ISCTE ◈ IUL

Instituto Universitário de Lisboa

Business Research Unit (BRU-IUL)

A Scoping Review:
Exploring the World of Medical and Wellness Tourism

Helena Maria Correia Neves Cordeiro Rodrigues

A Thesis presented in partial fulfillment of the Requirements for the Degree of Doctor in Management
Specialization in Marketing

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Em memória dos meus pais

Resumo

Objetivo: O Turismo Médico e de Bem-Estar é um fenómeno crescente. Turistas de todo o mundo viajam com o intuito de ter acesso a tratamento médico ou de melhorar o seu estado de saúde através de atividades físicas e psicológicas que lhes sejam benéficas. Esta indústria tem vindo a crescer com ajuda da Internet, permitindo aos turistas fazer melhores escolhas e tomar decisões informadas.

Desenho da tese: Este estudo tem como base a análise de conteúdos mistos. A abordagem qualitativa reproduz as avaliações dos turistas e avalia as relações entre as narrativas e os conceitos no Turismo Médico e de Bem-Estar, obtendo resultados replicáveis e generalizáveis.

Contribuição teórica: Este estudo contribui com o conhecimento teórico no setor do turismo de Saúde e Bem-estar e o impacto das opiniões dos turistas nas plataformas *online* como veículo para expressar satisfação e recomendar serviços a outros turistas.

Contribuição prática: No Turismo Médico os comentários *online* indicam características comuns inerentes ao tratamento médico. Como fatores determinantes no processo de decisão os turistas realçam o preço, a eficácia do tratamento, o tempo despendido na recolha de informações medicas, e partilham recomendações com amigos e familiares.

No turismo de Bem-Estar os turistas percecionam as infraestruturas do *resor*t-incluindo as condições do quarto e os tratamentos de talassoterapia como fatores determinantes de um bom serviço. Indicam como fatores críticos -o quarto- a limpeza e o conforto em particular uma cama confortável, a casa de banho e o chuveiro.

Os turistas que utilizam as Termas e Spa indicam por ordem decrescente a implementação dos seguintes serviços: acesso as termas e serviços, a receção do hotel e sala, qualidade da comida e preço, piscina e banho térmico, localização, vista e acessos bem como o profissionalismo e simpatia dos colaboradores.

Originalidade: Os resultados contribuem para o desenvolvimento da literatura sobre o Turismo Medico e de Bem-Estar e sugere diretrizes para potenciais turistas médicos, profissionais de saúde, setor hoteleiro e outros operadores que integram a experiência destes turistas. Com base na análise semântica esta tese identifica novas temáticas que exploram comportamentos, intenções e experiências que os turistas compartilham *online*.

Palavras-chave: Turismo médico; bem-estar; termas e spa; conteúdos gerados pelos utilizadores, experiência.

Abstract

Purpose: Medical and wellness tourism is a growing phenomenon, and tourists all over the world are traveling with the express purpose of accessing medical treatment or promoting health through physically and psychologically beneficial activities. This industry has continued to expand with the Internet's help, as customers can now make choices that are more appropriate and informed decisions.

Design: This research employed mixed content analysis methods. The qualitative approach reproduced tourists' appraisals and assessed the spatial relationships between terms and concepts in medical and wellness tourism, with generalizable and reproducible results.

Theoretical Contribution: This study specifically adds to the literature on post-experiences of medical and wellness tourism and the impact of Web-based information through reviewers' satisfaction and willingness to recommend facilities to others.

Practical Contributions: Medical tourists' reviews indicate shared commonalities when identifying significant factors in medical services received. These individuals also focus on cost, treatment effectiveness; time spent collecting healthcare information, and recommendations they plan to offer to friends and family.

Wellness tourists perceive resort facilities—including room conditions—and thalassotherapy treatments as the primary drivers of good service. Critical attributes of room condition are overall cleanliness and room comfort, especially bed, bathroom, and shower facilities.

Tourists' reviews of their experiences of thermal spa facilities provide a strategic order in which to implement service attributes by degree of influence: thermal facilities and services, hotel reception and room, food quality and price, pool and bath access, location views and accessibility, and staff's professionalism and friendliness.

Originality: The results add to the slowly growing body of literature on medical and wellness tourism and provide significant information to prospective medical tourists, healthcare service professionals, hoteliers, and other operators who become part of tourists' total experience. This thesis identifies new themes based on semantic analyses that explored tourists' behavior, intentions, and overall experiences shared online.

Keywords: Medical tourism, wellness, thermal spas, user-generated content (UGC), experience

Acknowledgements

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Acronyms

EC	European Commission
EU	European Union
GWI	Global Wellness Institute
HON	Health On the Net Foundation
INE	Instituto Nacional de Estatística
MEE	Ministério da Economia e do Emprego
OECD	Organization for Economic Co-operation and Development Observer
PENT	Plano Estratégico Nacional Turismo
Spa	*Salus per aquam*
TV	Television
UGC	User-generated content
USD	United States dollars
WHO	World Health Organization
WTO	World Tourism Organization

1.   Introduction

David McBain, a 47-year-old Toronto landscaper who fractured his spine in a car accident, went to Cuba three times last year for extensive physical therapy. McBain (www.nytimes.com), who is partly paralyzed and uses a wheelchair, said:

> *The physiotherapists and the doctors are extremely knowledgeable and well trained in Cuba, and you just can't beat the price. . . . The treatment in Cuba costs about $200 a day, which includes about six hours of physical therapy daily, a comfortable room and board. Canada's national health system does not provide for the type of therapy [I] need . . . and a private neurological physical therapist would charge about $93 an hour.*

Increasingly, medical tourists want to hear what McBain and others have to say before deciding to travel abroad for treatment. Destinations, treatments, and facilities are reviewed and rated by these customers, helping prospective tourists make decisions. All over the world, potential international patients seek out information before they decide to travel abroad (Leung, Law, van Hoof, & Buhalis, 2013). Choosing to travel abroad to receive treatment from the right physicians and clinics is a major decision, so the more opinions patients can gather the more secure they feel (Han & Hyun, 2015).

Medical and well-being tourism are a growing phenomenon (Connell, 2013). Individuals are traveling with the expressed purpose of accessing medical treatment or promoting health and wellness through physical, psychological, or spiritual activities (Steiner & Reisinger, 2006). While wellness tourism is often correlated with medical tourism because health interests motivate travelers, wellness tourists are proactive in seeking to improve or maintain their health and quality of life (Pesonen & Komppula, 2010). Wellness tourism focuses on prevention, while medical tourists generally travel reactively to receive treatment for a diagnosed disease or condition (Dimitrovski & Todorović, 2015). Health and wellness tourism is now an international trend set by health conscious consumers seeking to enhance their well-being through travel experiences (Steptoe, Deaton, & Stone, 2015).

Medical and wellness tourism has already been studied from different perspectives, but no study has sought to identify the satisfaction and dissatisfaction attributes in medical and wellness tourism. Therefore, the present research is particularly interested in exploring Web

reviews and identifying key factors or the combination of factors that influence prospective healthcare customers' decision-making. This study also tried to assess if the relevant reviews are influenced by demographic attributes or types of treatment. In addition, the present research sought to examine three global trends of health tourism; medical tourism, which is based on biomedical research; and more traditional approaches to wellness and thermal spas.

This study, furthermore, sought to shed light on previous research on medical and wellness tourism contexts. The main topics covered include the definition, motivation, and development of medical tourism; ethical and health issues; and medical tourism marketing (Crooks, Kingsbury, Snyder, & Johnston, 2010; Johnston, Crooks, & Ormond, 2015; Masoud, Alireza, Mahmoud, & Zahra, 2013). Previous research results suggest that patients' satisfaction with the quality of treatment engenders trust (Carabello, 2005; Connell, 2013; Han & Hyun, 2015; Johnston et al., 2015). Another stream of research focuses on how value can be added to service, including performance, safety, and customer relationships (Beladi, Chao, Ee, & Hollas, 2015; Burkett, 2007; Crooks, Cohen, Adams, Whitmore, & Morgan, 2015; Heung, Kucukusta, & Song, 2011; Kesar & Rimac, 2011).

1.1. Structure of thesis

The following chapter covers the literature review of research on medical tourism, detailing demand and supply-side drivers and covering the market's future trends. Next, the research context is presented, relating medical tourism to the wellness and health tourism in thermal and mineral spas. The third chapter describes the data, methods of content analysis, and analyses of validity. The ensuing three chapters include the three studies that are the core of this thesis.

Study one produced an overview of the growth of medical tourism, in which the Internet has helped individuals to make appropriate choices and informed decisions. This study investigated two areas of medical tourism, which represent the most requested procedures: cosmetic and dental. The results reveal which performance factors need to be prioritize by clinics. Gender was found to be an influential factor in evaluating different attributes. The data were retrieved from one of the leading portals of medical tourism: www.treatmentabroad.com. In particular, this study looked at post-procedural experiences of 603 respondents originating from different countries from 2008 to 2016.

