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Influence of Business Intelligence on the engagement of customers through social media management: An analysis of the four-and five-star hotels in the Algarve



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Mestrado em Direção e Gestão Hoteleira

Trabalho efetuado sob a orientação da Professora Doutora Marisol de Brito

Correia e do Professor Doutor Nelson de Matos



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Influence of Business Intelligence on the engagement of customers through social media management: An analysis of the four-and five-star hotels in the Algarve

Declaração de autoria do trabalho

Declaro ser a autora deste trabalho, que é original e inédito. Autores e trabalhos consultados estão devidamente citados no texto e constam da listagem de referências incluída.

Carolina Patrício Gomes

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I would like to dedicate this project to my sister Rita Gomes, who never gave up on me and believed I would be capable to conclude my master and develop my thesis. She made this journey possible without knowing it. Thank you.

To my mum, no words would ever be enough to demonstrate how grateful I am for what she helped me to achieve. Thank you.

To my mentors, Marisol Correia and Nelson de Matos, that pushed me to the limit, taught that enough is never enough, and that our goal should always be boundaryless. A big thank you.

Resumo

Objetivos: O propósito deste estudo é verificar se o conteúdo gerado pelos utilizadores nas plataformas de “social media” é recolhido e analisado com o objetivo de melhorar o “engagement” através das mesmas. Para isso, a presente investigação pretende: a) realizar uma revisão de literatura sobre “*business intelligence (BI)*” e “*social media (SM)*”; b) explorar de que forma os hotéis de quatro-e-cinco estrelas do Algarve utilizam técnicas de *business intelligence analytics* para construir *engagement* com o cliente através das plataformas de social media. A presente revisão de literatura analisa jornais de referência em inglês e português, publicados mundialmente e que contém as palavras-chave em análise: “*business intelligence*” e “*social media*”.

Metodologia: A metodologia aplicada ao presente trabalho está dividida em dois momentos: no primeiro momento foi efetuada uma revisão de literatura às 114 publicações que continham os seguintes critérios: palavras-chave, tipo de publicação, ano e relevância do estudo em causa; num momento posterior, a uma amostra de 20 hotéis de quatro-e-cinco estrelas foi efetuada uma entrevista aos gestores das unidades, a qual teve a duração de cerca de 30 minutos.

Resultados: Após uma análise aos 114 artigos iniciais e a uma seleção criteriosa, a revisão de literatura envolveu apenas 35 publicações sobre as palavras-chave em estudo, as quais, enriqueceram o conhecimento dos investigadores acerca do uso de ferramentas *business intelligence* e *social media management* no âmbito do sector hoteleiro. Em linha com a análise teórica, e de forma a apurar qual o grau de desenvolvimento tecnológico nesta área, foram efetuadas entrevistas com duração de meia hora com cerca de vinte e sete questões. A análise às respostas dos inquiridos demonstrou que o uso de ferramentas de *business intelligence* é pouco ou nada utilizado no que toca à análise de dados do *social media*. As principais razões apontadas para um baixo uso e aplicação deste sistema, na forma como se mede o nível de “engagement” do cliente, são a falta de recursos humanos especializada e o baixo orçamento que existe direcionado para questões desta natureza. Os resultados obtidos contribuirão para alertar o quão pouco desenvolvido se encontra o sector do turismo e hoteleiro no que respeita ao uso *business intelligence*.

Implicações: Os resultados obtidos contribuirão para aumentar a literatura que já existe e, também, aumentar a investigação que existe acerca de *business intelligence*, *social media* e sistemas informáticos. Irá medir o desenvolvimento e implementação de novas tecnologias nos hotéis de quatro-e-cinco estrelas do Algarve.

Originalidade: A análise sobre a relação entre a influência do *business intelligence* no “*engagement*” dos clientes através do social media nos hotéis de quatro-e-cinco estrelas do algarve é um trabalho pioneiro.

Palavras-chave: Business Intelligence, Social Media, Hospitality.

Abstract

Purpose: The purpose of this study is to verify if user-generated content previously collected can be used to improve customer engagement through social media. Therefore, the research seeks to: a) to perform a systematic review of the literature on business intelligence and social media; b) explore how four- and five-star hotels at the Algarve use business intelligence analytics methods to engage customers in the social media channels. The systematic literature review analyses refereed journals in English and Portuguese, published worldwide and containing the keywords: “business intelligence” and “social media”.

Methodology: The methodology applied in this work is divided into two stages: on a first moment a literature review analysis was applied through the screening of 114 articles which were excluded or included based on their keywords, type of publication, year and the relevance of the study; on a second moment a 30 minute interview was carried out with managers of 20 hotels in the Algarve on the attempt to conclude whether they were aware or not about the importance of the keywords under analysis.

Findings: The authors started with a sample of 114 and after the screening they ended with 35. The analysis of 35 publications provided a wider information about the use of business intelligence, social media management and hospitality. Similarly, the analysis of a 27-question questionnaire demonstrated that the use of a business intelligence system applied to social media platforms to measure engagement was very low and the main reasons to explain this were the lack of specialized human resources and a non-existing budget to this topic. The results obtained will contribute to extent the existing literature and will raise a flag about how undeveloped the hospitality & tourism sector on information systems.

Implications: Findings of this topic will contribute to the existing literature and will extend the research on the hospitality sector about business intelligence, social media and IT. It will measure the development and implementation of new technologies among four-and five-star hotels in the Algarve.

Originality: This is a pioneering work in analyzing the relationship between the influence of business intelligence on the engagement of customers through social media management of the four-and five-star hotels in the Algarve.

Keywords: Business Intelligence, Social Media, Hospitality.

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1. General Introduction

As defined by UNWTO, a Tourism Product is "a combination of tangible and intangible elements, such as natural, cultural and man-made resources, attractions, facilities, services and activities around a specific center of interest which represents the core of the destination marketing mix and creates an overall visitor experience including emotional aspects for the potential customers. A tourism product is priced and sold through distribution channels, and it has a life cycle (UNWTO, s.d.)". Over the past decades, the fields of tourism, travel, hospitality and leisure have widely recognized the need for a customer-centric approach that primarily values tourists' needs, wants, preferences and requirements as major determinants in travel decisions to enhance both consumer satisfaction and the quality and memorability of the tourist experience (Mariani et al., 2018). The activities that make-up the tourism sector are faced by customers as unique and unforgettable experiences, people want to live them firsthand and share it live. This is only possible due to the evolution of information and communication technologies, which is transforming the way in which goods and services are consumed and also boosts the development of new business models, services and behavior, especially on the tourism field (Bilotta et al., 2020). The boom of social media put individuals online, connected, willing to experience new things, to share them and his usage has become an integral element to the lives of many people across the world.

The large number of communication channels not only influenced customers' choice but also became a challenge for companies to manage all the touchpoints and interactions between the company and the guest (i.e., customer) (Verhoef et al., 2015).

Since the tourism and hospitality sector increasingly create, and unfold, a large volume of data to improve their decision-making processes and co-create value (Mariani, 2019), it is mandatory to invest in more intelligent systems and processes. To respond to the market changes, the tourism and hospitality field must invest on the technical skills of its employees so it can keep the pace of the technological services available on the market. In 2019 tourism was responsible for 10.4% of the total GDP worldwide and, 1 in 10 jobs were in the tourism sector. In Portugal the

tourism represents almost a fifth of the GDP and employs 20% of the Portuguese population. Hotels represent 71% of the Portuguese tourist infrastructure, compound by 814 four-star hotels and 190 five-star hotels, which represents almost 50% of available hotels in Portugal. From that sample, 20% of the four-and-five-star hotels are located in the Algarve, almost half of the touristic structure, with an average occupancy of 65,8% and an average room offer of 102 rooms (Deloitte, 2020). This unstoppable development and innovation, arise the following questions: A) does the four-and-five-star hotels in the Algarve use business intelligence system? B) Is it possible to measure the engagement of customer through social media channels by using business intelligence tools? C) Is social data collected analyzed daily? D) It is possible to confirm that exists a positive relationship between the use of a business intelligence tool and the engagement of customer through social media? To answer these questions, the present investigation aims to investigate the organizational use of social through a business intelligence system and its subsequent impact on the engagement capacity of the four-and-five-star hotels in the Algarve. The present research has been divided in two moments and will be represented by the execution and submission of two scientific papers to a referred academic journal. On a first moment a literature review based on the keywords was carried out to evaluate the importance, the relevance, and the volume of information available to analyze, connect, relate, and conclude something. This stage of the investigation was crucial for a better understanding of the phenomenon in study and to infer if the investigation could reach real conclusions. On a second moment, this study analyses a twenty-seven-question questionnaire about their social media and business intelligence know-how, perspective, and usage. With this technique, the authors intend to conclude if the use of a business intelligence system is a common daily tool to analyze the data that hotels create by interacting with their customers and potential customers and, also, to measure the importance given to this type of analysis. The final paper with the empiric results is titled as *Hospitality managers perspective on business intelligence use and social media. The case study of Algarve* and was submitted to the *Dos Algarves: Tourism, Hospitality & Management Journal* on the 30th of March of 2022.

Also, the paper has been accepted and presented on the XII Postgraduate Conference on Management, Hospitality and Tourism program held on the 09th of July of 2021. All the documents that prove submission, acceptance and Conference Program are included in the appendixes A, B and C and the *Dos Algarves: Tourism, Hospitality & Management Journal* guidelines can be found in Annex 1.

Ultimately, the investigation is structured as follows: firstly, a literature review about business intelligence, social media and hospitality is presented; secondly, the methodology adopted to develop a more accurate study is showed, followed by the presentation of a twenty-seven-question questionnaire; thirdly, the findings by categories were presented explained and, finally, a result discussion was written, and the major conclusions were draw.

2. Chapter 1 - Article 1 – Literature review of Business Intelligence and Social Media

Submitted to the *Dos Algarves: Tourism, Hospitality & Management Journal* (Under revision)

1. Introduction

In 2019 the travel and tourism industry were considered one of the world's largest economic sectors. Tourism accounts for 10.4% of world global GDP and supports around 1 in ten jobs, according to the (World Travel & Tourism council , 2021). In Portugal, the tourism and travel sector represent 17,1% of the total economy (World Travel & Tourism council , 2021). In recent years, the travel and tourism industry has been strongly influenced by some social, cultural, technological, economic, and environmental key factors like globalization, digitalization, and sustainability. The development of this factors was only possible because the world is getting boundaryless and this means that it is easier to travel abroad, people have more access to travel and there is enough information for everyone. The easiness for mobility spreads the awareness of new destinations and experiences, the easy access to this type of information is easily found since internet is seen as a reliable source where people can virtually visit and buy what they are looking for. The use of internet boosted the development of the industry because it brought potential customers and hotels closer. Only in 2019 the number of internet users worldwide stood at 4.13 billion, which means that more than half of the global population is currently connected to the world wide web (Johnson, 2021). And this is only possible due to the web 2.0. The evolution of Web 2.0 and social media enabled internet users to switch from passive readers into content contributors (Choi et al., 2020), contributing to the Era of Social Context. In (Gancho, 2017) Kaplan and Haenlein (2010), two of the most important contributors to the study of this phenomenon, argued that through the ideological and technological foundations of Web 2.0, it was possible to build a group of internet-based applications that enabled the creation and exchange content. In this scope, the hospitality industry has been dramatically transformed and technological developments have motivated the industry to move into new directions, i.e. internet marketing and eMarketing (Chiang, 2020).

