real-life context (Crowe, Cresswell, Robertson, Huby, Avery & Sheikh, 2011).

The selected case was a joint venture in the steel industry, located in the steel complex of the Alto Paraopeba region, state of Minas Gerais, Brasil, to produce 600 thousand tons of seamless steel pipes per year, for applications in the OCTG (Oil Country Tubular Goods) industry, i.e., tubes for high-quality oil applications. The joint venture from now on referred to as "XYZ", is composed of two international groups, "Alfa" (French) and "Omega" (Japanese), with extensive experience in this industrial sector.

Prior to the primary data collection, secondary data were gathered for a deeper familiarisation with the context at which the joint venture and the allied companies are inserted, as well as to complement the data from the interviews. The documents and archives were obtained from internal sources, such as institutional and commemorative publications, and from information available in the portals of the involved companies; In addition, external sources, such as news in steelmaking, oil and gas specialised journals, and general press releases concerning the steel mill, were used.

For data collection, among the available sources, in-depth interviews, documents, archives and observation were applied. The use of multiple sources in case studies is critical for data triangulation, which increases the construct validity of the study (Gibbert, Ruigrok, & Wicki, 2010). Table 2 specifies the main documents used in the research.

Table 2. List of documents used in the research

Doc	Description
1	Explanatory notes from the administration – Financial Statements from Alfa Company – Minas Gerais - Book 2 - Publications of Third Parties and District Public Edits, Wednesday, 30 March 2016.
2	Notes about the joint ventures XYZ – Brasil Steel Institute – 2015
3	Institutional Information of the Omega company – 2015
4	Results from Alfa Company – Presentation to investors – 18 February 2016
5	Alfa Company financial results records for the year 2013
6	Note about the creation of the new plant in Minas Gerais – Brazilian Association of Metallurgy, Materials and Mining – 29 March 2007
7	Notes about the XYZ joint venture – Brasil Steel Institute – 2014
8	TN Petroleum – Note about the creation of the new plant in Minas Gerais 2012
9	Project Conception Document Form (CDM-PDD) – Use of Charcoal from Renewable Biomass Plantations as a Reducing Agent in the Production of Crude Iron from the XYZ Steel Complex.
10	Master's Dissertation – Information about the Brazilian steel-mining industry structure.
11	Institutional profile of the XYZ company.
12	Jornal da Comunidade: Quarterly publication of the newspaper for internal circulation. Special edition – year I. XYZ Company
13	Master's Dissertation – Information about the electric oven to ARCO CONSTEEL®
14	Industry Certification – American Association for Laboratory Accreditation
15	Note on the installation of the steelworks plant in the joint venture XYZ – Diário do Comércio.
16	Data about the pelletiser – Iron ore pelletising Grate-KilnTM

Source: Own Elaboration

After selecting this project for the case study, the authors began to prepare the interview script. Starting from the critical review of the literature, they considered themes such as the ability of the mother companies to: (a) transfer the knowledge and motivation of the sources to engage in the transference process, and (b) seek an understanding of the implications of the dissemination capacity of the creation of the joint venture.

With the interview script in hand, the next task was to select the key respondents. Data collection is a critical aspect in case studies and goes beyond the mere mechanical data recording (Yin, 2013). The selection of respondents was performed by carefully choosing people representative of all sites (mother companies and joint venture), i.e., people who participated in, or were affected by, the transfer process. These respondents occupied positions on superintendence, management, sales and Board of Directors. The snowball method was applied (Malhotra, 2001), based on the first interview with one of the directors from one of the mother companies. That is, at the end of the interview, this employee indicated two other employees who could present information about the process investigated. This approach was repeated until nine in-depth interviews were completed. The interviews were performed at the joint venture premises, they were recorded in audio and later transcribed to increase research reliability (Gibbert & Ruigrok, 2010). Each interview took approximately one hour, resulting in a total of 11 hours and 32 minutes of recorded content and 128 data sheets transcribed. As the material collected was read, it was clear that the set of interviews met the meaning saturation criterion (Gaskell, 2003).

Of the nine interviews conducted, respondents represented various nationalities, although Brazilians were the majority. Two interviews were conducted with French employees; these were managers who were fluent in Portuguese. Two other interviews were performed with

Japanese employees, with one interview in English and one in Portuguese; the remaining interviews were conducted with Brazilian employees. Table 3 presents a list of participants.