Study two focused on thalassotherapy spa and resort establishments associated with the wellness, recreational, and therapeutic uses of mineral and sea water. The dominant themes and phrases used by tourists in reporting their experiences were identified, and, in particular, satisfaction and dissatisfaction attributes were examined. A content analysis was done of 3,116 customer reviews posted on TripAdvisor from 2010 to 2016, including segmenting the top five countries that represent 77.33% of the global thalassotherapy and spa industry revenue.

Study three examined thermal and mineral spas in Portugal. This chapter provides somewhat different negative and positive narratives. The findings have direct practical implications for thermal and mineral spa tourism, which include suggestions for the implementation of strategies that maximize customer satisfaction through better utilization of limited resources. A content analysis was carried out of 887 reviewers posted on Booking.com from 2015 to 2016, representing 25% of the facilities under study.

The final chapter presents conclusions and discusses the global theoretical and practical implications of the findings for both academics and practitioners. The limitations of this study are then detailed along with suggestions for future research directions.

2.   Theoretical Background

2.1. Medical tourism

According to Connell (2006, p. 1094):

> *Medical tourism as a niche has emerged from the rapid growth of what has become an industry, where people travel often long distances to overseas countries to obtain medical, dental and surgical care while simultaneously being holidaymakers, in a more conventional sense.*

Medical tourism, thus, involves people who travel to a different place to receive medical treatment for a disease, ailment, or condition—or to undergo a cosmetic procedure—and who are seeking better access to health care or different care than what they could receive in their home country (Yeung & Johnston, 2014).

The most widely available treatments (American Academy of Cosmetic Dentistry, 2015; American Academy of Cosmetic Surgeons, 2015; Lunt, Smith, Exworthy, Stephen, Horsfall & Mannion, 2011) include:

- Cosmetic surgical procedures—breast augmentation, liposuction, nose reshaping, eyelid surgery, and tummy tuck
- Minimally invasive procedures—botulinum toxin, soft tissue filler, chemical peel, laser hair removal, and microdermabrasion
- Dentistry—cosmetic and reconstruction
- Cardiac surgery—by-pass and valve replacement
- Orthopedic surgery—hip-replacement, knee replacement, and joint surgery
- Bariatric surgery—gastric by-pass and gastric banding
- Fertility treatments—in-vitro fertilization and gender reassignment
- Transplantation—organ, stem cell, and tissue transplantation
- Eye surgery—laser procedures
- Diagnostics and checkups

These medical treatments cannot all be classified as life threatening. For example, a surgery or a treatment considered non-essential or low priority in the West may be necessary for certain forms of employment and, hence, worth travelling for outside the home country (Hanefeld,

Smith, Horsfall, & Lunt, 2014). This industry is also witnessing an increase in the number of players globally due to lucrative revenues. However, new players may not necessarily be competing for the same market but, instead, tapping into new and more specialized markets (Yeoh, Othman, & Ahmad, 2013).

Medical tourism, therefore, is a global industry that has synergies with a wide range of stakeholders with commercial interests:

- Brokers who mediate global healthcare arrangements for medical tourists (Penney, Snyder, Crooks, & Johnston, 2011)
- Insurance that covers travel expenses and medical complications (Turner, 2011)
- Providers who include clinics and healthcare providers, as well as tourist operators (Lunt & Carrera, 2011)
- Travel, accommodation, and concierge service providers who, since medical tourism is an holistic business, expect that tourists also seek leisure activities while recovering from medical interventions (Johnston et al., 2015)
- Conference and media medical tourism-related services that include conferences and media coverage (Lunt et al., 2011)
- Financial products that include insurance and financial advice to cover expenses (Lunt & Carrera, 2011)
- Websites that provide platforms for gaining access to healthcare information and advertisement (Lunt & Carrera, 2011)

Figure 1 represents a global overview of the major players in this market.
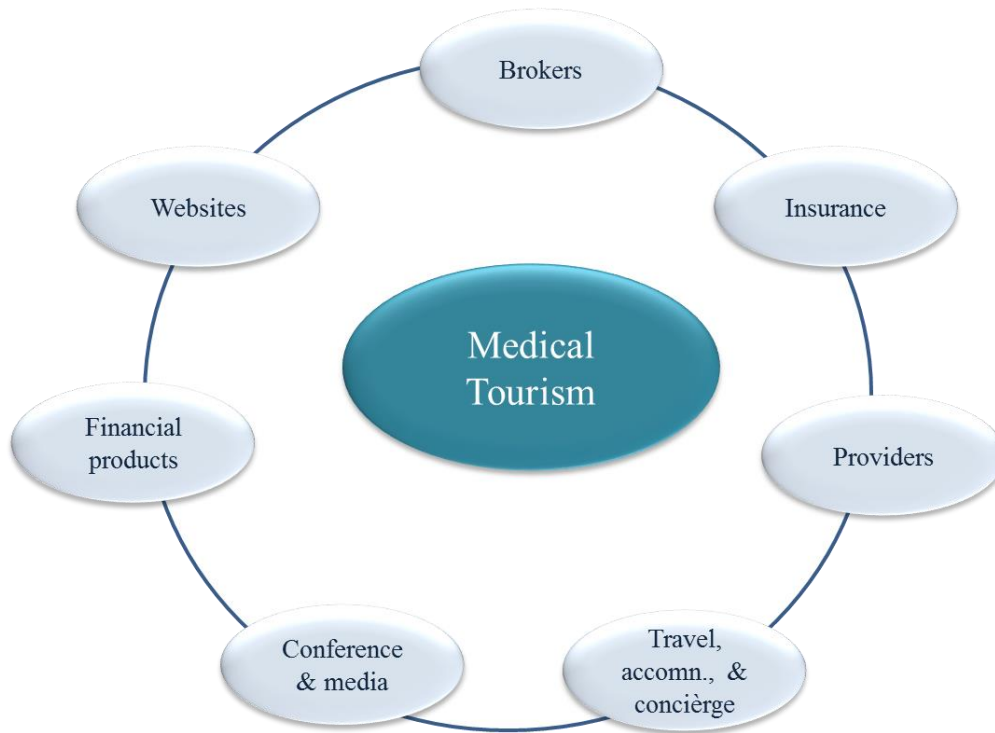
Figure 1. Medical tourism industry

Source: (Lunt et al., 2011)

2.2. Demand-side drivers

In the last 20 years, people all over the world have, on average, gained six years of life expectancy, and, by 2020, a quarter of Europeans will be over 60 years of age. The European Commission (2014) report on population aging indicates that now more of the population are over 65 years old than there are children. Europeans are living longer, and this trend is expected to continue due to unprecedented medical advances.

Low birth rates have also made important modifications in society that affect economic systems, social protection, and healthcare organizations (European Commission, 2014). In this context, an increasing number elderly citizens are opting for cosmetic surgical processes to enjoy much younger faces (García-Sánchez, 2016). The statistics on plastic surgery in 2015 indicate that 15.9 million surgical procedures and minimally invasive cosmetic procedures were conducted in the United States, representing an increase of 2% over the previous year. According to the American Society of Plastic Surgeons (2016), reconstructive surgery helps

patients of all ages to recover from problems that can range from minor birth defects to major older adult problems induced by aging.

The World Health Organization (WHO) (2015) reports that 35% of the population over 65 years has some type of disability. Senior medical tourism directly targets the elderly, and it is particularly important to this sector of tourism due to the total expenditure by older tourists abroad. Thus, expanding this market could create more potential for tourism revenue (Alén, Domínguez, & Losada, 2002).

2.3. Baby boomers and access to medical tourism

The baby boomer generation (i.e., born approximately 1946–1964) has dominated the rest of the population even as this group has aged (Metz & Underwood, 2005). It includes people who were between 52 and 70 years old in 2016. Baby boomers have become part of the mature population, thus resulting in increased attention given to seniors as consumers (Norman, Daniels, & Norman, 2001).

The significance of this segment in the tourism market is that baby boomers are increasingly giving travel expenditures priority in their retirement plans, mainly because they feel healthier and have more money to spend. They are also better educated and more independent, with fewer family obligations than younger generations (Patterson & Pegg, 2009). The high cost of medical treatments combined with long waiting periods in home countries, the affordability of traveling overseas, favorable exchange rates, and general economic well-being of baby boomers have contributed to the rise of medical tourism (Connell, 2006).

2.4. Medical tourism destinations and prices

Traveling for medical care has generally occurred from more developed countries to less developed nations. Medical tourism market drivers are cost savings, as many medical tourists seek treatment in other areas of the world that are able to provide healthcare more inexpensively, with better quality care and faster access to treatment. A growing economic and political cooperation is also promoting the international travel of patients and healthcare professionals (Horowitz & Rosensweig, 2007; Kelley, 2013).