2. Methodology

The current investigation emerged from previous studies such (Mirchandani & Gaur, 2019) and (Howells & Ertugan, 2017) The present research was developed through a stand-alone piece which aims to aggregate, interpret, explain, or integrate existing research about a certain theme (Xiao & Watson, 2019). The main purpose of this study was to evaluate the influence of the business intelligence process on the engagement of customers through social media activity in four-and five-star hotels located in the Algarve region. The study seeks to perform a systematic review of the literature on business intelligence and social media and was divided in three stages:

Stage	Steps
1st	Purpose of the literature review; Written protocol formulate; Keywords set;
2nd	Article collection Article screening
3rd	Summary, analysis, synthesis and writing

Table 1 - Stage & Step Procedure

Source: Own elaboration

After defining the purpose of the study an article collection was carried based on the combination of the keywords and managed through a frequent database used by researchers, “Scopus”, which is the largest abstract and citation database of peer-reviewed literature. The research resulted in 114 articles from three different types: journals, conferences, and book chapters. Four excel tables were built to filter the information based on the criteria decided previously. The first would have the raw information from “Scopus” and it was mapped with four elements: In/Out (inclusion or exclusion), year, article type and article name; the second would filter the number of articles by year; the third would categorize them by type, number of the different types of articles and the number of articles; the fourth excel table would show how many articles would be used for the study. To support the analysis an excel function was used for a more accurate output. The outcome covered the period from April 2003 to October 2020 and two options of language were defined: English and

Portuguese. The practical screen process used to decide was based on the following criteria: title, keywords and abstract to ensure the quality of useful information. The non-fit criteria requirements lead to the exclusion of 79 publications as well as the explanation for it. The reasons that lead to the exclusion of the 79 publications were that keywords were not mentioned on the article; the type of publication was not “conference” or “journal”, and the investigation did not mention anything that could be used to sustain the current study. Those publications belong to category 3 (articles that cannot be inferred as related), (table 3). Based on the aforementioned only 35 publications were considered valuable: 26 journals and 9 conference publications. Those 35 publications fulfil the requirements of category 1 (articles with at least one keyword and contextualized) and category 2 (articles that can be inferred as related) presented on table 2.

Type of publication	Type/Yes
Journal	26
Conference	9
Total	35

Table 2- Final publication type

Source: Own elaboration

To conclude, on the last stage, the review was written based on the information summarized, analyzed, and synthesized.

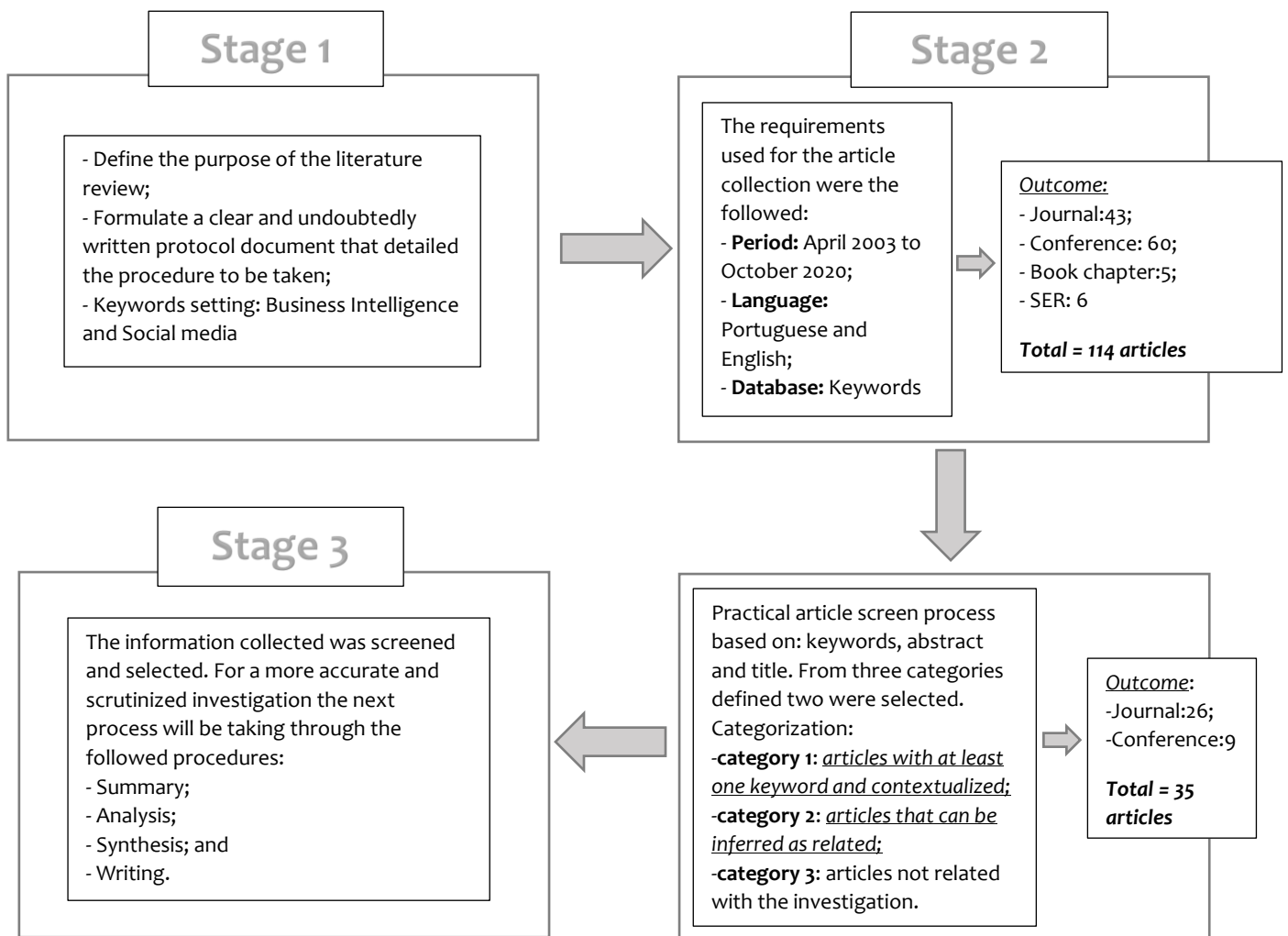


Table 3 -Methodology stages

Source: Own elaboration adapted from (Lak & Rezaeenour, 2018)

3. Findings

3.1 Descriptive findings

Figure 1 compiles the information of the paper publication by year and quantity. Among the 35 publications selected for the study, there were 7 articles that had more expressivity and were consulted more often to sustain the current investigation: 1) Business Intelligence and Big Data in hospitality and tourism: a systematic literature review; 2) Big data and analytics in tourism and hospitality: a perspective article; 3) Social media: A literature review; 4) From Multi-Channel Retailing to Omni-Channel Retailing. Introduction to the Special Issue on Multi-Channel Retailing; 5) Branding social media in the travel industry; 6) Business Intelligence and Analytics in Small and Medium-sized Enterprises: A Systematic Literature Review and 7) Tourism analytics with massive user-generated content: A case study of Barcelona. The beginning of the millennium brought the new Web, the 2.0 version, which turned networked media into a more interactive network environment and brought people to socialize on it instead of only using it as a communication channel (Dijck, 2013) However, not all the industries were familiarized with this phenomenon and the hospitality was one of them. As figure 1 shows, between 2003 and 2014 the combination of the followed words social media, hospitality and business intelligence were not that famous among the scientific community and that means that the level of investigation was low. However, it was from 2015 that the academia started to focus their attention on the relation between the three keywords previous mentioned.

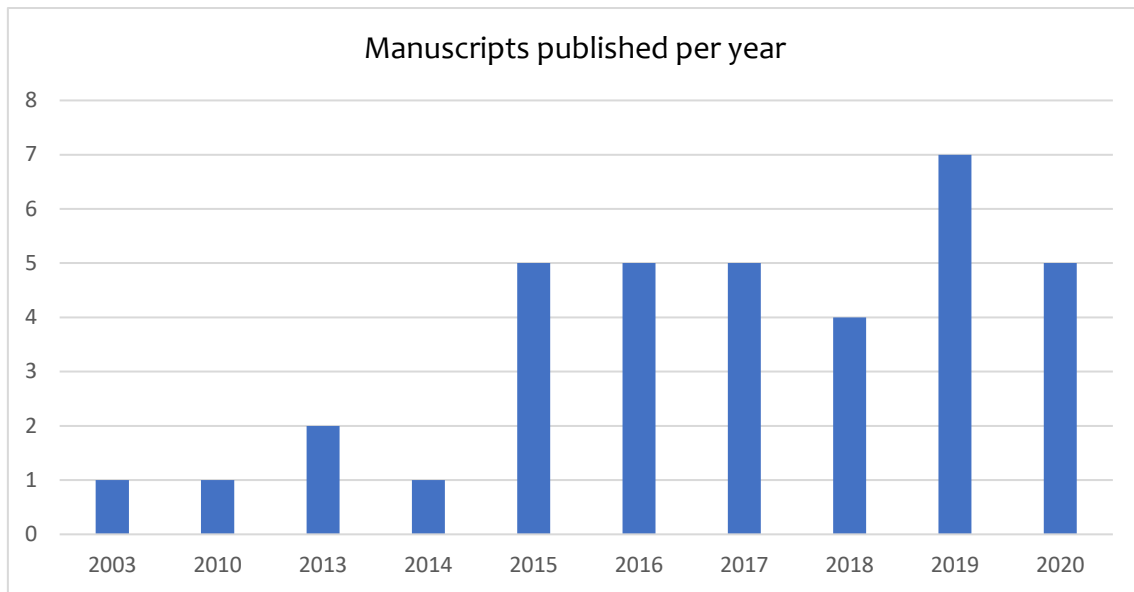


Figure - Number of publications per year

Source: Own elaboration

The participation of each author, in investigations that combine business intelligence, social media and hospitality, was mostly done once, however, there were four authors that participated more than once in studies about the use of social media and business intelligence tools on the hospitality industry. The screening of the articles leads the investigators to 35 publications and the number of authors that participated in the studies doubled because each article had more than one investigator. The table 4 below synthetizes the name of the authors that participated on one or more articles published.

Authors	Nr.
Inman, J. J.	2
Kannan, P. K.	2
Mariani, M.	2
Verhoef, P. C.,	2
Ajah, I. A.,	1
Akula, V	1
Anastasei, I.-D.	1
Anton Clavé, S.	1
Baggio, R.,	1
Barreda, A. A.	1
Bataweel, D. S.	1

Authors	Nr.
Bell, D.,	1
Bilgihan, A.,	1
Brochado, A.	1
Cai, Z.	1
Chan, H. K.,	1
Chang, B.-J.	1
Christou, E.	1
Csikósová, A.	1
Das, S. R.	1
Del Ser, J.	1
Fotache, D.	1
Fuchs, M.	1
Gancho, S. P. M.	1
Gaur, B.	1
Gil-Lopez, S.	1
Girsang, A. S.	1
Goswami, A.	1
Hadhoud, R.,	1
He, W., Wang, F.-K.,	1
Hellsten, P.,	1
Hodge, S. K.	1
Höepken, W	1
Honeycutt, E. D.,	1
Hou, Q., Han, M.,	1
Janošková, M.	1
Joseph, S.,	1
Kelkar, B	1
Koronios, A.	1
Kulkarni, A. V,	1
Lacka, E.,	1
Liang, T.-P.,	1
Liu, Y.-H.	1
Llave, M. R.	1
Lund, B. D.	1
Magnini, V. P.,	1
Marine-Roig, E.,	1
Mavi, R. K.,	1
Mirchandani, A.	1
Myllärniemi, J.	1
Nusair, K.	1
Nweke, H. F.	1
Okumus, F.	1

Authors	Nr.
Păvăloaia, V.-D.,	1
Pavlik, T.	1
Pranjić, G.,	1
Ram, J., Zhang, C.,	1
Raman, R.,	1
Rekettye, G	1
Riso, E.,	1
Rodrigues, J. P.,	1
Salameh, W. A	1
Saravanan, K.	1
Shirzad, S. R.	1
Sigala, M.	1
Sousa, M. J.,	1
Standing, C.	1
Subhamathi, V	1
Torre-Bastida, A. I.,	1
Vijayakumar Bharathi, S.,	1
Villar-Rodriguez, E.,	1
Wang, X.,	1
Williams, S.	1
Želinská, Z.	1
Zhang, M.	1
Žvandová, S.	1

Table 4 - Authors participation

Source: Own elaboration

For a better understanding of the participation of each author and their own evolution about the themes through time, the investigators decided to use a software called VOSviewer. This software is a tool for constructing and visualizing bibliometric networks. These networks may include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations. The software also offers text mining functionality that can be used to construct and visualize co-occurrence networks of important terms extracted from a body of scientific literature. The investigators decided to use this software for a wider overview of the participation of the authors and their evolution through time. Figure 2 and figure 3 are examples of the output of the software. The assumptions used to build the maps were the same, but the results

extracted differed based on the researchers needs. As so, based on the authors name, journal, co-citation, co-authorship, and date it was possible to conclude that the participants were either authors or co-authors on a journal/publication investigated.