Table 3. List of Participants

Participant	Nationality	Position	Company
1	Brasilian	Quality General Superintendent	Joint Venture
2	French	Sales and Production Planning Manager	Joint Venture
3	Brasilian	Manager of the Integrated Management System	Joint Venture
4	Brasilian	Product Development Manager	Joint Venture
5	French	Project Line Pipe Manager	Alfa
6	Brasilian	Planning Representative	Alfa
7	Japanese	Planning Representative	Omega
8	Brasilian	Quality and Pipe Manufacture Process Manager	Joint Venture
9	Japanese	Technical Director	Omega

Source: Own Elaboration

After the data collection was complete and interviews transcribed, data analysis was performed. The data were analysed based on the content analysis technique (Bardin, 2010). Initially, all documents and files were sorted and selected according to their criticality. Lastly, two analytical categories for data processing were established: (i) the ability of the source to transfer knowledge and (ii) the motivation to transfer that knowledge. Thenceforth, the data were systematically categorised; following that, the data were analysed and interpreted.

4. CONTEXTUALISATION OF THE CASE AND RESULTS

4.1 Description of the data: the case of the joint venture XYZ

As longtime partners in the production of premium connections, Alfa (French) and Omega (Japanese) companies consolidated the new partnership to solve their productive capability problems, since none of them had the possibility of assuming in isolation a project of this magnitude (P1, P6). The integrated steel mill comprises the areas of reduction, steelmaking, rolling, pelletising and finishing lines (Doc 9).

At the steelworks differentiated equipment is present, such as the Consteel Technology, which allows optimisation of energy consumption during the steelmaking process and ensures greater control over the production, with low noise and particle emissions (P2, Doc. 11). As one interviewee noted,

The Alfa and Omega companies already had an integrated furnace and steel mill, so I really think they both had a high level of know-how and they have made, especially for the steelmaking, a very optimised plant in terms of space, very intelligent and well planned. (P2)

At XYZ, the rolling process works through a set of furnaces and four rolling mills that drill and transform steel bars into tubes. Considered a state-of-the-art technology, none of the companies in the group had previously worked with this type of equipment (P2). For this reason, a German supplier followed the on-site installation process, closely followed by local technicians and expatriates from the two mother companies, who were interested in learning about the technology and in absorbing the necessary knowledge from the manufacturer.

The pelletising process is considered the beginning of the production chain, and there was not enough know-how on machinery and operation since none of the mother companies had previously worked with this technology (P1 and P2). The setup of the pellet production equipment occurred in a learning and partnership environment in which both companies were able to closely follow the implementation until local and expatriate technicians obtained more confidence about its operation and integration into the production chain.

The finishing line treats the final products, giving them the appropriate characteristics to support the environment to which they will be subjected (pressure, temperature and corrosion) (Doc 12). Because they are common industry elements for any company in the sector, there was no doubt about the technical and technological dominance of the mother companies. Consequently, the implementation happened in a natural way, without relevant problems during the execution of the project (P1 and P2).

Several respondents pointed out a legitimate willingness on the part of the partner companies to transfer knowledge, probably due to the enormous efforts and resources spent on the creation of the new plant (P1, P2, P5 and P7). In the opinion of some interviewees, this provision meant that the mother companies did not make any effort to provide access to their expatriate specialists, technicians, engineers and even suppliers, facilitating the ways to resolve doubts about processes, equipment operations or the customisation of some procedures. In addition, there was great concern expressed about the transfer of technical know-how to the production process (P1, P2, P3).

4.2 Transfer capability

Firstly, in relation to the previous experience of parent companies in the management and formation of joint ventures and knowledge transfer, the data show that the extensive baggage acquired through accumulated experiences mainly contributed to the initial phases of XYZ in a positive way. Thus the technicians of the joint venture felt safe to start the plant's construction processes from its initial configuration to the full operation of machines and equipment needed to produce the pipes (P1, P2 and P6).

When the joint venture was formed, the previous collaborative experience between the partners of the venture was decisive; thus, the mother companies could deal with strategic and technical issues, resulting in more assertive decisions at this stage (P1). Some respondents said that without the know-how and experience of the management body and the expert technicians in each area of the plant, it is unlikely the technicians of the joint venture could have installed all the equipment and machinery and learned the proper way to use them (P1 and P2).

As far as the expatriate specialists are concerned, it was observed that the Japanese mother company Omega maintained in each area an expatriate called the Senior Advance, whose purpose was to closely follow factory processes, advising and taking care of the technical part. This left the French partner (Alfa) responsible for management (P4). In addition to this role, it was observed that the expatriates were present during the whole process, from the implementation of the company and continuing through to the production processes (P1, P2, P7, P8 and P9). About 40 people came from Japan; they had both experience and technical knowledge. These Japanese expatriates observed people in training, transferred in a very organised way all the tacit knowledge they possessed and often returned to Japan, bringing back the whole experience from the Brazilian plant (P1). The Alfa Company expatriates were French, Mexican and German; they converted their know-how into processes, products, procedures and other forms of knowledge (P1, P2). In addition, French expatriates were working at the plant; this was particularly due to their wide network of local contacts (P3).