Medical tourism is becoming a prosperous business for European, Asian, and South American countries, which have had great success with offering medical care for tourists. Many of these countries have more to offer than medical procedures, since they offer package deals that include interesting tourism opportunities (Crooks et al., 2010). With the globalization of information and the empowerment of consumers, medical tourism involves individuals as customers who make their own decisions regarding their health needs and then find the most appropriate healthcare provider (Han & Hyun, 2015).

An increasing number of countries or individual hospitals and clinics have actively marketed themselves as medical travel destinations. Hoping to draw patients from neighboring nations and further abroad, these nations promise high quality, technologically advanced, and competitively priced health services (OECD, 2010). Table 1 lists the top 14 medical tourism destinations by largest volume of patients.

Table 1. Top 14 medical tourism destinations by volume of care

1. Thailand	8. Costa Rica
2. Hungary	9. Brazil
3. India	10. Mexico
4. Singapore	11. South Korea
5. Malaysia	12. Colombia
6. Philippines	13. Belgium
7. United States of America	14. Turkey

Source: IBEF (2013)

The great majority of medical tourists seek care outside their native home due to cost. Medical treatment costs vary based on many factors, including hospitals, doctors' experience, accreditations, and exchange rates. Nevertheless, a comparison of medical procedure prices reveals significant differences (Medical Tourism Association, 2016). Table 2 contrasts medical procedure costs by treatment in selected countries.

Table 2. Comparison of approximate prices (in United States dollars [USD]) of specific medical procedures

Medical Procedure/Country	Dental Implant	Breast Implants	Rhinoplasty	Face Lift	Liposuction	Tummy Tuck
Thailand	$1,720	$3,500	$3,300	$3,950	$2,500	$5,300
India	$900	$3,000	$2,400	$3,500	$2,800	$3,500
Singapore	$2,700	$8,400	$2,200	$440	$2,900	$4,650
Malaysia	$1,500	$3,800	$2,200	$3,550	$2,500	$3,900
United States	$2,500	$6,400	$6,500	$11,000	$5,500	$8,000
Costa Rica	$800	$3,500	$3,800	$4,500	$2,800	$5,000
Mexico	$900	$3,800	$3,800	$4,900	$3,000	$4,500
South Korea	$1,350	$3,800	$3,980	$6,000	$2,900	$5,000
Colombia	$1,200	$2,500	$4,500	$4,000	$2,500	$3,500
Poland	$925	$3,900	$2,500	$4,000	$1,800	$3,550
Turkey	$1,100	$4,500	$3,100	$6,700	$3,000	$4,000

Source: Medical Tourism Association (2016)

2.5. Medical tourism's future trends

The medical tourism industry is relatively new, but it is considered one of the fastest growing industries globally, stimulating a massive migration of tourists from developing nations to less developed nations (Seetanah, 2011). The International Trade Centre. (2014) states that some of the 2020 market trends in medical tourism will be:

- An increase in the age of tourists
- A change from active vacations to experience-based holidays
- An increasingly complex segmentation of the required services to comply with tourists' different objectives
- Combinations with traditional travel purposes (e.g., travel to destinations, honeymoons, and cultural or cruise-related activities)

According to the above-cited source, the scenario that primarily conditions the current trends in medical tourism demand is the increasing demand among tourists over 54 years old, with most people opting for cosmetic surgical procedures. As the global economy recovers from a prolonged recession, health spending is expected to accelerate, rising at an average of 5.2 percent a year, from 2014 to 2018, to $9.3 trillion (Deloitte, 2014). This increase places enormous pressures on governments, healthcare delivery systems, insurers, and consumers in both developed and emerging markets to deal with such events as an aging population and its appetite for cosmetic surgery services (Deloitte, 2014).

2.6. From medical tourism to wellness and health

Wellness tourism involves people who travel to a different place to pursue proactively activities that maintain or enhance their personal health and well-being. These individuals are seeking unique, authentic, or location-based experiences and therapies available in thermal spa resorts and hotels (Medical Tourism Association, 2011), as shown in Figure 2.
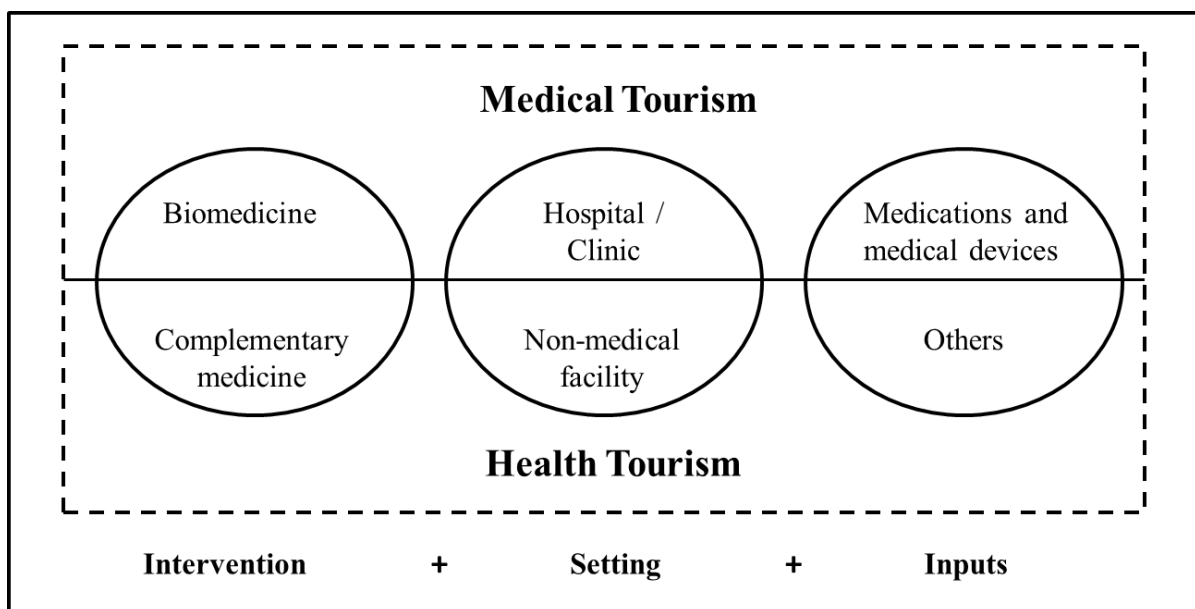
Figure 2. Conceptual model of medical tourism

Source: (Carrera & Lunt, 2010)

Individuals' objective and subjective well-being and related causal factors have not been broadly discussed in the literature (Böhnke & Kohler, 2010), but quality of lifespan has become a crucial element in overall evaluations of economic and social progress (European Commission, 2014). Among the determinants of well-being, individual characteristics such as health, education, marital status, living arrangements, and a favorable financial situation are considered the most significant (World Health Organization, 2015). Studies have shown that the prevalence of severe disability and functional limitations among the elderly has been declining over recent decades (Uysal, Sirgy, Woo, & Kim, 2016). The causes for this include the promotion of healthy habits, better medical treatment, preventive measures, and improvements in education and living conditions (Goodrich, 1994).

Investments focused on improving childhood health lead to healthier elderly individuals in the future, highlighting again the importance of investment over the entire life cycle to reducing health-related costs of aging (Marković, Lončarić, & Lončarić, 2014). However, unlike travel for work purposes, medical and wellness tourists' choices are voluntary since these individuals seek to meet desired objectives by selecting from among alternative hospitals, clinics, or spa facilities (Turner, 2011). As levels of education are improving and gender differences in human capital are declining, further health improvements can be expected among the elderly in the future. A final factor is that well-being also depends on the economic status of a country's population (European Commission, 2014).

2.6.1. European Union (EU) strategy for tourism

After the Lisbon Treaty came into effect in 2009, the EC developed an EU tourism strategy with the sole purpose of maintaining Europe's position as the world's number one tourism destination.

In June 2010, the EC adopted the communication titled "Europe, the World's No. 1 Tourist Destination—a New Political Framework for Tourism in Europe." This document sets out strategies and plans for European tourism based on four goals:

1. To promote competitiveness in the European tourism sector
2. To advance the development of sustainable, responsible, and high-quality tourism
3. To consolidate Europe's image as a sustainable, high-quality destination
4. To enhance the potential of the EU's financial policies to develop the tourism sector

In 2013 and 2014, the EU launched two public consultations:

1. The purpose of the first consultation was to point out the main challenges and opportunities for the European tourism industry.
2. The second consultation identified policy initiatives or administrative practices that impose a burden on tourism businesses and highlighted examples of good practices that have a positive impact on the industry.

In 2014, according to provisional data from the WTO, the number of international tourist arrivals in the EU increased by 4.4% to 1,134.7 million tourists. Europe attracted more than half of all international tourists (51.4%), a 3.0% gain compared to the previous year. However, the American continents recorded the greatest gain (+8.1%), followed by Asia and the Pacific (+5.4%), while the Middle East (+4.6%) showed a remarkable recovery in 2014 from a -3.4% fall in 2013.