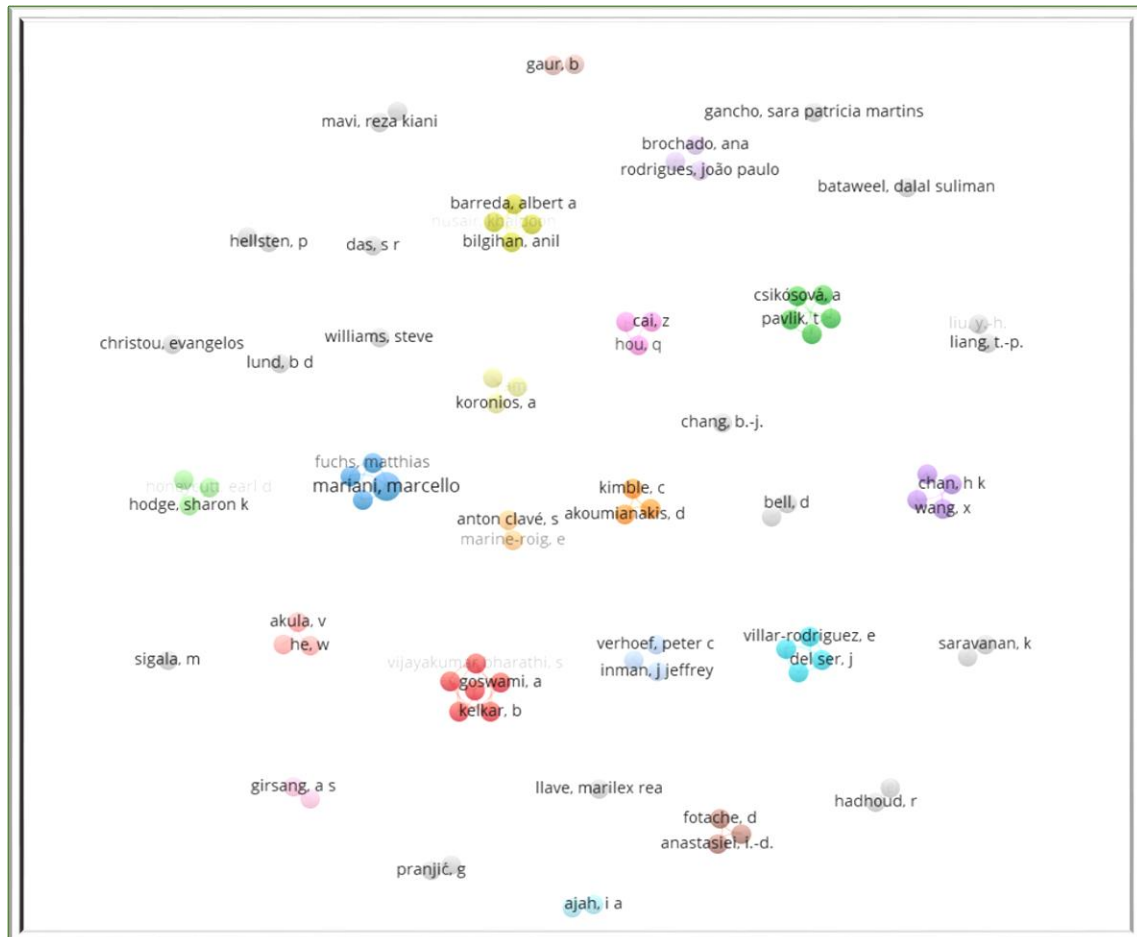


Figure 1 - Authors and Co-authors

Source: Own elaboration using VOSviewer v.1.6

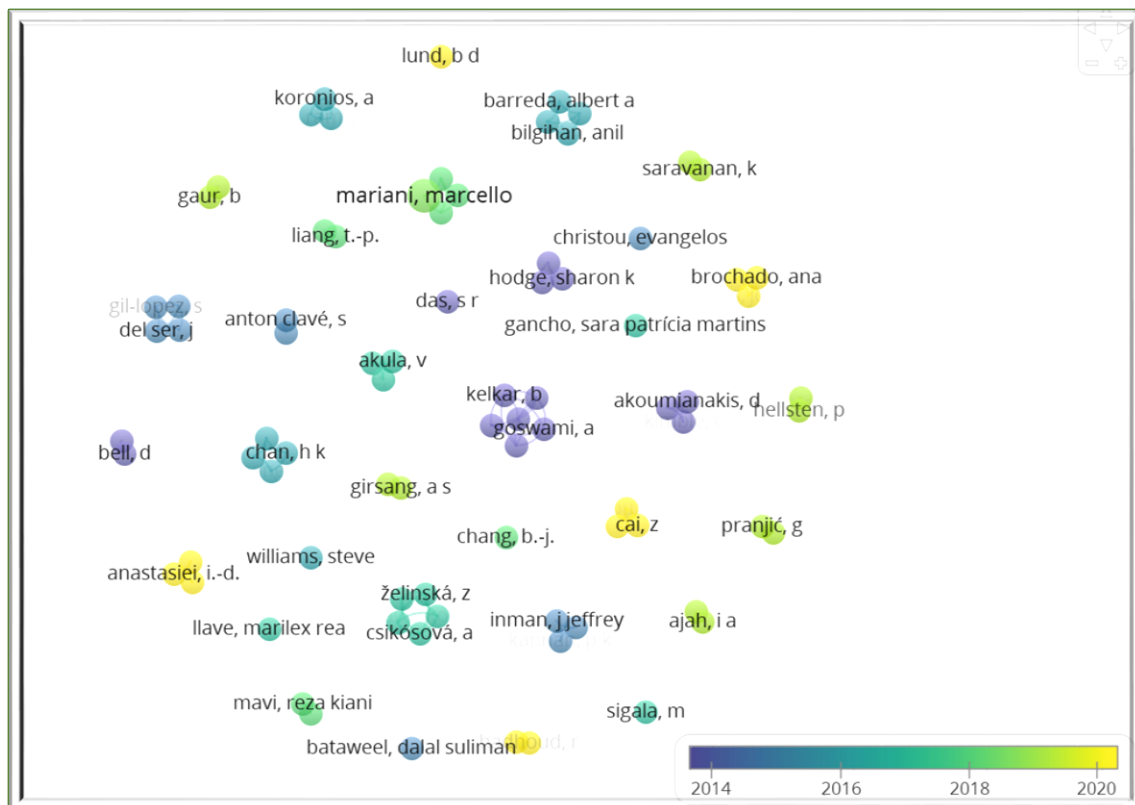


Figure 2 - Authors and Co-authors and their evolution over time

Source: Own elaboration using VOSviewer v.1.6

After analyzing the authors and co-authors participation and their behavior, a summarized table with the main details, name and quantity, of the publications, was build and presented on table 5. The purpose of compiling the information in one table was to present a clearer view of the main sources of information that sustain the investigation and were the base to build the project.

Journal	Nr.
International Journal of Business Intelligence Research	2
17th International Multidisciplinary Scientific Geoconference, SGEM 2017	1
Business Intelligence Strategy and Big Data Analytics: a General Management Perspective	1
Expert Systems with Applications	1
International Journal of Sociotechnology and Knowledge Development	1
Journal of Destination Marketing and Management	1
Journal of Enterprise Information Management	1
Journal of Internet Technology	1
11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, IC3K 2019	1
4th International Conference on Recent Trends in Computer Science and Engineering, ICRTCSE 2016	1
Advances in social media for Travel, Tourism and Hospitality: New Perspectives, Practice and Cases	1
Big Data and Cognitive Computing	1
Big Data Mining and Analytics	1
Branding Social Media in the Travel Industry	1
Cornell Hotel and Restaurant Administration Quarterly	1
E-Revista LOGO	1
IEEE Intelligent Systems	1
International Journal of Business Performance Management	1
International Journal of Contemporary Hospitality Management	1
International Journal of Engineering and Technology	1
Journal of Content, Community and Communication	1
Journal of Knowledge Management	1
Journal of Retailing	1
Journal of Universal Computer Science	1
Knowledge Management Research and Practice	1
Procedia Computer Science	1
Production and Operations Management	1
ProQuest Dissertations and Theses, M.S.	1
Public Services Quarterly	1
Symmetry	1
Technology and Engineering Systems	1
Test Engineering and Management	1
Tourism Management	1
Tourism Review	1

Table 5 - Publications name and number

Source: Own elaboration

3.2 Theories

The use of information systems to support decision making processes has been a goal since the introduction of computer technology into business and its introduction quickly disseminated into the market (Hawking et al., 2005). The term business intelligence was firstly used by Richard Millar Devens on his book *Cyclopedia of Commercial and Business Anecdotes* published in 1868. The author used the term to describe the profitability of a banker on how he behaved about receiving and acting upon information prior to his competitors (Devens, 1868). Despite this remarkable first use of the concept, the potential of business intelligence was only analyzed almost one hundred years after (1958), when Hans Pete Luhn, a IBM scientist, wrote an article titled “*A Business Intelligence System*” where he described the autonomy of a system capable of admitting new information, its dissemination, storage, retrieval and transmittal to the action points it serves in a easily and quickly way (Liang & Liu, 2018).

It was in the late 80’s that the term business intelligence thrived by the thought of Howard J. Dresner who suggested that business intelligence “*is an umbrella term to describe the concepts and methods to improve business decision making by using the fact-based support systems.*” (Mariani et al., 2018, p.3517).

Many different definitions for business intelligence exist and are often based on fundamentals gained from previous research, however the popularity of this tool is on how data is turned into knowledge, to be used for decision making activities.

Even assuming different perspectives and definitions through all these years, the concept has converged to the same output: to support and improve the decision-making process regardless the level of expertise from the user information system side.

As described above, and chronologically organized, business intelligence offer historical, current and predictive views of business processes (Mariani, 2019), embracing typical functions such as reporting, online analytical process, data mining, analytics, benchmarking and prescriptive analytics (Williams, 2016), (Mariani et al.,

2018). This cycle of collecting, compiling, organizing, and analyzing raw data transforming into readable information allows the company to decide more wisely and to define more advantaged strategies within their market competition.

Business intelligence systems are implemented to develop a positive impact on the organizational performance with the purpose of solving problems, increasing efficiency and reducing labor costs portrayed by the real-time decision making process (Bataweel, 2015). The screening of the articles and the analysis of it allowed the authors to collect the most repeated words through all the theories presented and realized it was transversal independently of the nature and context of the article/theory. The figure 4 shows the transversal words used by the authors of the 35 articles to sustain their theories. The figure itself was build based on the words and the number of times used. The circle close (the bigger it is, the more use had it) to the word, and the size of the letters (the bigger it is, the more use had it and vice-versa), indicates the volume of the use of which word. This interpretation means that words like 1) *analytic*, 2) *customer*, 3) *relationship*, 4) *product* and 5) *impact* are the ones used more often.

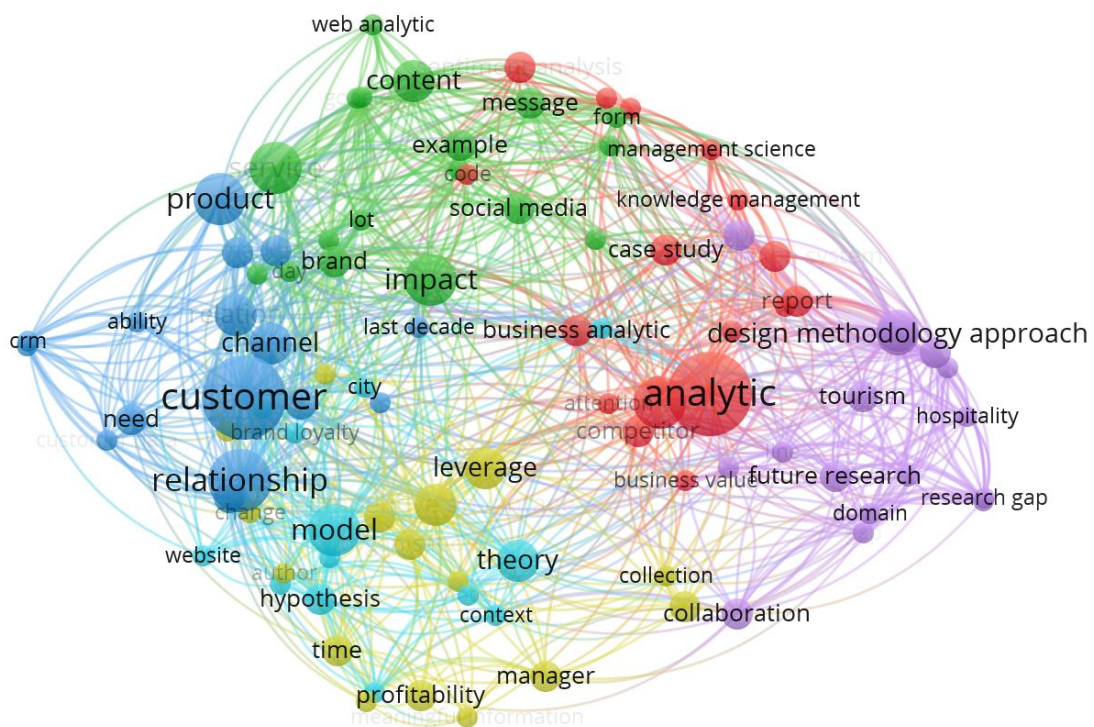


Figure 3 - Network visualization of the most recurrent term co-occurrence map

Source: Own elaboration using VOSviewer v.1.6

3.2.1. Analytics

Big data emerged for business with the development of social media and weblogs. According to (Mirzaalian & Halpenny, 2019), the use of analytics is mandatory due to the large volume of data social media platforms creates. The analytics purpose is to examine large amounts of available data on social media platforms through advanced analytical techniques. In compliance with this definition, (Ajah & Nweke, 2019) studied which impact could business analytics have on the decision making process of a company when integrating, through a business intelligence system, data in the operational field. In fact, data analytics is a process that includes collecting, preparing processing, analyzing, and visualizing the data to produce actionable insights.