As for the mechanisms of social integration, it was observed that much of the information necessary for the progress of the mill production was passed on by the mother companies to the joint venture through e-mails, periodic meetings, video conferencing, or Webex (P1, P3, P4, P5, P6 and P8). Weekly, XYZ forwarded a report to the mother companies, recounting major events or issues as well as weekend report results. There was also a monthly report, and meetings were held quarterly to report significant occurrences. Another meeting called an executive committee, in which the general heads of the two mother companies and XYZ participate, were responsible for presenting performance results and showing the new technologies developed. In the area of quality control, there were meetings of expert mission and face-to-face quality conferences (usually through video conferencing between XYZ managers and their parent companies), in which issues were discussed regarding the development of technologies for improvement of the product (P2).

Thus, from the data, some characteristics of the disseminative capacity of the sources were in evidence, especially in relation to the capacity to articulate and move knowledge from one place to another, as were determinants of the effectiveness of the knowledge transfer process in the formation of the joint venture. Specifically, these were: (i) the previous experience of mother companies in joint ventures creation and management projects; (ii) the intensive use of expatriates of the mother companies; and (iii) the choice and use of mechanisms of social integration capable of promoting the sharing of knowledge among the parties.

4.3 Motivation for knowledge transfer

The interviewees were unanimous in saying that they felt some reservations about the sharing of information from the beginning of the production and sale of pipes, mainly because of competition between the French and Japanese companies. One respondent's comment emphasises this point:

In fact, they [the technicians of the mother companies] share, but do not pass the technology directly, they develop together with us [XYZ] precisely to prevent some information from being improperly passed on, even because there are proprietary technologies of the companies and, in some cases, this is protected by patent. (P8)

Another interviewee from the Omega company said that one could not pass on the know-how or intellectual properties of his company to Brazilians, since the other partner company can appropriate this knowledge (P9).

One participant asserted that there is a whole game of power between the competitors (Alpha and Omega), especially about production capacity allocation decisions, showing that the relationships between them are not close in both the commercial and technical contexts. This interviewee also claimed that there is neither commercial sharing nor affinity, and that the relationships between parent companies are rather superficial, but always respectful (P2).

In the view of the interviewees, there is a reservation about information-sharing, mainly due to the competition between the French and Japanese companies, although some say that this does not occur explicitly. The mother companies of the joint venture operate around the world in this same segment of seamless pipe manufacturing for the oil and gas sector, among others. For this reason, although they are partners, they are competitors in the market, in the present venture and in other enterprises (P1, P2, P3, P8, P9, Doc. 3 and Doc. 4). In this case, it is only natural that both companies may be courting the same customer on the market and therefore may have reservations about placing an order to be produced by XYZ (P1).

Sometimes XYZ received quotations for the same end customer, and while this information was protected by confidentiality terms, there was a climate of tension between the joint venture partners. Thus, it is clear that, particularly with regard to market and intellectual property issues, there is little interest in making technical details involving the production of tubes available to XYZ technicians.

The data reveal, therefore, the presence of factors that are related to the motivation of the mother companies to engage in the transfer process, namely: (i) the trust between them, (ii) the risk of knowledge overflows, and (iii) fear that the partner could appropriate this knowledge opportunistically.

4.4 Discussion/analysis

Analysis of the data highlights that the disseminative capability of the sources in the case studied was a critical factor for the knowledge transfer process. This is consistent with the results of Minbaeva and Michailova (2004) and Schulze et al. (2014).

First, in relation to the previous experience of mother companies in the management and formation of joint ventures and knowledge transfer, it was observed that the extensive baggage acquired through accumulated experiences reflected mainly in the initial phases of XYZ, which were positive for the effectiveness of knowledge transfer. These results are entirely consistent with those of Park (2011), who found that know-how, knowledge and experience can improve a company's ability to transfer knowledge and technology to another enterprise. The previous experience of mother companies also leads to higher acquisition and assimilation of new technologies by the joint venture and reduces uncertainties in the local environment (Pak & Park, 2004; Park, 2011).

In addition, it is noted that the transfer of knowledge from sources (mother companies) to the XYZ joint venture was positively affected by the presence and performance of the expatriates throughout the entire process, from the plant's implementation to its full operation. Given their responsibility for ensuring the proper functioning of the processes and facilitating the interaction between the mother companies and the joint venture, the permanence of the expatriate specialists ensured improvement in the performance of the joint venture, as Minbaeva and Michailova (2004) and Fang et al. (2010) also found.