2.7. Web content in medical and wellness tourism

The Internet is the first place that consumers go to seek for information on healthcare issues and treatment information. The Web offers wide functionalities, including forums in which individuals share information, experiences, advertisements, and complaints (Lunt et al., 2011; Lunt & Carrera, 2010).

Within the field of healthcare, the Internet provides a range of options:

- Access to information relating to professional diagnosis
- Self-diagnosis
- Aftercare and support
- Opportunities to obtain second opinions
- Promotion of purchases of diagnostic services and treatments
- Development of support groups
- Connections between consumers and healthcare providers

Customers' mobility is also affected by the reputation of destination countries. These reputations are often developed by word of mouth, usually from Internet sources, brokers and

travel facilitators, official country sources (e.g., consular offices), or patients' stories of how they had positive medical experiences in certain countries (Deloitte, 2014).

Medical and wellness tourism websites vary widely in scope, content, professionalism, and depth of information. Interpretation of sites is the fundamental issue in regard to how the credibility of information is established (Lunt et al., 2011; Penney et al., 2011). Lunt et al. (2011), argue that, despite the growing number of websites dedicated to medical tourism, little empirical evidence exists on the use and impact of these websites on customers' behaviors.

3.   Method

3.1. Lexicographic analysis

As a lexicographic tool, Leximancer is used to examine the content of textual documents and to display the selected information in frames. Leximancer analyzes word association data to identify automatically collections of words that co-occur often in the data, suggesting these to researchers as potential key concepts (Smith & Humphreys, 2006). This software examines the mathematical relationships between language and associated concepts to get serial concept maps (Cretchley, Rooney, & Gallois, 2010). Leximancer's inductive identification of themes through the observation of phenomena, analysis of patterns and themes, and formulation of relationships is used as qualitative data analysis tools in business, social, cultural, and education studies (Crofts & Bisman, 2010). In addition, Leximancer produces lists of concept-related texts for further analysis and interpretation by researchers.

A major goal of the Leximancer software is to raise researchers' awareness of the overall setting and significance of concepts and to help avoid fixation on particular anecdotal evidence, which can be atypical or erroneous. The present study sought to evaluate the validity of this software's approach. In particular, the structure and concept names were examined in the final concept map, as well as the nature of the weighted term sets that form the thesaurus.

As Leximancer is a word-based software this causes some limitations as it does not record the number of key incidents, which is commonly calculated in various other approaches. For instance, in TripAdvisor or Booking data, Leximancer picks up the most frequently used words and their kinship with other words. This software, nevertheless, does not provide accurate data on the number of reviews that provide positive or negative feedback or identify reviews that discuss prices or feelings such as pleasure and enjoyment. Given this limitation, this study used manual counting as a supplemental method to determine the frequency of these key incidents.

3.2. Operational and analysis method

The operational method employed by Leximancer is a concept space (Chen, Schatz, Ng, Martinez, Kirchhoff & Chienting, 1996) approach in which words are mapped to a much smaller set of concepts. This includes the following steps:

- Text preparation—standard techniques are used including name and term preservation, tokenization, and the text to image linking tool.
- Creation of thesaurus concepts—these can be organized in collaboration with a domain expert to suit the current demands of the users, or they can be generated automatically using an algorithm for finding significant seed words to analyze the ideas present in the data.
- Creating a thesaurus—a machine-learning algorithm is applied to determine the optimal thesaurus words from the text data.
- Classification—the text is separated into segments using this thesaurus in a possible sentence-resolution process.
- Formation of a faceted, two-level classification system—primary concepts are designated as entities and secondary concepts as properties of entities.
- Indexing—the resulting tagged text is indexed to the required resolution using entities and attributes.
- Mapping—entity concepts are bundled according to weight and relationship, thereby creating a concept cluster map.
- User interface—a simple hypertext browser is used to search the classification system in depth.

Some of these steps can be iterated to refine the map according to the users' needs. A more detailed discussion of Leximancer algorithms has been published elsewhere (Smith, 2000).

The analyses in the present study included three steps:

1. An initial exploratory analysis examined the data for word clusters and named concepts.
2. The concepts were further explored by tagging the text with the tourists' gender, which revealed the concepts that occurred to a greater or lesser extent in each gender group (Grace et al., 2010).
3. An analysis was conducted of the patterns of concepts grouped into themes, which revealed the thematic clusters underlying tourists' understanding of services (Baldauf & Kaplan, 2010).

Using Leximancer, the analyses continued by using word occurrence and co-occurrence frequency to get a word co-occurrence matrix based on which concepts could be distinguished.

Leximancer then grouped the concepts into themes according to how often they appear together in a block of text.

Visual concept maps and statistical outputs can help analysts efficiently gain insights and a comprehension of natural voice communication (e.g., reviews, interviews, and focus group discussion) through the following processes (Cretchley et al., 2010):

- Conducting semantic information retrieval of key themes and concepts
- Viewing bodies of information in a graphical format (i.e., a concept map)
- Navigating through the concepts whilst mining the text for deeper contextual associations

Therefore, researchers can use Leximancer (Angus, Rintel, & Wiles, 2013) to carry out the following procedures:

- Determining the main topics within a text (e.g., posts and reviews)
- Highlighting how topics relate to each other
- Indicating which source files—or individual authors and/or speakers—contain particular topics

3.2.1 Methodological approach for user-generated content (UGC)

The first step when using Web-generated contents is to determine the methodological approach. For the purpose of this thesis, the selected method was systematically applied in four phases: 1) definition of goal and scope, 2) data collection, 3) classification, and 4) analysis. The main purpose of establishing a clear methodological approach is to ensure generalizable and reproducible results (Lai & To, 2015; Smith & Humphreys, 2006). Previous research projects based on Leximancer software have used small and large quantities of qualitative data, as shown in the examples in Table 3.

Table 3. Leximancer example articles with sample size and data source

Reference/Journal	Title	Context	Sample	Tags	Data Source
(Mathies & Burford, 2011) *Managing Service Quality*	Customer service understanding: Gender differences of frontline employees	Frontline service staff	876 frontline employees	Female/male	Questionnaire through an online panel
(Anagnostopoulos & Bason, 2015a) *Choregia*	Mapping the first 10 years with Leximancer: Themes and concepts in sports management	Research on contemporary sport management (i.e., the content of *Choregia*)	88 articles	NA	Collected abstracts of all articles published in *Choregia*
(Crofts & Bisman, 2010) Qualitative Research in *Accounting & Management*	Interrogating accountability: An illustration of the use of Leximancer software for qualitative data analysis	A total of 114 journal articles related to accountability and published in highly ranked accounting journals	21 accounting journals	NA	Journals on accounting from which articles were extracted
(Lai & To, 2015) *Journal of Electronic Commerce Research*	Content analysis of social media: A grounded theory approach	Tourist experiences in Macau	440 responses	NA	TripAdvisor, VirtualTourist, Travel Blog, and TravelPod
(Letch, 2013) *Knowledge Management & E-Learning: An International Journal*	Using reflective journals to engage students in learning business process management [BPM] concepts	Reflective capabilities and student engagement in learning BPM concepts	Reflective journal entries of 102 students enrolled in a master's level BPM unit offered by a business school	NA	Questionnaire

Reference/Journal	Title	Context	Sample	Tags	Data Source
(Wu, Wall, & Pearce, 2014) *Tourism Management*	Shopping experiences: International tourists in Beijing's Silk Market	International tourists' experiences in Beijing's Silk Market, one of China's most well-known tourist markets	149 review items collected, adding up to 32,606 words	Excellent, very good, average, poor and terrible	TripAdvisor
(Robinson, Kralj, Solnet, Goh, & Callan, 2016) *International Journal of Contemporary Hospitality Management*	Attitudinal similarities and differences of hotel frontline occupations	Tourism and hospitality employment: examination, often in isolation, of a variety of occupations, for example tour "reps," airline cabin crew, musicians, housekeepers and chefs	25 semi-structured interviews conducted with frontline workers across hotel properties in southeast Queensland and in Sydney, Australia	NA	Semi-structured interviews
(Beninger, Parent, & Pitt, 2014) *International Journal of Wine Business Research*	A content analysis of influential wine blogs	Wine industry: analysis of the content of influential wine blogs	5 wine blogs in their entirety downloaded from the Internet	NA	Wine blogs
(Tkaczynski, Rundle-hiele, & Cretchley, 2015) *Journal of Vacation Marketing*	A vacationer-driven approach to understanding destination image: A Leximancer study	Destination image studies that have furthered the understanding of how vacationers perceive a destination based on key reference criteria but that may also artificially increase the salience of some attributes	517 vacationers to the Fraser Coast	(Stage_during) tag and nearer the post vacation (Stage_post) tag	Questionnaire