3.2.2. Customer

The customer must be seen as the “driver” the one that leads the company strategy and sets the needs (Verhoef et al., 2015). Their behaviour and buying choices effect on how companies’ sale their products and, consequently, and on how they are making decisions about their operation. The customer touchpoints are considered important since the output of that relation can benefit both sides. Also, by collecting the right information and use analytics, companies have the opportunity to cluster and segment their customers, which means that it their offer will be more targeting and segmented (Ajah & Nweke, 2019). Also, a company capable of monitor, analyse and measure customer response is able for a better marketing allocation and, consequently a wiser decision (Hadhoud & Salameh, 2020).

3.2.3. Relationship

The relationship is the bond between the customer and the company, is what they represent for each other. The relationship is created based on the understanding of the customer needs and the company response (Hadhoud & Salameh, 2020). The possession of valuable information about their customer will create a longer and profitable relationship and will build a long-term relationship. The impact that social media has on information dissemination is unmeasurable and is considered by many an innovative mean of customer engagement (Hou et al., 2020) and that is why the influence of social media cannot be underestimated and should be seen as a valuable input.

3.2.4. Product

In the lodging industry the product is not tangible, customers cannot touch. However, the internet had revolutionized this perspective by having available all the information customers' needs about a specific product (service). Since it is not possible to physically experience a product it is crucial that communication channel is developed enough to influence the customer perception (Barreda et al., 2016). It is also important to have in mind that relationship between the customer and the company influences, through the analytics, the process of launching/creating new products (Gancho, 2017). More and more the customer is a co-creator of the product/service by communicating their ideas through social media channels. Customer get engaged as an external driving force for a product or service development in collaboration with the company (Chuang, 2020).

3.2.5. Impact

It is possible to point out at least two levels where business intelligence must have an impact on: a) develop an internal strategy to enlarge the performance of the company and his own business processes; b) build up an external strategy to be one step forward of their sector competitors (Mavi & Standing, 2018). According to Llave (2017) a successful implementation of business intelligence will result in upgrade the operational efficiency, reduce doubting and delays in analysis, detect the failures cause; promote better communication and strategies; decrease costs and enrich jobs.

It is also worth of mention that, the words more used on the studies (figure 4) are also the ones that suffered the highest evolution/research between 2016 and 2019. The same figure was used but a different output was extract. On figure 4, it was possible to visualize the volume of each word through the different theories, from different authors on different publications. On figure 5, the map shows the evolution of each word between 2016 and 2019. Both figures were built under the same assumptions, and both had a different purpose, however they converged to a curious conclusion: the words more mentioned on the authors' theories were also the ones that suffered the biggest evolution. It is possible to infer that the academia realized the importance of the words mentioned and for three years, the academia invested

time on studying those subjects. Although not so evident in the overlay visualization map, a recent topic focus of attention by the academic community is hospitality and social media.

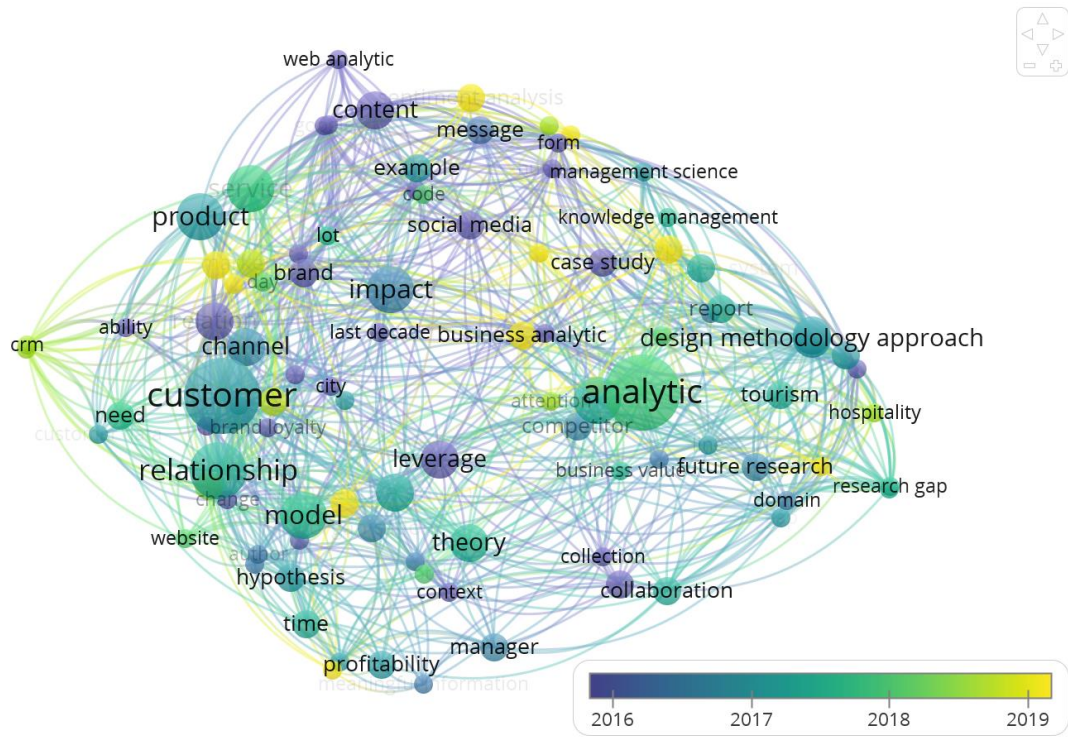


Figure 4- Overlay visualization of the most recurrent term co-occurrence map

Source: Own elaboration using Vosviewer v.1.6

3.2.6. Social Media

The evolution of social media and its definition through time is very important since it can justify the way companies act online and what is the impact on consumers. The invention of the World Wide Web in 1991 turned possible to connect the hypertext technology to the internet forming a new way of communication in which blogs, list-servers and emails contributed to develop online communities. Before the turn of the millennium the networked media was considered a generic service where people could join groups or build new ones but not automatically connect unknown participants. With the new millennium came the new Web, the 2.0 version, which turned networked media into a more interactive network environment and brought

people to socialize on it instead of only using it as a communication channel (Dijck, 2013). The evolution of social media shows how fast and demanding it is to keep up with the advance of this phenomenon. In 1995 it was a way to connect people with each other through online groups; in 2007 turns into social networks which demands webpages to present their social domain in 2009; quickly in 2010 obligates them to deliver useful content to the user (Gancho, 2017) and by 2013 onward companies began the Social e-commerce era where online groups replace brands (Gancho, 2017). The evolution of Web 2.0 and social media enabled internet users to transform passive readers into content contributors user generated content (Studies, 2019). There are many definitions of social media as users of this technology, however the main idea remains equal: the fastest way of connection between consumers and companies ever seen before. The phenomenon is leading social media into the new identity system of the web, it is changing the way companies manage their brand, and people manage their own personal online brand/persona. Henry Jenkins (2006) in (Gancho, 2017) defended that social media was built between the combination of a convergence culture which combines media convergence, participatory culture and collective intelligence. In (Gancho, 2017), Erik Qualman (2009), three years later, described social media as the era of immediate communication and transparency comparing it to the glasshouse effect believing it is a tool that helps to manage the excess of information and guides you straight to what you are looking for online (Gancho, 2017). Getting into the Era of Social Context, Kaplan, and Haenlein (2010) argued that through the ideological and technological foundations of Web 2.0 it was possible to build a group of internet-based applications that enable the creation and exchange of user generated content. Furthermore social media allows businesses to get in touch with their customers easily which may help to upgrade their offer and consequently increase sales (Dwivedi et al., 2020). By establishing a dialogue with their customers (D Bell & Shirzad, 2013) social media platforms instigate the consumer engagement (Alves & Fernandes, 2013) and boosts the users to share content and spread the word. The combination of social with media suggests that platforms are more user-centered and facilitate common activities emphasizing human collaboration through participation. Surely, social media can be seen as a human network enhancer or online facilitator where webs of people consider

connectedness as a social value and individuals, ideas, values and tastes dissipate through human networks that also affect what individuals do and think (Dijck, 2013). Unlike other forms of media, a social media-based strategy brought the opportunity to create long-term relationships with their travelers and fosters a unique reciprocal communication. The strength of social media brands in the travel and tourism industry is very important due to its power to create a link between customers and the travel firms which may contribute to the development of a certain degree of loyalty (or not) (Christou, 2015). The interest in the concept of brand loyalty has arisen among marketers in travel and tourism because it represents the measure of attachment that a customer has to a certain brand.

3.2.7. Hospitality

The hospitality industry is known for being a non-active technology investor; however, it is possible to assist a different approach, for the last two decades, when it comes to information systems implementation. The use of business intelligence is only powerful if users maximize the output of the system since it is capable of transforming large and complex raw data, Big Data, into meaningful and readable information. His potential remains on the ability of use the extracted structured and unstructured data to improve organizational performance by identifying new opportunities, highlighting potential threats, revealing new business insights, and enhancing decision making processes.

Facing the big data era, the hospitality industry has adopted computerized processes and implemented artificial systems to synthetize their KPI's and better analyze the information provided (Mariani et al., 2018). Not only due to the advance of technology but rather to the competitive environment in which hotels operate it is mandatory to use the information wisely to improve their performance (Barreda et al., 2016). Investigations on the performance of hotels that implement analytical tools proof that his use leads the decision makers to wiser, more accurate and quicker decisions (Rodrigues et al., 2020). Already in the beginning of the century (Magnini et al., 2003) defended that technology framework, business intelligence and data mining are a valuable competitive tool adopted by hotel corporations to create customer value and where organizations could learn and acquire knowledge from

business intelligence methods. Unlike Yun (2004) in (Hallin & Marnburg, 2008), who argued that this industry takes too long to adapt to business intelligence strategies. Yun (2004) was not wrong at all. In fact, to take advantage of business intelligence, companies cannot focus only in implementing a system, investing in information systems and waiting for the machine to work by itself, it is mandatory to supplement human skills sets with technology so employees can have the opportunity to pay more attention to more complex issues and responsibilities (Nilsson, 1997).

Most tourism firms that implemented business intelligence to improve their efficiency and competitiveness achieved better results (Mariani et al., 2018). It is easily concluded that those who adopt business intelligence tend to be more competitive than those without a business intelligence system (Nyanga et al., 2019). In the lodging sector the internet is considered an important distribution channel that it also offers different opportunities that help brands to build their presence online (Barreda et al., 2016). One of the benefits of using internet is the possibility of extracting useful insight customer information from the organization's/brand's website, in the travel and tourism industry (Barreda et al., 2016). The difference between the value that the internet can offer, and the conventional media value is about the possibility to communicate with consumers (Barreda et al., 2016).