The results also confirm that the main channel through which the mother companies transferred their knowledge, especially their tacit knowledge, was through interaction between expatriates and local staff. The results on the use of these expatriates with XYZ demonstrate that they have contributed actively to the process of transfer of knowledge between mother companies and the joint venture; thus they have been indispensable to the implementation of new practices and/or technologies. Such findings confirm Park and Vertinsky's (2016) own conclusions in this regard.

Accordingly, as the last indicator through which the ability of the source to transfer knowledge to the recipient can be evaluated, the use of social integration mechanisms was observed. It was verified that the mechanisms applied were those traditionally adopted in international joint ventures, and that such functionalities were exploited to obtain relevant information about products, processes, quality improvement, problem-solving and levelling of decisive procedures. Their frequent use, as some authors report, supported the functional activities of the companies and enabled the means for knowledge dissemination (Penna & Castro, 2015) as well as knowledge transfer (Park, 2011).

As to the motivation of the sources to engage in the transfer process, it is noted that in the creation and assembly phase of the new plant, due to strong interest in the success of the venture, both companies made every effort to make available to XYZ all knowledge indispensable to its operation. However, when production started to meet the demands of

the mother companies, the competition between them became fierce. Confidence and trust issues arose; with that, the motivation of the two companies to transfer their knowledge began to diminish. Thus, as the studies of Becerra et al. (2008) revealed, only those who believe it is worth sharing, and who can establish some reliable relationship with the partner, are motivated to share knowledge.

The relationship between partnership and intermittent competition between the parent companies also contributed, to a certain extent, to a reduction in the motivation to transfer knowledge due to the fear of knowledge overflow. These findings are convergent with those of Inkpen (2008) and Park et al. (2015) in this sense.

Finally, the option not to share knowledge or to do so in a measured way may be related to the fact that the mother companies cooperated in the phase of plant construction, but then competed in the phase of operation and manufacture of the tubes. These results are similar to those of Becerra et al. (2008), who also found that the mother companies of a joint venture began to guard against transferring certain knowledge, in the face of the fear that this information would be undesirably appropriate by the partner, also a competitor. These findings, therefore, are consistent with those of Massaro et al. (2017), who claimed that alliance partners might engage in opportunistic behaviour and misuse knowledge for their own interest.

We can also affirm that the construct considered from the literature, that is, the disseminative capability of the source finds empirical support in the case studied, especially with respect to its representativity due to the inefficiency of the capacity of the joint venture technicians to absorb knowledge. Because it was a young enterprise with a low-skilled workforce, it was necessary to increase the efforts of the mother companies to adequately disseminate knowledge, minimising the effects of the low absorptive capacity of local technicians. As in the findings of Park et al. (2015), the active participation of the mother companies in promoting a satisfactory learning environment had positive effects in the process of transference due to the joint capacity of the joint venture to absorb such knowledge.

5. CONCLUSION

It was verified through this research that the ability to transfer knowledge, evaluated through previous collaborative experience, the abilities of the expatriate, and the proper use of the social integration mechanisms, was efficiently exploited by the mother companies; further, the motivation to transfer knowledge – although it has not been evidenced in a linear and continuous way during the research process – was present in at least some phases.

However, it was found that without an efficient disseminative capability of the sources it would be difficult, if not impossible, to complete the transfer process. In this sense, the disseminative capability prominence of the sources in the research process was confirmed, and the adequate exploitation of this capacity was the main course used to achieve satisfactory results in terms of knowledge transfer.

One of the theoretical contributions of this research is to attest that international joint ventures are largely dependent on the knowledge provided by mother companies, especially during the early stages, and that the ability of these mother companies to transfer knowledge is crucial for the success of the transfer process.

From an empirical point of view, the results presented in this paper can help managers working in organisational arrangements, such as joint ventures, as well as mother companies, to better understand the main factors influencing knowledge transfer in multicultural

environments. They also highlight the need for a plan that contemplates objectives related to the development of disseminative capabilities and knowledge absorption.

Despite the theoretical and empirical contributions, this research also presents some limitations. Difficulties faced in accessing the inner workings of the joint venture, imposed by strict visiting control, as well as lack of permission to divulge the names of the enterprises involved and their exact geographical location, also placed some constraints on the collection of relevant data.

With these issues in mind, an approach that could leverage future research might be to conduct a more focused investigation, examining the role of disseminative and absorptive capabilities. These could be analysed at the same time, thus shedding more light on the process of cross-border knowledge transfer.

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