Reference/Journal	Title	Context	Sample	Tags	Data Source
(Shao, Jones, & Grace, 2015) *Marketing Intelligence & Planning*	Brandscapes: Contrasting corporate-generated versus consumer-generated media in the creation of brand meaning	Consumer co-creation of experiences in the context of Facebook brand communities	100 pages with text	NA	Online brand communities on Facebook
(Brochado, Troilo, & Shah, 2017) *Annals of Tourism Research*	Airbnb customer experience: Evidence of convergence across three countries	Customer experiences of Airbnb	1,776	NA	Web reviews
(Pearce & Wu, 2016) *Journal of Travel Research*	Tourists' evaluation of a romantic themed attraction: Expressive and instrumental issues		271	Satisfaction groups /tourists origin	TripAdvisor
(Pearce & Wu, 2015) *Journal of Hospitality & Tourism Research*	Explored international tourists' experiences in an iconic performance-based entertainment: The Impression Sanjie Liu in southern China.	Tourists' experiences in iconic performance-based entertainment	350	NA	TripAdvisor
(Kazeminia, Del Chiappa, & Jafari, 2015) *Journal of Travel Research*	Analysis of seniors' narratives on the Internet	Tourism market segment worldwide (i.e., the senior population)	517	NA	TripAdvisor

Leximancer, therefore, has been applied effectively in both conceptual and relational analyses of textual data (Dann, 2010). This software's concept identification has been shown to be in close agreement with expert judgement (i.e., face validity) and to have an ability to handle "short and ungrammatical comments" (Campbell, Pitt, Parent, & Berthon, 2011). The bases of most Leximancer algorithms have been discussed in detail elsewhere (Smith, 2003). Leximancer is well suited for exploratory studies of comprehensive mental models because it facilitates a reliable and reproducible extraction of concepts and thematic clusters based on Bayesian probability, without introducing the expectation biases common to manually coded text analyses (Smith & Humphreys, 2006).

3.3. Research gap and objectives

Since previous studies have provided little empirical research examining medical and wellness experiences as reported online by tourists in the post experience phase, it appears appropriate to bridge the research gap by probing the implications of unstructured content reviews. This could greatly improve the understanding of medical and wellness business's key drivers and priorities.

In order to address fully the research gap, three objectives were defined that were the focus of three studies presented in this thesis. The first study investigated two areas of medical tourism: cosmetic and dental procedures. This examined the experiences of medical tourists related to cosmetic and dental surgeries, including the impact of Web-based information and patients' satisfaction and willingness to recommend services to others.

The second study concentrated on thalassotherapy spa and resort business establishments associated with the wellness, recreational, and therapeutic uses of water in the five top countries in this area. This research identified the dominant themes and phrases used by tourists in reporting their experiences, in general, and explored satisfaction and dissatisfaction attributes, in particular.

The last study investigated the thermal and mineral spas in Portugal. A further analysis by gender was carried out of negative and positive narratives in tourists' reviews of their wellness experiences.

3.4 Research summary

Figure 3 provides an overview of this thesis and the research objectives that were operationalized in the three studies.

Research Problem

Identification of the key drivers that influence prospective tourists' decision-making, and satisfaction and dissatisfaction attributes in medical and wellness tourism?

Research Context

An expanded perspective of the medical and wellness tourism

Literature Review

MEDICAL TOURISM	WELLNESS & HEALTH	THERMAL SPA (Mineral Waters)	THALASSO THERAPY	USER GENERATED CONTENT (UGC)	CUSTOMER SATISFACTION

Studies/Paper's

I- *Mirror, mirror on the wall, who's the fairest of them all: A critical content analysis on medical tourism*	II - *In good wellness: Identification of satisfaction and dissatisfactions attributes in Thalassotherapy Spa and Resort*	III - *Listening to the Murmur of the Water: Essential Satisfaction Attributes in Thermal and Mineral Spas*

Research Question

I-What are the dominant concepts and narratives used by medical tourists in sharing their experiences online?	II-What are the pertinent attributes to wellness tourism satisfaction and dissatisfaction ?	III-How guests identify the attributes that important in the choice of thermal and mineral spas?

Main Goals

II-Examining the post-experience phase to bridge the research gap by probing the implications of unstructured UGC	II-Classify pertinent attributes depending on their influence on the reported satisfaction level	III-Provide a strategic order to implement or improve service and maximize guest satisfaction

Figure 3. Research summary diagram

4. Mirror, mirror on the wall, who's the fairest of them all: A critical content analysis on medical tourism

Abstract

Medical tourism continues to grow with internet helping to make appropriate choices and informed decisions. This study investigates only two areas of medical tourism i.e. cosmetic and dental procedures. In particular, post-procedural experiences of 603 respondents originating from different countries in the years 2008 to 2016 are analyzed using the Leximancer software. The findings indicate a commonality in identifying the significance of medical services that respondents receive, along with cost, treatment effectiveness, and the time spent collecting health care information, and the recommendation they plan to offer to friends and family. Further analyses show that groups submitted to cosmetic surgery and cosmetic dentistry used the same narratives to represent their medical experiences, gender is an influential factor in evaluating different attributes.

Keywords: Medical Tourism, Cosmetic Procedures, Post-experience, Content Analysis Leximancer

4.1.   Introduction

Medical tourism is growing as a trend to travel overseas for medical treatment and health care benefits at a much lower cost compared to the travelers' own country (Lunt et al., 2011). It represents a lucrative economic opportunity for the destinations focusing on medical tourism (Hopkins, Labonte, & Packer, 2010).

In the past decades, we have witnessed a large body of literature conducted in the field of medical tourism (Seow, Choong|, Moorthy, & Chan, 2017). Even though it has been a hot topic for some time, research opportunities are still broad. Most current literature tackles fundamental questions such as the definition of medical tourism and the development of medical tourism industry in destination countries (Masoud et al., 2013; Crooks et al., 2010; Johnston, Crooks, & Ormond, 2015). A large body of research specifically focuses on patient satisfaction with the quality of treatment (Connell, 2013; Han & Hyun, 2015). The growing trend of medical tourism has also attracted researchers; publications are slowly emerging in the field (Ganguli & Ebrahim, 2017). However, there is a scarcity of research in the sector with regard to its consumers' behavior, experiences related to particular medical tourism procedures, the impact of web search and available information to make informed travel decisions (Cormany & Baloglu, 2011; Penney et al., 2011; Connell, 2013, Lunt, Hardey, & Mannion, 2010).

Since previous studies have provided little empirical research, examining cosmetic procedures, medical tourism reported online by tourists in the post experience phase, it appears appropriate to bridge the research gap by probing the implications of unstructured user content reviews. This could greatly improve the understanding of medical tourism business's key drivers and priorities. In order to address fully the research gap, this study investigated two areas of medical tourism: cosmetic and dental procedures.

Our paper has two main research objectives. The first seeks to identify the dominant concepts and narratives used by medical tourists in sharing their experiences online. The second is to explore gender differences regarding both cosmetic and dental surgery. This investigation follows the framework typology presented by (Krippendorff, 2012) for standardized validation of textual content analysis.

In Quantitative web content analysis Krippendorff 's framework is particular relevant in the identification of the key attributes in large text quotations as well as word occurrence frequency

and intensity. In particular, once medical tourists post-experience are quantitatively summarized into interpretable attributes, the narratives are qualitative analyzed (Krippendorff, 2012) to provide the guidelines implement or improve service attributes.

This study specifically adds to the literature actual, post-procedural experiences of medical tourists related to cosmetic and dental surgeries. These experiences include the impact of web-based information, satisfaction, and willingness to recommend to others as the use of cosmetic and dental procedures increase. Our findings have both theoretical and practical implications. It contributes to the slowly growing body of literature in medical tourism and provides significant information to the prospective medical tourists, health care service professionals who provide medical service, hoteliers providing accommodation services and other operators who become part of the total experience (Stumbo & Pegg, 2005). Furthermore, the study identifies new themes based on semantic analysis to explore the medical tourists' behavior, feelings, and intentions.

By degrees of influence, this research suggests that the service provided by the "clinic" is the strongest theme, followed by the overall "treatment" experience, the "time" collecting health care information, and "recommendation. Gender was found to be an important factor in evaluating different attributes.

The present study offers a pathway for identifying the more expressive terms medical tourist use; taking a further step from that material, and structure it for surveys or questionnaire studies.

We begin with a review of the relevant literature in medical tourism and the use of Web content in assessing the tourist experience. We then present our data and methodology, followed by the results of our analysis. A discussion of the importance of these findings is the penultimate section of the paper, and then our conclusions, including limitations and future avenues of research.

4.2. Literature Review

Medical tourism: Context and factors

The literature provides no standard definition of medical tourism, which could be acceptable globally. Its origin, however, may be linked to being used as another segment to market by the

travel agencies/tour operators, which traditionally market holiday vacation. Medical tourism has become a combination of holiday package and affordable cosmetic procedures and dental treatments (Burkett, 2007). For the purpose of this study, we follow the notion that medical tourists are those who travel across international borders with the intention to receive some kind of medical treatment (Adams, Snyder, Crooks, & Johnston, 2015; Lunt et al., 2011).