On the hospitality sphere this kind of strategy allows the hotel practitioners to adjust their position aiming to adapt to the specific travelers needs and likes (Barreda et al., 2016). Already in 2010, Russel (2010) in (Gulbahar & Yildirim, 2015) in an exploratory study of different perspectives of social media marketing, expressed social media as a free marketing tool and said that if its use is done effectively it could benefit the hotel and be returnable (Gulbahar & Yildirim, 2015). Currently social media is a place where hotel agents and tourism actors can initiate a conversation with their consumers, promote their brands, draw long-term inspiration strategies and make better decisions (Mirzaalian & Halpenny, 2019). The possibility of communication from everywhere to everyone gave travelers the opportunity to share their opinion about a diverse range of hospitality and tourism products and unconsciously influence the decision process of other potential tourists (Mirzaalian & Halpenny, 2019).

3.3 Methods

The authors identified three types of methods used by the authors and co-authors to develop their studies: quantitative, qualitative, and experimental analysis. The most used was the qualitative one, where twenty authors applied a qualitative method to develop their study; five authors used quantitative techniques, nine where experimental investigations and one author had a mixed method where he applied qualitative and quantitative methods. Table 6 describes which authors applied which method previously mentioned, the year and the keywords studied, which are correlated with the analysis of figure 4 and figure 5.

Authors	Keywords	Year	Method
(Mirzaalian & Halpenny, 2019)	Comparative analysis; Sentiment analysis; Social media analytics; Spatial analysis; Text analytics; Topic modeling; User-generated content	2019	Qualitative
(Liang & Liu, 2018)	Bibliometrics Big Data analytics Business Intelligence Research	2018	Qualitative
(Verhoef et al., 2015).	Omni-channel; Online; Retail performance; Retail-mix	2015	Qualitative
(Ajah & Nweke, 2019)	Big data; business analytics; business intelligence; Hadoop ecosystem; big data tools; review and business value	2019	Qualitative
(Mariani, 2019)	Big Data, Tourism, Hospitality, Big Data analytics, Platinum jubilee	2019	Qualitative
(Gancho, 2017)	Big Data, Tourism, Hospitality, Big Data analytics, Platinum jubilee	2017	Qualitative
(Rodrigues et al., 2020)	Analytics; business analytics; hospitality; hotels; literature review	2020	Qualitative
(Mirchandani & Gaur, 2019)	Business intelligence; Customer's perspective; Metrics; Performance management; Social media analytics; Strategic objectives	2019	Qualitative/ Qualitative
(Hellsten & Myllärniemi, 2019)	Business Intelligence; Business Intelligence Process Model; Decision-Making; Organizational Development	2019	Qualitative
(Alves & Fernandes, 2013)	Social media; marketing; facebook; online; brand; information	2013	Qualitative
(Magnini et al., 2003).	Data mining; hotels	2003	Qualitative
(Pranjić & Rekettye, 2019)		2019	Qualitative

Authors	Keywords	Year	Method
	Big data analytics; BDA; social media marketing; SMM; customer service improvements		
(Lund, 2020)	Data visualization; Twitter; library services; sentiment analysis	2020	Qualitative
(Mirzaalian & Halpenny, 2019)	Comparative analysis; Sentiment analysis; User-generated content Social media analytics	2019	Qualitative
(Mariani et al., 2018)	Big data; Business intelligence; Hospitality; Systematic literature review; Tourism	2018	Qualitative
(Torre-Bastida et al., 2015)	Big data; Business intelligence; Information fusion; Information modeling; Linked open data; Ontology management; Social media	2015	Qualitative
(Williams, 2016)	Business intelligence strategy; big data analytics	2016	Qualitative
(Sigala & Gretzel, 2017)	Social media; knowledge management; business intelligence	2017	Qualitative
(Saravanan & Subhamathi, 2019)	Advanced Analytics; Business analytics; Business intelligence; Data driven decision; Decision making	2019	Qualitative
(Bataweel, 2015)	Business intelligence	2015	Qualitative
(David Bell & Shirzad, 2013)	Business intelligence; Business to business environment; E-marketplace; Relationships management; Social media network	2013	Qualitative
(Hou et al., 2020)	Analysis techniques; Sentiment analysis; Social networking (online); Surveys; business intelligence; network analysis; sentiment analysis; social media	2020	Quantitative
(Christou, 2015)	Branding; social media; trust in social media	2015	Quantitative
(Kulkarni et al., 2013)	Blog content; Blogs; Business intelligence; Social media; User engagement	2013	Quantitative
(Păvăloaia et al., 2020)		2020	Quantitative

Authors	Keywords	Year	Method
	Big data; E-mail marketing campaigns; Social business intelligence; Social media marketing campaigns		
(Ram et al., 2016)	Big Data Analytics; Big data; Business Intelligence; Data analytics; Social media; Social networking (online)	2016	Quantitative
(B.-J. Chang, 2018)	Big data; Business decisions; Business intelligence; Decision making; Social media	2018	Experimental
(Das, 2010)	Business intelligence; Customer information; Social media; User-generated content; Web 2.0	2010	Experimental
(Barreda et al., 2016)	Brand awareness; Brand image; Brand knowledge; Brand value; Online branding; Website interactivity	2016	Experimental
(Riso & Girsang, 2019)	Business Intelligence; Data Warehouse; Sentiment Analysis	2019	Experimental
(Estela Marine-Roig & Anton Clavé, 2015)	Big data; Business intelligence; User-generated content	2015	Experimental
(Mavi & Standing, 2018)	Business intelligence; business intelligence benefits; fuzzy DEMATEL	2018	Experimental
(Llave, 2017)	BI&A adoption; Business intelligence; SMEs; analytics	2017	Experimental
(Milolidakis et al., 2014)	Business intelligence; Facebook pages; Social media; Virtual communities; Virtual excavations	2014	Experimental
(Chan et al., 2016).	Analytics; business intelligence; mixed-method; product innovation; social media	2016	Experimental

Table 6 - Main methods

4. Discussion

The type of data hoteliers are dealing with in our days it is no longer merely text-based but video, images, audio and social media content (Lam et al., 2017). This phenomenon of unstructured and new data types obligates hotels to innovate their strategy and use advanced analytical tools (Raguseo, 2018). Nowadays the internet serves as a dominant channel for information diffusion and social media channels have been massively used by companies to attract and maintain customers (Barreda et al., 2016). Recent studies have flagged out the importance of understanding the customer behavior through different social media channels, the impact of their interactions and how this can be used into the business favor. In the hospitality sector the internet is considered an important distribution channel that also offers different opportunities that help brands to build their presence online (Barreda et al., 2016). The emergence of multiple social media channels is the result of the rapid stride that the information system field has suffered through years which has influenced the way firms communicate and create value with consumers (Kumar et al., 2018). As pointed out by (Enginkaya & Yilmaz, 2014), social media has become a primary source for consumers searching for reliable information, however, this performance it is only possible due to the customer behavior. The online activity is a new type of communication, based on customers reviews and opinions, which is considered a source of information for business intelligence and marketing. The core of tourism and hospitality experiences is based on information and interactions, so the industry must follow the technological market trends (Sigala & Gretzel, 2017).

The turning point of communication between businesses and customers has arrived and businesses have started to understand the potential associated with the use of technology in their strategy. The content, time and frequency of interactions among customers on social media about a product or a service goes beyond managers control and if an organization aims to succeed online, to engage with customers and at the same time being aligned with the organization mission and target, managers must learn how to initiate an online conversation and how to take advantage of consumer involvement and the first step to achieve that is by understanding the customer itself (Riso & Girsang, 2019). The huge quantity of information on the

internet provided by the social media has been the source that allow companies to have privileged access of the experiences, opinions, and feelings of tourism “users” or “customers (Marine-Roig & Anton Clavé, 2015). To study this data, it is necessary to have the right sources, as so, the main ones are consumer review websites, blogs, media-sharing websites, social network, and virtual communities where users can find main interest topics like service quality, destination image and reputation. Users continually provide a huge amount of information on the internet which demands that companies use methods to sort this information and to store it in a way that can be easily accessed and processed. According to (Păvăloaia et al., 2020) this type of data from social media could be used to form a data warehouse and where after it can be used as an object to design a system capable of observing the behavior of customers. Originally the data contains noise and is unstructured which constitutes an obstacle to extract information in real time. The use of data warehouse and business intelligence aims to structure the unstructured data and to clear the noised one for a better understanding for monitoring. The application of business intelligence as a tool to monitor could provide reliable information to make effective decisions as well as helping in evaluating consumer values. Social media has the capacity of providing voluminous, real-time, and customer generated content data with potential value for organizations. It is considered a representative data source for business intelligence research (Choi et al., 2020). By using data warehouse and business intelligence, the data from social media can be proceeded to monitor and understand adoption and sentiment (Riso & Girsang, 2019) business intelligence is considered an emergent discipline from the Decision Support System field which is responsible to provide timely and relevant information to managers in addition to analytical capabilities to assist and improve effective decision making (Hawking et al., 2005). The more information about the customers is known, the more support for decisions can be provided through business intelligence and social media. The diversification of social media tools, devices, and applications available has blossomed the opportunity to collect and process data with the goal of better analyzing human behavior and developing fundamental intelligent market insight. In the tourism field, big data has been featured as the motor of smart tourism and a deep look into social media analytics has been made (Sigala & Gretzel, 2017). The

development of social media is considered a major force reshaping the way that tourism agents communicate about their destinations with the customer and simultaneously the way the tourist itself selects, evaluates, participates and identifies the destination and business (Sigala & Gretzel, 2017).

5. Conclusions and implications

With the beginning of web 2.0 new forms of data collection emerged and that happens due to the customer behavior online (Jayachandran et al., 2005). According to (Wimalachandra et al., 2014), the variety of external data sources helps companies improve their product and in nowadays it is common to extract and collect data from customers using technology (Lendel & Varmus, 2015). The current business environment is extremely competitive and to succeed it is essential to maximize the use of information available to be more market-oriented (Menon & Varadarajan, 1992). Integrating the information is mandatory if companies want to see the full picture of the customer (Harrigan & Miles, 2014). The integration of the information aggregates all the information collected from various sources and from the customer side (Jayachandran et al., 2005). In this case of study the information use is related with the way hoteliers use customer information for their decision-making process, engagement process and their marketing strategy (Harrigan & Miles, 2014).

A business intelligence system has the capacity to use the extracted, structured, and unstructured data to transform it into readable information and improve organizational performance. In addition, business intelligence helps identifying new opportunities, highlighting potential threats, revealing new business insights that help management to make better and enhancing decisions. However, to maximize the use of social media data it is necessary to develop certain tools and implement systems that will allow managers to extract the information they need and after act upon it. Studies like (Choi et al., 2020) showed how important social media is to a business intelligence research because of the high scores of data collection, updatability, and structure. The interaction between the two concepts, *business intelligence* (BI) and *social media* (SM) has gained popularity among investigators like (Păvăloaia et al., 2020) and (Mirchandani & Gaur, 2019) due to benefits that it can bring to individuals and companies through data mining use (Kurnia & Suharjito, 2018). According to (Nyanga et al., 2019), most companies that implemented business intelligence systems on their operations did it with the goal of improve their efficiency and competitiveness, also, as studied by (Bataweel, 2015) the use of a business intelligence system is crucial in the business development process helping

managers making critical decisions based on meaningful information. Investigations on the performance of hotels that implement analytical tools prove that their use leads the decision makers to a wiser, more accurate and quicker decision (Rodrigues et al., 2020). Also, with the help of advancements in the Artificial Intelligence (AI) field and related technologies, the application of independent intelligence in travel and tourism is expected to continue to increase soon (Tussyadiah, 2020). Therefore, our aim is to conclude if, in the Algarve region, the four-and-five-star hotels use business intelligence tools, how often they use it, what is their perception about the system and if the system helps them on the decision-making process.

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3. Chapter 2 – Article 2 – Hospitality managers perspective on Business Intelligence use and Social Media. The case study of Algarve

1. Introduction

The world is connected through a click and a scroll movement, it is always googling what is happening and feels anxious about missing something or not be in the right place on the right time. This behavior is the reflection of the use of social media channels, where everything happens twenty-four hours a day, seven days per week and three hundred and sixty-five days per year. Seen as a place where everything is possible, social media can be seen as a “place” where hotel agents and tourism actors can initiate a conversation with their customers and potential customers and to promote their brands and destinations.

Famous for being a non-active technology investor, this industry, and their players, have recognized the importance, and benefits, of this technology for the last two decades and it has been possible to assist to a different approach since a competitive advantage is tangible when it comes to information systems implementation. Studies like (Chung et al., 2020) and (Mirchandani & Gaur, 2019) support the importance of implementing information systems that are interfaced and work harmoniously for the same purpose. Facing a more automated future, hoteliers must follow the trend by investing in more intelligent systems and processes. Nevertheless, the type of data hoteliers is currently dealing with it is no longer merely text-based but video, images, audio, and social media content (Rodrigues et al., 2020). This phenomenon of unstructured and new data types obligates hotels to innovate their strategy and use advanced analytical tools (Rodrigues et al., 2020). Previous studies like (Öykü Işık, 2010) and (Kurnia & Suharjito, 2018) have showed the importance and the benefits of using a business intelligence system to improve managers strategy and to help them on the decision making process.

2. Methodology

2.1. Data Design

Qualitative description is grounded in the general principles of naturalistic inquiry where is frequently a compilation of sampling, data collection, and data analysis techniques where the researcher studies something in its natural state and does not attempt to manipulate or interfere with the ordinary unfolding of events (Colorafi & Evans, 2016). Studies dealing with social media practices consider interviews as an important research method (Bachmann & Kantorová, 2016). Thus, this study employed such method with the purpose to explore how four- and five-star hotels at the Algarve use data mining and business intelligence analytics methods to engage customers in the social media channels. In addition, the study seeks to assess if hotel managers use business intelligence tools for their daily business decisions, to achieve their business goals and success. Thus, the questionnaire used on the interviews was open-ended and the questions were focused on the hotel's strategy and the importance of client's engagement through social media platforms and the return of the investment of their online activity. The interview script used on the current investigation was adapted from previous studies for example, Harrigan and Miles (2014), Jayachandran et al. (2005), Chuang (2020) and (Öykü Işık, 2010). The semi-structured interview script was divided into eleven sections (table 7) with a total of twenty-seven questions. Section one to four was adapted from (Bachmann & Kantorová, 2016); investigators designed section five based on (Jayachandran et al., 2005); section six to eleven had has source (Chuang, 2020) study and section eleven was build based on (Öykü Işık, 2010). The different sources allow to build a more structured questionnaire. Table 7 shows the basis to build the questionnaire.

Source	Sections
Original Source: Harrigan & Miles, 2014 Other studies: Bachmann & Kantorová, 2016 Adapted from: Anderson (2005)	Section 1. Online Activity Q1. Do you build your online community with your customer? Q2. Do you think that being active on social media is important for your clients? Q3. Do you believe that social media channels are important for the hotel marketing? Q4. Have you ever felt engagement through social media with your client? Q5. Is it possible to measure the interaction between hotel-client? Q6. Does the hotel have anyone responsible for measuring interactions? Q7. Do you believe that the online presence is a way to promote the hotel near your clients? Q8. Is it normal to interact with your clients through social media? Q9. Do you consider the online approach strategic?
Original Source: Harrigan & Miles, 2014 Other studies: Bachmann & Kantorová, 2016 Adapted from: Jayachandran et al. (2005)	Section 2. Information Capture Q1. Customer information collection is a daily process? Q2. Social media is used to collect customer information? Q3. You analyze the information collected from external sources on a daily basis?
Original Source: Harrigan & Miles, 2014 Other studies: Bachmann & Kantorová, 2016 Adapted from: Jayachandran et al. (2005)	Section 3. Information Integration Q1. Is the information integrated from social media channels?
Original Source: Harrigan & Miles, 2014 Other studies: Bachmann & Kantorová, 2016 Adapted from: Jayachandran et al. (2005)	Section 4. Information Use Q1. The use of information is an input to develop customer profiles "personas". Q2. The market segmentation is developed based on customer information? Q3. Do you customize your offer based on previous customer information?
Original Source: (Chuang, 2020) Other studies: (Khanagha et al., 2017) Adapted from: (Chuang & Lin, 2005)	Section 5. Information Acquisition Q1. Does your hotel use social media to conduct market research? Q2. Does your hotel use social media to collect information from customers?
Original Source: (Chuang, 2020) Other studies: (Khanagha et al., 2017) Adapted from: (Chuang & Lin, 2005)	Section 6. Customer Co-Creation Q1. Does the hotel marketing responsible use social media to launch new products/services for his customers?
Original Source: (Chuang, 2020) Other studies: (Akhtar et al., 2018) Adapted from: (Chuang & Lin, 2005)	Section 7. Social media agility - Internal social media agility Q1. Do you think that since you use social media you have a market advantage comparing to your competitors? Regarding services/products
Original Source: (Chuang, 2020) Other studies: (Akhtar et al., 2018) Adapted from: (Chuang & Lin, 2005)	Section 8. External Media Agility Q1. Do you think that the social media use has potential to teach how the hotel must be positioned on the market and simultaneously help you to adapt to market changes?
Original Source: (Chuang, 2020) Other studies: (Yang et al., 2017) Adapted from: (Chuang & Lin, 2005)	Section 9. Strength of customer-firm relationships Q1. Do you think that the use of social media has contributed to develop a stronger trust bond between the hotel and the customer?
Original Source: (Chuang, 2020) Other studies: (Leonard-Barton & Deschamps, 2011) Adapted from: (Chuang & Lin, 2005)	Section 10. Levels of social media use Q1. The sales team uses social media proactively Q2. The sales team recognizes social media
Original Source: (Öykü Isik, 2020) Other studies: (Doll, 1988) Adapted from: (Hartono et al., 2007)	Section 11. Software Usage Q1. Do you use a BI system on your hotel? Q2. Does the BI you are using support your decision? Q3. How friendly it is for you, user, to manage your BI systems?

Table 7 - Questionnaire Script

2.2. Data collection

To comply with this study's purpose, an excel list was extracted from RNET database (Turismo de Portugal, 2020). This database is provided by the Turismo de Portugal institute and his main purpose is to publish reliable information about tourism enterprises and is also his duty to regularly update the information to keep citizens informed about the type of service they are using (Dindha Amelia, 2020). The criteria for selection of the hotel sample was based on the region, NUTS (European Nomenclature of Territorial Units for Statistical Purposes), typology (hotel, apart-hotel or hostels) and classification (four and five stars). The list was comprised by 99 hotels. From those 99 hotels, 77 did not answer the contact, 20 accepted to participate and 2 accepted to participate but did not show up for the interview, which reflects a low participation rate. The invitation was done through LinkedIn, since the list previously mentioned only provided general contacts and a few were general info e-mails. However, since LinkedIn is a public social network, it was easy to identify the people in charge and to get in contact with the hotel managers. Upon acceptance, the hotel managers were invited to participate on a 30-minute interview using the Zoom Meeting platform which is known for his high security standards and easiness for use anywhere (Archibald et al., 2019).

Due to possible Covid restrictions, geographical location, funding for travel and distance, this method became a recurrent and important way of information collection (Gray et al., 2020). The 20 interviews took place between the 16th and 23rd of February of 2022 and were carried out in Portuguese. Based on the interview script (table 7) an individual document in word was prepared by the interviewer so each of the interviewee had his own record with their own data (personal data and answers). During the session the interviewer was responsible for taking the notes of the interviewee answers without interfering on the speech or trying to skew the answer. All the interviewees remain anonymous and are identified by an ID(x) number as shown in table 9.

2.3. Data analysis

The deductive content analysis of the interviews was examined several times by two of the authors to identify main themes (deMatos et al., 2021). No software was used to go through this analysis. The information collected was grouped into categories, because it is what It makes content analysis more reliable and meaningful (Marine-Roig & Anton Clavé, 2015). Therefore, the interview script answers were distributed into 11 categories: [online] Presence, [Data] Collection, interfaced information, development, research, content, competitiveness, market, customer, teams performance, software as table 8 shows.

Categories	Main Topics
Online Activity	Online communities Measuring interaction between hotel and the client Responsibility of measuring interactions Online presence can be used to maximize hotel promotions Social media interaction is a daily practice Client Importance Marketing hotel importance Engagement Online strategic approach
Information capture	Information collection is a daily process Social media as information collector Daily basis analysis of the data collected
Information acquirement	Market research is done through social media channels Data collection from social media
Information Integration	Social media information uploaded internally
Information Use	Personas created based on social media information Customer information is a key factor for the segmentation Customize offer based on previous customer information
Content Creation	Using social media to launch service/products
Software Use	The use of BI system Decision making support Friendly software usage
Internal social media agility	Competitive set advantage with the use of social media
External social media agility	Market trends & follow-up
Levels of social media use	Sales & Marketing use proactively Sales & Marketing recognize the importance of social media
Customer Relationship	Strengthened bonds between hotel and client

Table 8 - Category analysis

The data from the interview was text-based and was converted to excel spreadsheet for a more accurate content analysis, i.e., segmenting and organizing the answers per question and hotel classification. The interviewee answers were reviewed and coded by two authors and an inter-reliability of 77% was reached.

3. Findings

3.1. Descriptive analysis of the participants

On a 20-hotel sample, 13 were five-star and 7 were four-star, the more frequent interviewee role was Marketing Director. Table 9 compiles the characteristics of the sample by hotel classification, position of the interviewed and company size.

Hotel ID(x)	Interviewee Position	Company Size
ID(1)	Director of Marketing	Medium
ID(2)	Director of Marketing	Medium
ID(3)	Director of Sales & Marketing	Multinational
ID(4)	Director of Operations	Medium
ID(5)	Director of Operations	Medium
ID(6)	General Manager	Small
ID(7)	Director of Sales & Marketing	Multinational
ID(8)	Director of Sales & Marketing	Multinational
ID(9)	Director of Sales & Marketing	Multinational
ID(10)	Director of Marketing	Multinational
ID(11)	Sales & Marketing Manager	Medium
ID(12)	Sales & Marketing Manager	Medium
ID(13)	Sales & Marketing Manager	Medium
ID(14)	Marketing Manager	Multinational
ID(15)	Assistant Director	Small
ID(16)	PR & Communication Manager	Medium
ID(17)	Social Media Manager	Medium
ID(18)	Revenue Manager	Small
ID(19)	Revenue Manager	Small
ID(20)	Revenue Manager	Small

Table 9 - Interviewee data

Source: Own elaboration

3.2. Deductive Content analysis

Based on the researchers' interpretations and assumptions, sub-categories were created, and results were presented by frequency (Table 10).

Categories	Sub-categories	Main Topics	Frequency
Online Activity	Presence	Online communities	9
		Measuring interaction between hotel and the client	17
		Responsability of measuring interactions	15
		Online presence can be used to maximize hotel promotions	18
		Social media interaction is a daily practice	20
		Client Importance	20
		Marketing hotel importance	20
		Engagement	20
		Online strategic approach	19
Information capture	Collection	Information collection is a daily process	6
		Social media as information collector	13
		Dailybasis analysis of the data collected	1
Information acquirement	Research	Market research is done through social media channels	7
		Data collection from social media	4
Information Integration	Interfaced Information	Social media information uploaded internally	8
Information Use	Development	Personas created based on social media information	7
		Customer information is a key factor for the segmentation	12
		Customize offer based on previous customer information	20
Content Creation	Content	Using social media to launch service/products	16
Software Use	Software	The use of BI system	9
		Decision making support	11
		Friendly software usage	10
Internal social media agility	Competitiveness	Competitive set advantage with the use of social media	17
External social media agility	Market	Market trends & follow-up	16
Levels of social media use	Teams Performance	Sales & Marketing use proactively	19
		Sales & Marketing recognize the importance of social media	19
Customer Relationship	Customer	Strenght bonds between hotel and client	19

Table 10 - Deductive content analysis -Categories and subcategories

Source: Own elaboration

3.2.1. Online Activity Presence

The hotel position regarding the use of social media channels showed that hoteliers are aware of the importance of this communication channel and when it comes to build and maintain customer relationship it is taking into consideration this type of channel. Consider by many as one of the most important mean of communication, evidence showed that not all the interviewees had the same overview, awareness, and confidence in incorporating the social media information on their daily basis analysis. Online communication is the contemporary trend, where clients and companies get together and it is almost possible to express feelings through online interactions (Bachmann & Kantorová, 2016). The first question of questionnaire relies on whether hotels create online communities with their clients. On a 20-hotel sample, nine answered “yes” (45%) and eleven (55%) answered “no”, from those who answer “yes” six (46%) were five-star hotels and three (43%) were four-star hotels, the ones

that answer “no”, seven (54%) were five-star hotels and four (57%) were four-star hotels. On the second, third and fourth question all the interviewee agreed that being active on social media is important for their clients, the marketing through social media helps to be closer from clients and felt engagement with their clients through social media channels. When it takes to measure the interaction 85% said it is possible to do it and 15% said that does not have that capacity. 75% had someone responsible to measure this interaction because they recognize the importance of analyzing this numbers, 20% do not have anyone responsible for this and 5% use outsourcing to complete this task. The hotel online promotion was recognized by eighteen hotels (90%), and there were two that argued that it is important, but it is not the only way. The interactions between hotel-client were a daily practice and the hoteliers recognized the importance of feedbacks, answers, reviews, reposts, posts and their presence so they are present on their clients feeds and, consequently, minds and desires. The online approach is seen by many as strategic, but it also can become dangerous if it is not aligned with the goal hotels want to achieve. The results showed that hoteliers believe in this approach and incorporate this strategy on their action plan, one of the interviewees faces the approach “more than strategic it’s essential”. As so, 95% of the interviewees believe in the social media channels strategy.