Traveling abroad for healthcare benefits is not a new concept. In the 18th and 19th century, many Europeans traveled to remote locations to use spas which were considered to have health-enhancing properties (Condrea, Constandache & Stanciu, 2014). The modern trend is to receive treatments ranging from cosmetic procedures to major invasive surgeries (Cormany & Baloglu, 2011).

Amongst the demographic drivers of medical tourism demand, increased life-expectancy and the ageing population in the West have been playing a significant role in generating the growing demand (Connell, 2006). However, research relating to the impact of other social-demographic variables such as age, gender, existing health conditions and status, for mapping the composition of medical tourism market is scarce (Lunt et al., 2011). The current study contributes by exploring gender differences in cosmetic and cosmetic dental surgeries which are the two most common procedures in medical tourism (Kelley, 2013). The range of treatments available abroad for the two most common procedures ranges from dental implants to multiple cosmetic surgeries (Kelley, 2013; Connell, 2013). Cost is found to be a strong determinant to pursue cosmetic procedures, because some forms of esthetic procedures are excluded from health care coverage (Lunt et al., 2011). Furthermore, patients seek optimal value for money, and consider that foreign health care services often are of higher quality and much cheaper than their national services (European Hospital and Healthcare Federation, 2015).

The range of treatments available abroad for prospective medical tourism is wide, but the most common treatments driving the demand for medical tourism are related to cosmetic procedures ranging from cosmetic dentists for substantial cosmetic surgery (Connell, 2013; Kelley, 2013).

Cosmetic surgery

Being youthful in attitude and appearance is the zeitgeist that drives medical tourism (Öberg & Tornstam, 2001). Cosmetic surgery is in keeping with this spirit as it enables people to define a self-fulfilling image (Salehahmadi & Rafie, 2012). Women generally drive demand for

cosmetic surgery, and there are several possible explanations for this phenomenon, which are not necessarily mutually exclusive. One is that women in Western society have options, resources, and opportunities to access a greater array of medical tourism choices (Wilson & Little, 2005). In addition, older women also increase the demand for cosmetic surgery (European Commission, 2014) and advertising for cosmetic procedures target women more exclusively (Ackerman, 2016). A combination of these factors and increasing competition adds to the interest in the procedures.

The American Plastic Surgeons' report in 2015 ranks breast enhancements as the most common, followed by liposuction, nose reshaping, eyelid surgery, and tummy tucks. While some of these procedures may seem frivolous, even vain, the bottom line is that cosmetic surgery, even minor enhancements, can have a major effect on an individual's well-being, self-esteem, and quality of life (Delinsky, 2005). A positive outcome is that the result often enhances the body image and confidence (Honigman, Phillips, & Castle, 2004).

Cosmetic dentistry

Sanders & Spencer (2005) find that half of all adults are not satisfied with their teeth, and are unwilling to pay for expensive facial surgery. Hence, cosmetic dentistry presents an affordable and attractive alternative to facial surgery. It has led to an increase in demand for cosmetic dental procedures (Herrick, 2007). The 2015 survey from the American Academy of Cosmetic Dentistry conducted between September and November of 2015 indicates that revenue from cosmetic dentistry procedures showed a four-point increase ($500,000 to more than $1 million) compared to 2013. Cosmetic dentistry is growing because of the new emphasis on aesthetic smiles (American Academy of Cosmetic Dentistry, 2015). Whitening/bleaching is the most common procedure, while veneers, tooth-colored inlays, tooth-colored crowns, and bonding round account for the top five procedures (American Academy of Cosmetic Dentistry, 2015). Furthermore, there is heightened awareness of the link between oral health and overall health; this will influence professionals to integrate dental care and cosmetic work. Thus, traveling abroad for cosmetic dentistry is a trend that will continue to rise (Kim, 2013; Nicolaides & Zigiriadis, 2011).

Medical tourism destinations

Traveling for medical care has generally been from underdeveloped countries to advanced economies (Lunt et al., 2011). Currently, however, that trend is reversing as patients in wealthy

nations seek cost-effective treatments in emerging markets. This shift is derived from the growing economic and political cooperation that promotes the international traveling of patients and health care professionals (Horowitz & Rosensweig, 2007; Kelley, 2013).

Medical tourism is becoming a prosperous business globally and for some European, Asian, and South American countries in particular (Wang, 2012). Many of these destinations offer more than just surgery; they feature a package that includes enticing tourism opportunities (Crooks et al., 2010). Medical tourism continues to grow with top ten countries in terms of volume of care being: Thailand, Hungary, India, Singapore, Malaysia, Philippines, United States, Costa Rica, Brazil, and Mexico (Bristow & Yang, 2015; Deloitte, 2014). A number of countries are developing competitive strategies in medical tourism focusing on both quality of the service and on price (Burkett, 2007) to increase their market share. The majority of medical tourists seek care outside their native home to save cost and time.

Cost of treatment abroad varies based on multiple factors, including hospital, doctors experience, accreditation, and exchange rates. Significant differences are noted between/among destinations (Medical Tourism Association, 2016). For example, a dental implant can range from $2,700 in Singapore to $800 in Costa Rica. Breast implants are the most popular treatment and can range from $8,400 in Singapore to $2,500 in Colombia (www.medicaltourism.com). Face-lifts, second in popularity, run from $11,000 in the USA to $440 in Singapore. Because of these potential cost savings and aging populations worldwide, medical tourism industry has an upward trajectory in the near future.

The medical tourism post-experience

Medical tourism post experience must balance two sides. On one hand, there is the patient experience; the patient must be attracted and should feel satisfied (Salehahmadi & Rafie, 2012). On the other hand, there is a risk inherent in almost every medical procedure. Medical tourists can experience health complications abroad or domestically (Hanefeld et al., 2014), though it is likely that patients would feel more comfortable enduring complications in familiar surroundings, ceteris paribus.

Patient satisfaction is an important dimension of healthcare treatment in medical tourism, even though relatively little is known about the experience of medical tourists (Lunt et al., 2011).

The patient generally reports high satisfaction with quality of care received in countries of destination, but it is not clear that this high satisfaction includes all ranges of treatments (Ehrbeck, Guevara, & Mango, 2008). Concerning risk, complications increase costs for patients whether there is the need to remain abroad (Freire, 2012), or via increased demand for National Health Services if complications remain after returning home (Hanefeld et al., 2014).

The role of Web contents in medical tourism

The Web plays a significant role in medical tourism industry as a key link between medical tourists' reviews and potential consumers' decision-making behavior (Lai & To, 2015; Zeng & Gerritsen, 2014). It facilitates the need for a relatively objective and trustworthy information (Lai & To, 2015; Zeng & Gerritsen, 2014).

For example, the websites that display information by former medical tourists can act as an information source for those at the decision-making stage (Yu, Carlsson, & Zou, 2014). In recent years, medical tourists have started searching the Web to access information on health care, and available medical treatments before they decide to travel abroad (Masoud et al., 2013). The Web is a more accessible medium for information about medical tourism than other media such as individual correspondence or letters (European Hospital and Healthcare Federation, 2015).

Social media comprises internet-based applications that are developed on the technological foundations of the Web 2.0, enabling the creation and exchange of user-generated content (Karimov, Brengman, & Hove, 2011). Medical tourists want to know about the other patient's experiences. The Web 2.0 has evolved into a collaborative platform which allows medical tourists to share information and their overall experiences (Cormany & Baloglu, 2011). The personal elements of social media communities induce high levels of trust. This trust result in the perception of the received information as reliable (Karimov et al., 2011).

Patients are naturally apprehensive about traveling abroad for treatment; choosing doctor(s), procedure(s), and/or hospital(s) are major decisions. Naturally, the more opinions patients gather, the more secure they feel. Medical experiences are considered to be unbiased and are an important factor in choosing the right treatment (Yoo & Gretzel, 2008). Losken, Burke, Elliott, & Carlson, (2005), conducted a survey relating how breast augmentation patients use the internet, 68% accessed the internet for information, of this subset, internet information

influenced decision-making for choice of procedure (53% of cases), choice of surgeon (36% of cases), and choice of hospital (25% of cases).

These medical tourism websites offer a range of functionalities, and formats that include discussion forums, file sharing, posting information and sharing experience, member only pages, advertisements and online tours (Lunt et al., 2011; Lunt & Carrera, 2010). They vary widely in scope, content, professionalism, and depth of information. Interpretation of these sites is the fundamental issue on how the credibility of the information is established (Lunt et al., 2011; Penney et al., 2011). Consequently, as a growing source of influence in medical tourism industry, creation, sharing, and use online information, medical experiences have drawn much attention of both researchers and service providers (Bonn, Furr, & Susskind, 1999).

Despite the growth of websites dedicated to medical tourism, there is little empirical evidence on the use and impact of these websites on medical tourists' behaviors (Lunt & Carrera, 2011).

The online content reviews generated by medical tourists provide natural data to researchers, (Zhang & Cole, 2016) to make further progress in medical tourism, identifying the most influential services attribute.