3.2.2. e-Collection

This category aimed to measure, whether companies maximize the use of the organic data that it is available on social media channels. To accomplish this goal, hoteliers were asked if the data collection was a daily basis process, if social media channels were used to collect information and if the analysis of the data was also made on a daily basis. The collection of the data is made on a daily basis by six hotels, which means that only 30% of the properties were doing it, unlike the other nine properties (45%), that were not collecting daily and did not mention the frequency of the collection. Three properties informed that the collection of the data was made weekly, and two hotels did not collect any data at all. When asked about the use of social media channels to collect the data from their customers all the interviewed mention that the data collected was only the public/organic information that it was under the GDPR. Nevertheless, more than 60% answered “yes” about collecting

customer data from social media. Three hotels do not analyze the data from social media at all, one hotel analyzes the data collected daily, two hotels each fifteen days, one hotel on each semester, five hotels monthly, four hotels weekly and one hotel uses outsourcing to analyze the data extracted. Three hotels were not extracting and not using social media for data collection purpose, so this question was not applicable.

3.2.3. Interfaced Information

This category intended to understand how the companies were integrating the information that they were collecting. There was only one question associated, which was: Is the information integrated from social media channels? Six (30%) hotels answered “no”, three (15%) said that integrate only “some” of the information, three (15%) answered that it integrates the information from the social media channels but that was not the only source and eight (40%) answer that integrate the information.

3.2.4. Development

When examining the way that hoteliers use the information collected it was acknowledged that hotels 35% use the information to build their “personas” but 45% were not using the information with this purpose. The nine properties who answer that were not creating their “*personas*” based on social media information, argued that “their “*personas*” were created based on their customer history with minor adjustments of the “*persona*” when needed”. One interviewee quoted “*not really, we have our brand persona, we don’t create persons from social media data, we analyze the trends because the data is high level.*” On the contrary, 60% of hoteliers confirmed that their market segmentation is based on customer information from other sources but not social media. From the remaining interviewed (n=8), three hotels (15%) shared that they use customer information, but the source is not social media, four (20%) said that “*is not the only source*” and one (5%) five-star hotel, a worldwide brand, said that their segmentation is made based on regional statistics (RTA, INE, Algardata) and on client’s history. In addition, all the interviewees stated that the offer was customized based on previous customer information regardless the source of information.

3.2.5. Research

The investigation verified that social media research benefits customer-company relationship and simultaneously provides information regarding the market changes that can be useful to launch new products/services. However, 65% of hotels do not use social media channels to conduct market research and, which shows that hoteliers are passive users of the channels and do not use this tool to predict market trends, most of the interviewees affirmed that they were using the social media channels to promote campaigns, special offers or to see the follower's reaction to their posts. One marketing & sales director used the word "barometer" to describe how they were testing their products online. Only four (20%) hotels admitted using information from their online feedback to launch new services and products, 80% said that were not using any information at all or partially.

3.2.6. Content

Only two (10%) hotels answered that do not use the social media to launch new products/services, sixteen (80%) properties mentioned words like "absolutely", "always", "constantly", "all the services", "brand awareness" regarding social media launch of new products and services. However, two (10%) properties highlighted the fact that was not the only tool used to launching products and services.

3.2.7. Competitiveness

The investigators adapted one question to this scope and concluded that 85% of the interviewees believe that since they use social media, they have a market advantage comparing to their competitors regarding their service and products. There were only three (15%) properties where this question did not fit in since they were not active users.

3.2.8. Market

Hotels might benefit from social media on what it comes to their online position and adaption to market changes. Social media channels provide a huge volume of information about market trends, hotel competitive-set activity, consumer

behavioral and new product launches. This means that social media has the power to “tell” companies what is next, what people are looking for and what companies should be doing to keep up the rhythm. Regarding this question, hoteliers were asked if they were using social media to adapt to market changes and to position their product. 80% agreed, three (15%) were not using social media as a tool, so the question was not applicable, and one (5%) answered “no” claiming that their presence online was only because their clients were active users, it did not believe that the social media channels are interesting for the tourism sector.

3.2.9. Customer

In accordance with the literature previously mentioned, the following question was asked: “do you think that the use of social media has contributed to develop a stronger trust bond between the hotel and the customer”. One (5%) five-star hotel said that is impossible to measure how social media create trust because he does not have the team to do this type of analysis. Nineteen (95%) hotels said “yes” and one of the hotels noted that it can be negatively.

3.2.10. Teams performance

Two questions regarding the levels of social media use were asked: 1- *The sales team uses social media proactively?* 2- *The sales team recognizes social media?* From the sample, 60% stated that is the marketing team that proactively uses social media but 20% said that sales is the department in charge. From the respondents, 15% said that is the sales & marketing that uses and 5% that do not have sales or marketing teams, so the question was not applicable. Generally, the team that uses social media proactively it is the marketing team, not sales. On what concerns the importance/benefits of the use of social media, all the interviewees stated that their teams were aware of his importance despite the hotel that do not have a sales & marketing team, so the question was not applicable.

3.2.11. Software

Regarding the use of software from the hotel side, and based on (Öykü Işık, 2010), three questions were made: 1- *Do you use a business intelligence system on your hotel?*

2- Does the business intelligence you are using supports your decision? 3- How friendly it is for you, user, to manage your business intelligence System? According to the answers, the sample showed a low knowledge regarding the use of a business intelligence tool to manage social media engagement. As so, 45% stated that uses business intelligence technology, and from those 45%, 89% were five-star hotels. 40% do not use any business intelligence software at all, there were 15% that use revenue business intelligence tools. Subsequently, the two next questions were not applicable to all since they do not use a business intelligence system, although, for those who use it the output of the use was very positive, since all the interviewees answered “yes” on regard of helping the decision making and the easiness to use it.

4. Discussion

The research provides an analysis of social media usage and its impact among organizations. Hotels use social media for various purposes, but mainly as an information channel through which the organization share information about their products, services, promotions, campaigns, current happenings, and upcoming events to the public. The use of social media to communicate ideas for new products/services offerings from the customer side is very common (Bashir et al., 2017). This process is defined as co-creation, where customers are an external source that cooperate with the company to develop a new service/product. The sample studied consisted of 20 hotels, thirteen five stars and seven four stars, where five were considered small businesses, nine medium and six from multinationals organizations. The size of the company it is important to discuss since small and medium-sized businesses usually do not have access or do not have financial resources to develop new strategies, hire more people or even implement new information systems and it was mentioned during the interview (Llave, 2017). Statistically, the result for the use of social media as a communication channel it was positive, and managers recognize the importance of their presence online. However, on what it comes to use it as a tool to potentialize the engagement with customers, to do market research, to collect data and analyze, to forecast trends and create new “personas” based on customers-hotel interactions, the interviewees showed some resistance to trust on this new mean of communication and the majority was not using any business intelligence tool to measure their online engagement. Part of the sample that was using business intelligence tool to measure the impact of their presence online on customer-relationship, were five-star hotels that either belong to multinational companies or were medium companies. All the hotels that use the social media channels proactively stated that the teams on charge of this management is the marketing team and not sales, nevertheless, everything that is posted is agreed with the sales team and it is monitoring by both. Yet, there were two four-star hotel that described themselves as a “small/familiar” business that do not recognize the importance of the analysis of social media data, they do not have internal marketing & sales team and their data is analyzed on a six-month monthly

basis. An external company is hired to provide them the results of the organic data collection from social media platforms. These two hoteliers do not recognize the continuous and regular collection of data and interactions as a determinant factor do their market position and both affirmed that traditional marketing is more effective. They are not planning to change their strategy and include business intelligence tools to analyze their data in a near future. Three hotels that belong to the same company, two five-star and one four-star, based on one of the most richest areas in the Algarve, stated that recognizes the importance of the social media presence but does not uses proactively and it is not interest in creating a strategy that contemplates social media or in implementing business intelligence systems that can help them managing the large volume of information generated by their activity and their customer and potential customer, their manager stated that “the segmentation of their offer is done with information based on the past stays and the notes they have about their previous clients”. The properties more aware of the importance and benefits of a business intelligence tool aligned with social media data were five-star medium to multinational-sized companies. Their technical resources, know-how, software, company environment and information access distinguish their market position comparing to other small to medium-sized companies. One of the interviewees revealed that “social media is used as the voice of their brand”. This is true as the situation now is that brands talk to the customers, customers talk to the brands, and, most importantly, customers talk to each other (Sohail & Al-Jabri, 2017). The findings of the study showed that the use of social media is not maximized, and managers are not familiarized with business intelligence systems applied to social media channels. Although the potential is commonly known, most of the hoteliers’ users use online application superficially and do not invest time, people, and money on developing long-term social media management and measure, through business intelligence systems.

5. Conclusions and implications

Our results led to the conclusions that it is necessary to develop the hard-technological-skills of hotel managers in the Algarve on the technological communication field. More specifically, it is mandatory to potentialize the use of social media management and create analysis methods to comprehend customer behavior and market trends. Hotels are still too focused on appeal to traditional marketing techniques and methods because they are afraid of the effects that an exhausting social media use can have on their strategy. Consumers are turning away from the traditional sources of advertising: radio, television, magazines, and newspapers (Parveen et al., 2015). They are turning more frequently to various types of social media to conduct their information searches and to make their purchasing decisions (Parveen et al., 2015) and the hospitality sector must be lined up with this new mean of communication. In general, there are differences and similarities that can be pointed among all the hotels interviewed and within the same classifications, although the business intelligence and social media tool was universally known, the knowledge, perspective and strategy diverged and not all the four-star hotels were equally lined up neither the five-star hotels. However, there were three categories on which both the four-and-five hotels were equally in accordance: 1) *Social media agility – internal social media agility*; 2) *Strength of customer-firm relationships* and 3) *Levels of social media use*. On 1) from the 20 hotels, 11 answers were “yes” and were all from five-star, six answered “yes” were four-star and there were 3 hotels that do not compare themselves with their competitors because they were not active users of social media channels; On 2) 92% of the hotels answered “yes” but there was one five-star hotel that could not measure the interactions between them and the client due to the size of the sales & marketing team; finally on 3) fourteen hoteliers said that the team that uses social media channels is marketing, not sales, however, both teams recognize the importance of this tool, moreover, there was one four-star hotel that do not has a sales & marketing team, two five-and-four-star hotels said the sales team is the one who uses the channels and one five-star hotel that has his own social media manager and it is the only responsible for the management. This case of study was a pioneering work about the use of business intelligence tools to analyze raw data from

social media channels by the hoteliers of the four-and-five-star hotels in the Algarve. This investigation allowed the researchers to have a wider overview of the levels of information system development, information system knowledge tools (business intelligence tools and data mining techniques), social media channels use, awareness of new technologies, importance of the use of the social media data integrated within the hotel marketing strategy and investment on qualified people to deal with data extracted. The four-and-five-star hotels showed a low level of development on information systems and also a low or no use of business intelligence tools. The use of social media channels to communicate with their clients was superficial and was not maximally potentialized because users do not trust the platforms and are afraid of their unsuccess when using it. Their awareness and willing to invest in new technologies tools and software's were also low and most of the managers did not have a budget to contemplate the expenses of investigate, implement, and train their teams with new systems, contrarily, the cost of analyzing the collected data, build dashboards and infographic results and perhaps develop a marketing strategy was considered in the outsourcing services, as a contracted service and budget it a part. The importance that was given to data researchers was low and only one hotel had a qualified/expert team member hired to develop, analyze, create a strategy, and put in practice actions using both data extracted with data mining techniques. Since the hospitality sector is known for the low information system investment the current investigation faced a few challenges due to that low use. On a first moment, and to agile the data collection, a 27-question questionnaire was sent to all the participants through the Google Forms application, a common and successful tool used by researchers to collect data more easily. However, the percentage of answers was so low that the sample collected was not enough to fulfill the requirements of the use of the system Nvivo. Unbaled to use the software, the three investigators decided to directly contact each manager through LinkedIn and the results were better, nevertheless, from the 99-hotel sample only 20 accepted to participated which allowed the research to continue the investigation but it jeopardizes the real results. Future research should start by evaluate the levels of information system development in the Algarve region, especially in the hospitality sector, also, further researchers should consist in evaluating the risk of not using business intelligence

tools as a daily work technique and the losses associated of not having hiring professionals in the data field. A comparison between the losses and gains of those who do not invest in technology comparing with those who do could be presented to demystify the myths, doubts and fears associated to the digital transition.

4. General Conclusion

A business intelligence system is characterized by having an analytical software that helps to retrieve, analyze, and transform customer raw data (big data) into reports to help decision making. Their features include deal insights, profitability analysis, modeling and forecasting performance management (Ancillai et al., 2019). The use of a business intelligence tool it is very useful for monitoring the performance of online activities (posts) on social media from the internal perspective and from the external one (customer), it is no longer necessary to visit one by one account in social media to get the information managers need (Kurnia & Suharjito, 2018). The way information is processed for decision making purposes it is part of the decision making environment in an organization (Tushman & Nadler, 1978), different decision request different types of information based on what activities are associated to (Oktaviani.J, 2018). The strength of a customer-company relationship can be described as the social closeness between a firm and its customers. A strong relationship depends on mutual trust, mutual gratification, and the ability to solve problems (Yang et al., 2017). Marketing managements studies have showed social media use can improve user trust (S. E. Chang et al., 2016), enhancing customer satisfaction and responsiveness (Agnihotri et al., 2016), and improving customer-firm relationships (Parveen et al., 2015). The outcome of this study allowed authors to have a wider overview about the level of development on the hospitality industry about the use of data to improve their decision-making process. The findings also demonstrate the lack of knowledge on this technological field and the uncomfortable feeling of using the social media channels as a support system. The low know-how around this new type of technology showed common use and not a professional one, since hotels activity was directed to post, and share content but and not to collect and analyze interactions, comments, reposts, mentions, and followers. The majority of the interviewed stated that their main objective when using social media media channels, was to “invite” the client to click on their booking engine website to pressure them to buy, however hoteliers were not measuring their return between what they post and who bought a service/product. This statement proves that social media channels are not maximized and not use at their best to conquer and engage

with the client. To perform a deeper analysis of the keywords studied and to achieve more accurate results, a methodology stage framework emerged from the literature review, which led the investigation to the next stage, the script construction. Findings suggest that having the right technology for supporting decision making can help an organization increase its decision-making capabilities (Öykü Işık, 2010). Researchers acknowledge that the use of digital technology positively influences the company operation agility (Tan et al., 2017). Companies that still operate in a traditional environment will face more difficulties to process information from social media than those who reside in the social media environment. (Swafford et al., 2008) argued that to adapt to new technological environments companies must improve their technical and administrative field. The purpose of this study was to provide an understanding of the use of business intelligence system to measure the social media engagement between four-and-five-star hotels in the Algarve and their customer. The results showed that hotels advertise and promote their campaigns, offers and services through social media but they do not measure the return on their online activity in terms of engagement. Their conscious about this new technology exists but their commitment in deepen their understating is low, especially when dealing with small sized companies. This study may serve as a starting point in investigating how different business intelligence capabilities may impact hotels market position, future trends, market changes and online engagement. It also adds to the academia the level of development in the technological field of the four-and-five-star hotels in the Algarve.

In a sector, such as tourism, facing a more automated future, the sector suppliers must follow the trend by investing in more intelligent systems and processes. With the help of advancements in the Artificial Intelligence field and related technologies, the application of independent intelligence in travel and tourism is expected to continue to increase soon (Tussyadiah, 2020). Business intelligence can help organizations to improve effectiveness in managing information for decision-making. The role of business intelligence is to generate an informational environment in which operational data gathered from internal transactions and external sources can be scrutinized in order to show strategic business dimensions (Mavi & Standing, 2018).

Literature indicates that social media should have its own separate campaigns, but integrated in the long-term business strategy plan, however the strategy should target consumer's adequately in each platform. This research is not without limitation. First, from the observed results and the overall market trends related with business intelligence and social media, their popularity increased in the last two years due to the covid-19 pandemic. Hotels got to reinvent themselves and started to use social media more intensely. Therefore, this showed a lack of knowledge on the field. Second, although exists a large volume of publications about the keywords in study, low investigations were on the tourism and hospitality industry. Finally, the lack of response from the contacts established almost compromised the sample to be analyzed. In closing, this dissertation provides a comprehensive understanding of the current state the use of business intelligence tools aligned with social media channels in the hospitality and tourism sector in the Algarve.

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APPENDIX A – Proof of acceptance- XII Postgraduate Conference

Accepted – 26 de Junho de 2021



Carolina Gomes <gomes.carolina93@gmail.com>

Aceitação de comunicação na XII Postgraduate Conference ESGHT/ISCAL 2021

3 mensagens

PG Conference 2021 <pgconference2021@iscal.ipl.pt>
Para: gomes.carolina93@gmail.com

26 de junho de 2021 12:46

Caro(a) autor(a),

Vimos informar que o seu trabalho com o código

01.MKT Influence of Business Intelligence on the engagement of customers through social media management: An analysis of the four-and five-star hotels in the Algarve

foi aceite para apresentação de comunicação oral na XII Postgraduate Conference ESGHT/ISCAL 2021, dia 9 de julho, via Zoom ou no Instituto Superior de Contabilidade e Administração de Lisboa, Av. Miguel Bombarda, 20, 1069-035 Lisboa (saída de Metro Saldanha – Av. República).

Convidamos todos os autores a submeterem o resumo alargado da sua comunicação para ser publicado no Livro de Atas da PostgraduateConference ESGHT/ISCAL 2021. Este só será publicado se recebermos o número mínimo de dez resumos alargados.
Contamos com a sua presença em Lisboa.

A Comissão Organizadora,

APPENDIX B – Conference Program - XII Postgraduate Conference



PROGRAMA DA CONFERÊNCIA 9 JULHO 2021

	<p>justiça organizacional e da satisfação no trabalho (Maria Catarina Rosa)</p> <p>68. Determinantes do Relato Ambiental nas Empresas Cotadas em índices bolsistas europeus (Carlos Mata)</p>	
11:30 – 13:00	<p>RECURSOS HUMANOS Ana Maria Sotomayor Link: https://videoconf-colibri.zoom.us/j/84430089739</p> <p>69. xxxxx</p> <p>70. Centro Hospitalar Universitário do Algarve, E.P.E.: Engagement – Estudo Empírico no Serviço de Gestão de Recursos Humanos (SGRH) (Sandrina Isabel Neto Marques)</p> <p>29. Supported employment como direcionador à inclusão social das pessoas com deficiência no mercado de trabalho (Tamara Sarate Bobsin)</p> <p>DIREITO / DIREITO FISCAL E FISCALIDADE Lurdes Varela Link: https://videoconf-colibri.zoom.us/j/86193892556</p> <p>79. A problemática dos terrenos para construção em sede de AIMI (Eduarda Alvites)</p> <p>80. Parques Eólicos em IMI (Ana Filipe)</p>	<p>MARKETING / EMPREENDEDORISMO Jorge Rodrigues / Ana Paula Correia Link: https://videoconf-colibri.zoom.us/j/81111773990</p> <p>01. Influence of Business Intelligence on the engagement of customers through social media management. An analysis of the four-and five-star hotels in the Algarve (Carolina Gomes)</p> <p>02. Scientific production and conceptual evolution of the application of eye-tracking methodology in marketing research: A co-word analysis (Francisco Muñoz Leiva)</p> <p>53. O enfrentamento da Covid19 a partir da effectuation / causation (Schirley De Farias Lolli)</p>
12:00 – 13:30	<p>SUSTENTABILIDADE E OBJETIVOS DO DESENVOLVIMENTO SUSTENTÁVEL Dimas de Oliveira Estevam Link: https://videoconf-colibri.zoom.us/j/85346730987</p> <p>27. Educação ambiental versus forças adversas de mercado: Práticas empresariais que desafiam o que as escolas ensinam acerca de consumo de produtos sustentáveis (Márcio Juberto Felisberto).</p>	<p>SUSTENTABILIDADE E OBJETIVOS DO DESENVOLVIMENTO SUSTENTÁVEL Melissa Watanabe Link: https://videoconf-colibri.zoom.us/j/86436355384</p> <p>17. Turismo de Bem-Estar e Sustentabilidade na Produção do Conhecimento (Francielle Almeida Amorim)</p> <p>19. O escotismo e a Agenda 2030: Pontos de convergência e o desenvolvimento da consciência ambiental dos jovens no Brasil</p>

APPENDIX C – Proof of submission

Submitted – March 30, 2022



Carolina Gomes <gomes.carolina93@gmail.com>

[Dos Algarves] Agradecimento pela submissão

1 mensagem

Dos Algarves: A Multidisciplinary e-Journal <dosalgarves@ualg.pt>
Para: Carolina Patrício Gomes <gomes.carolina93@gmail.com>

30 de março de 2022 15:21

Carolina Patrício Gomes,

Agradecemos a submissão do seu manuscrito "Influence of Business Intelligence on the engagement of customers through Social Media Management: An analysis of the four-and five-star hotels in the Algarve" à revista Dos Algarves: A Multidisciplinary e-Journal. Através da interface de administração do sistema, utilizado para a submissão, será possível acompanhar o progresso do documento dentro do processo editorial, bastando ligar-se ao sistema disponível em:

URL do Manuscrito: <https://www.dosalgarves.com/index.php/dosalgarves/author/submission/287>
Nome de utilizador: carolinagomes

Em caso de dúvidas, entre em contacto connosco através deste email.

Agradecemos, mais uma vez, a submissão do seu trabalho.

Dos Algarves: A Multidisciplinary e-Journal Dos Algarves: A Multidisciplinary e-Journal

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ANNEX 1 – DAMEJ Author guidelines

Author Guidelines

- 1) The cover page must contain: the title in the language of the article (English, Portuguese or Spanish), followed by the title in English (if the article is written in Portuguese or Spanish); author names, exactly as they are to appear in the published version; institutional affiliation(s) and full postal addresses; author emails; indication of corresponding author; ORCID IDs (if available).
- 2) The first page should contain only: the title of the article; abstract (max. 150 words); key words (max. 6, in Portuguese or Spanish and in English).
- 3) The manuscript should be written in 11pt Candara font with 1.5 line spacing.
- 4) Full articles should not exceed 7000 words, including notes, references, tables and figures; research reports should not exceed 3500 words; critical literature reviews should not exceed 2500 words.
- 5) All sections should be given a heading, and if numbered, to a maximum of two sub-levels (e.g. 1.1; 1.1.1).
- 6) For direct citations in the text use double citation marks ("...") and include page numbers.
- 7) Please use footnotes (not endnotes) which should be written in 9pt Candara. Please use footnotes sparingly. Footnotes should not contain full references; full references should be placed in the references section at the end of the article.
- 8) Any figures and/or tables should be presented in the body of the article, in editable format. The author is strictly responsible for obtaining any necessary rights of reproduction. The journal is not liable for the usage of any unauthorized images.
- 9) For referencing norms, please refer to APA 7th edition.

Important:

- The review process is blind and the main manuscript file must not contain any personal/academic information about the author. Self-references that could identify the author should be presented as XXXX, date (e.g. XXXX, 2015) in both the main body and in the references list. The full references will be reinserted once the review process has finished.
- Authors must fill in the academic data in the form for the submission of manuscripts.
- Every source mentioned or quoted within the text must be included in the final reference list of the article.
- No material must be present in the reference list unless it is directly mentioned and/or quoted within the article.
- The journal will not be held responsible for the concepts, ideas or opinions of submitting authors.
- Authors with an ORCID ID should include it in the cover page. Learn more at <http://www.orcid.org>.