Our contribution, then, is to discern how medical tourists' comments and ratings in social media influence prospective patient's decision-making. By mapping the word content of these reviews, we capture the characteristics on how patients review individual treatments, hospitals, clinics, and medical tourism agencies. We analyze these information patterns according to demographic attributes (e.g. gender) and medical procedure to pinpoint the drivers of medical tourism and the patient experience.

4.3. Methodology

Research context

We collected data from the reviews posted on the Treatment Abroad website. All medical tourists had received some kind of cosmetic procedure in 29 clinics (8 dental, and 21 cosmetic), in 15 foreign countries and they originated from 34 countries. The data corresponded to 8 years of reviews from 2008 to 2016.

Treatment Abroad is the leading online medical tourism portal and hence is widely used to conduct research on the industry. The website holds the Health On the Net Foundation (HON) label, which promotes and guides the deployment of useful and reliable online health information, and its' appropriate and efficient use (www.hon.ch), and is related to the main portal for Private Health Care in the UK, since 1997. The websites serve as a gateway for patients as well as all types of healthcare providers, including hospitals, doctors, dentists, and healthcare products and services companies who wish to engage the public.

We assessed the quality of the content of the Treatment Abroad website based on the systematic review conducted by Lunt & Carrera, (2011). The authors evaluated fifty medical tourist web sites based on the eight principles that make up the (HON) code. Of the 50 sites revised, only three sites, including www.treatmentabroad.com, met content quality that may contribute towards an informed decision-making (Lunt & Carrera, 2011). The large number of reviews of the most common medical tourism cosmetic procedures was a major criterion for the selection of the review site: Treatment Abroad offered 603 reviews in English, which was considerably more than other medical portals. We retrieved data related to: medical specialization, detailed information on the operation or treatment, age, gender, country of origin and countries of destination, review date, and post experience comments (http://reviews.treatmentabroad.com).

Content analysis

We use a mixed–method approach, which involves both quantitative and qualitative content analysis (Zhang & Cole, 2016).

The best approach to content analyze is to blend quantitative and qualitative methods (Weber, 1990). The Leximancer interface combines qualitative and quantitative approaches from Information Science to help analyze complex textual data. A clustering algorithm is applied to display the major themes and concepts relationships (Smith & Humphreys, 2006).

Quantitative content analysis summarizes medical tourists' perception of medical services via word occurrence frequency (Zhang & Mao, 2012). The qualitative approach of narrative analysis allows conceptualizing patients' perceptions toward the overall experience.

We use Leximancer (4.0 Ed.) to analyze medical tourist reviews based on clinical experiences.

This lexical software map conceptual information from large text collections (Smith & Humphreys, 2006); concepts are clustered according to the relationship between them (Stepchenkova & Morrison, 2006). Leximancer has been used in tourism research for just over a decade (Scott & Smith, 2005) and has recently been applied towards destination image and shopping experiences (Wu, Wall, & Pearce, 2014), and news media (Imison & Schweinsberg, 2013).

Methodological approach

From 603 medical tourist reviews, we saved 88,672 words (cosmetic dentistry: 47,685 words and cosmetic surgery: 40,987 words). For the purpose of this research, we developed the operational method in 4 phases: 1) Definition of goal and scope-To identify medical tourism key attributes.

The scope involved content-based analysis of cosmetic procedures. 2) Data collection-Identify the web page related to medical tourism cosmetic procedures. 3) Classification-By type of treatment, medical tourists' overall rates, gender, country of origin and country of treatment. 4) Analysis-We introduced a mixed method approach using Leximancer, that combines quantitative and qualitative data analysis.

Leximancer software generates a thesaurus, and a machine-learning algorithm is applied to determine the optimal thesaurus words from the text data grouped by themes (Leximancer Pty Ltd, 2016). Additionally, in the qualitative result section, we present a global concept map view-cosmetic procedures with tags for cosmetic surgery and cosmetic dentist by gender. The qualitative content analysis details the themes and concepts of the reviews. This provides demographic information for comparing and segmenting consumers by medical procedure and gender. The frequency analysis illustrates the most frequent words in cosmetic surgery and dentistry via extraction from Leximancer for comparison between types of medical treatment.

4.4. Results

Quantitative results

In this study, we approach the Leximancer analysis by using a word co-occurrence matrix from which we identify concepts. Leximancer then groups the concepts into themes based on how often they appear in a block of text (Smith, 2003).

Sample characteristics

The sample consists of a pool of 603 consumers that undergone cosmetic procedures (see Table 4 for demographic attributes). The sample included slightly more posts for cosmetic dentist (331 comments, 55%) than cosmetic surgery (272 comments, 45%).The largest percentage of the sample was aged 45-54, followed by ages >= 55 years old. The latter is all one category on the Treatment Abroad website. Medical tourists, older than 45 represent 51% of this sample.

Table 4. Demographic attributes.

Demographic	Dimensions	Cosmetic	Dentist	Values	Total
Gender	Female	242	166	408	68%
	Male	30	165	195	32%
Age	16-24	29	24	53	9%
	25-34	72	43	115	19%
	35-44	65	63	128	21%
	45-54	64	109	173	29%
	55-100*	42	92	134	22%
Clinics/Country of Destination	Belgium	159		159	26%
	Turkey		118	118	20%
	Hungary		104	104	17%
	Slovakia		57	57	9%
	Poland		38	38	6%
	Slovakia	30		30	5%
	Others	83	14	97	16%
	Total	**272**	**331**	**603**	**100%**

Countries of origin and destination

Medical tourists originate from 34 countries. The great majority of our sample is from the UK (65%). The second higher percentage is medical tourists from Ireland (11%), followed by

Norway (4%). Countries like Australia, Spain, and the Netherlands, only represent (2%), USA, Belgium, Switzerland, Malta (1%), and other parts of the world (8%).

Table 4 lists the 15 destination countries where medical tourists have travel to receive treatment. Belgium (159) is by far the European country; most respondents' visited for cosmetic enhancements, whereas Turkey (118) was the most popular place for dental treatment, followed by Hungary (104).

Medical tourism ratings

Medical tourism ratings (from 1 to 5 stars) enable reviewers to provide feedback based on their treatment experience. In this section, we identify various satisfaction ratings. Our results indicate that medical tourist score higher ratings on all indicators. Ratings were higher in the Cosmetic Dentist group than Cosmetic Surgery. Essentially, ratings that capture higher scores are consistent with most relevant themes found in results, e.g., *clinic*, corresponding to Hospital/Clinic environment or *treatment*, corresponding to Outcome of treatment. Overall, female, show higher satisfaction in cosmetic dentist (4.91) and males in cosmetic surgery (4.84). Deserving a special consideration is the lowest rating for Patient communication.

Qualitative results

The qualitative results enable us to determine the meaning of the Web content analysis (e.g., experiences, opinions, and feelings) and further identify the main themes and concepts.

Cosmetic procedures: cosmetic surgery and cosmetic dentist

The results from the overall cosmetic procedures determine seven themes in the concept map (Figure 4). This map includes concepts (shown as small gray dots) which are grouped into themes (indicated by the larger colored spheres) (Wu et al., 2014). The dominant themes of connectivity and relevance are "*clinic*" (756 hits), *treatment* (683 hits), *time* (671 hits), *recommend* (664 hits), *happy* (185 hits), *cost* (80 hits), and *questions* (67 hits), representing medical tourist experiences.
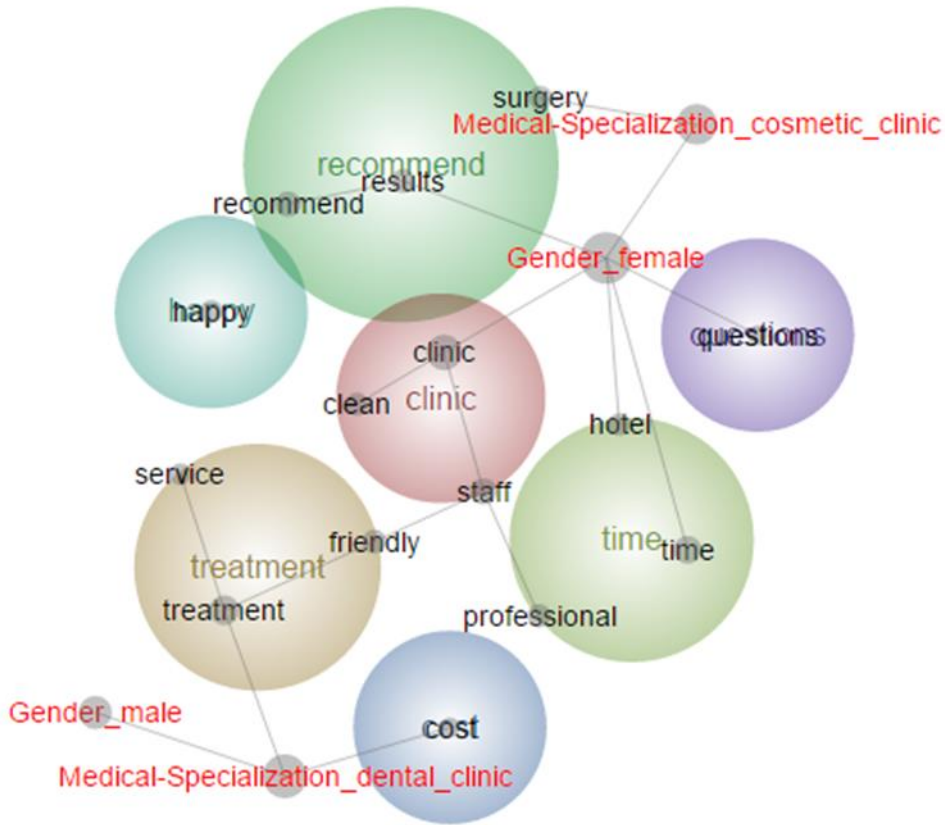
Figure 4. Concept map view-cosmetic procedures: cosmetic surgery and cosmetic dentistry

In Figure 4, males are closely associated with cosmetic dentistry, and relate to two major themes *cost* and *treatment*. Evidence from the concept map also indicates that females are closer to cosmetic surgery and relate to themes such as *recommend, clinic, time*, and *questions*.

Qualitative content analysis

The qualitative approach of narrative analysis was adopted to conceptualize not only medical tourists' experiences, but also their appraisal of the facilities and the staff (Gong, Xie, Peng, & Guan, 2015). The qualitative approach fully embraces the interpretive nature of medical tourists' narrative textual variation (Banyai, 2012). A rising trend is thus to adopt the mixed-method approach that combines quantitative methods with unstructured qualitative methods in order to capture broader components of the web-recorded medical tourist comments (Cormany & Baloglu, 2011). In this research, we decompose healthcare experiences as described by medical tourists into quotations that are full of individualized details. In Table 5, we interpret the quotations by gender to demonstrate how female and male medical tourists assign meanings

to their health experiences, and how these meanings vary within cosmetic surgery and cosmetic dentistry.

Table 5. Qualitative content analysis

Theme: Concept Word-Like	*C	*G	Comments
Clinic (Hits 756) Clean; staff; friendly; hotel; service; recommend; surgery; professional.	D	F	The clinic was outstanding and very clean.
		M	You think you are in a 5 star hotel and not in a clinic.
	C	F	Beautiful and very modern clinic. Everything very clean.
		M	I did much research on him and his clinic before I made the decision to have my operation with him.
Treatment (Hits 683) Cost; service; professional; friendly; happy; clinic; recommend; staff.	D	F	This is my first treatment of 4 over a year and already I feel better and can SMILE with confidence.
		M	Overall, the treatments, which were teeth implants, was a complete success and highly recommended.
	C	F	Fantastic treatments while on a holiday or just go for the cost.
		M	The Manager put together a treatment package for me, which was excellent value for money.
Time (Hits 671) Surgery; hotel; cost; professional; results; clinic; questions; clean.	D	F	I was there for 10 days this time, but I did meet a couple who were there for 3 half weeks.
		M	I went over 4 times for extensive work and every other patient that I met had amazing teeth.
	C	F	I spent hours, researching surgeons and reading reviews.
		M	Deliver excellent services coupled with the time to explain procedures thoroughly, ensuring that you have a clear understanding of the treatment its effect and impact.

Theme: Concept Word-Like	*C	*G	Comments
Recommend (Hits 664) Service; clinic; surgery; professional; results; happy; treatment; staff.	D	F	I have no problem recommending the clinic to everyone.
		M	I can highly recommend to everyone, they are so professional and helpful, it makes the whole procedure a pleasant one.
	C	F	I just have some tightness in the neck area due to the Lipo, this is normal and should go within a month or so. I would recommend the surgeon and his staff.
		M	I am so happy and only 2 weeks post op that I am already considering having another procedure, no hesitation at all in recommending this clinic.
Happy (Hits 185) Results; treatment; recommend; questions; surgery; clinic; professional; friendly.	D	F	I was a little nervous cause did not know if the Clinic could do that I would feel completely happy.
		M	At the end of the week, they dropped me back to the airport and made sure I was happy with everything before I left.
	C	F	I am so happy with my perfect and beautiful, good-looking breasts. They are especially beautiful to my figure.
		M	But, now I am not the same older person. Now I am a very happy person with younger and smarter looks.
Cost (Hits 80) treatment; hotel; time; service; results; surgery;	D	F	The cost was also a major factor - the prices in the UK were out of reach.
		M	I often considered having this work done on my teeth in my country, but the prohibitive cost puts me off.
	C	F	So combining a holiday with surgery at a less cost than I would pay in the UK.

Theme: Concept Word-Like	*C	*G	Comments
recommend; professional.		M	It was approx. 60% of the cost of having this done in the UK including travel & hotel expenses for two of us.
Questions (Hits 67) Friendly; surgery; hotel; staff; happy; time; professional; clinic.	D	F	I never had to wait more than a few hours for a response to a number of typical customer questions I had sent by email.
		M	First call was informative and they answered all my questions.
	C	F	She answered all of my questions and I was never rushed.
		M	The staff were friendly and answered my questions fully.

*C-Clinic**:** D-Cosmetic Dentist; C-Cosmetic Surgery-*G-Gender: F-Female; M-Male

Cosmetic surgery

Tags indexing "gender", also determine the split sample tests by type of treatment. The concept map in Figure 5 identifies six dominant themes in cosmetic surgery. By the rank of importance: *treatment* (697 hits), *staff* (313 hits), *recommend* (267 hits), *service* (197 hits), *happy* (185 hits), and *cost* (113 hits).
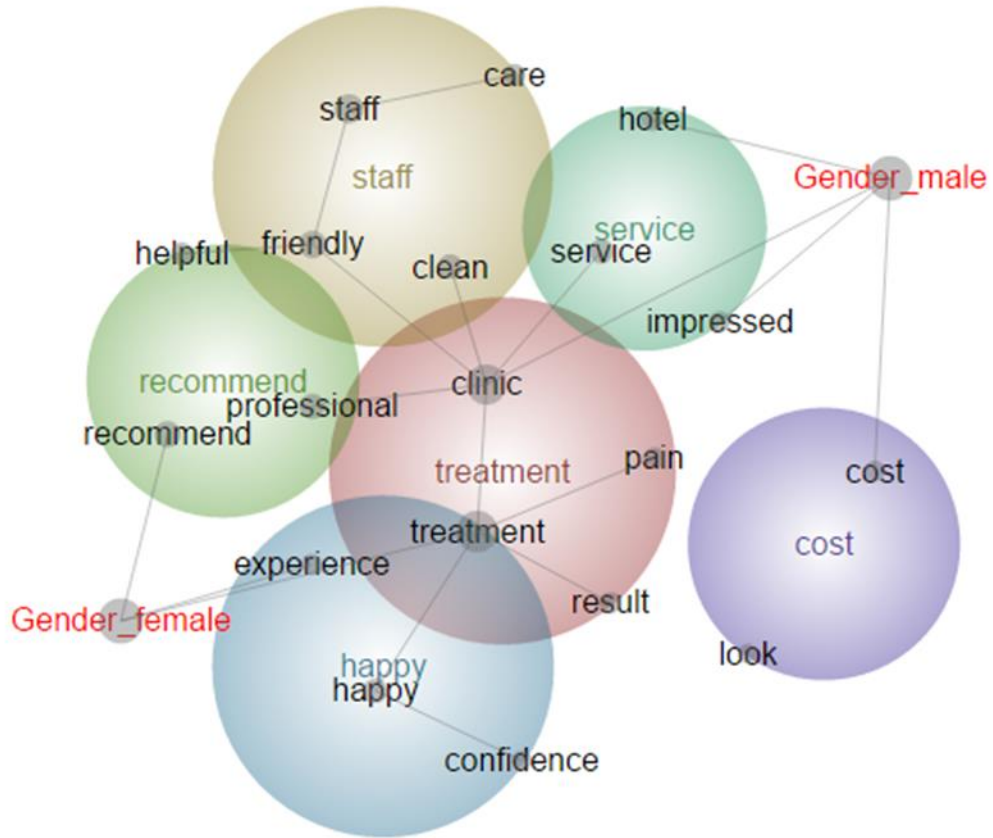
Figure 5. Concept map view–cosmetic surgery

The concept map evidence that males submitted to cosmetic surgery are closely associated with *service, treatment*, and cost, while females are closely associated with *treatment, recommend,* and *happy*.

Cosmetic dentistry

Third, we produced the concept map to reveal the most common themes and concepts found in the cosmetic dentistry reviews, as well as the frequency of their occurrences and co-occurrences see Figure 6.

In this set of analysis, seven themes were identified: *treatment* (520 hits), *clinic* (374 hits), *happy* (281 hits), *recommend* (266 hits), *service* (197 hits), *confidence* (79 hits), and *cost* (72 hits).

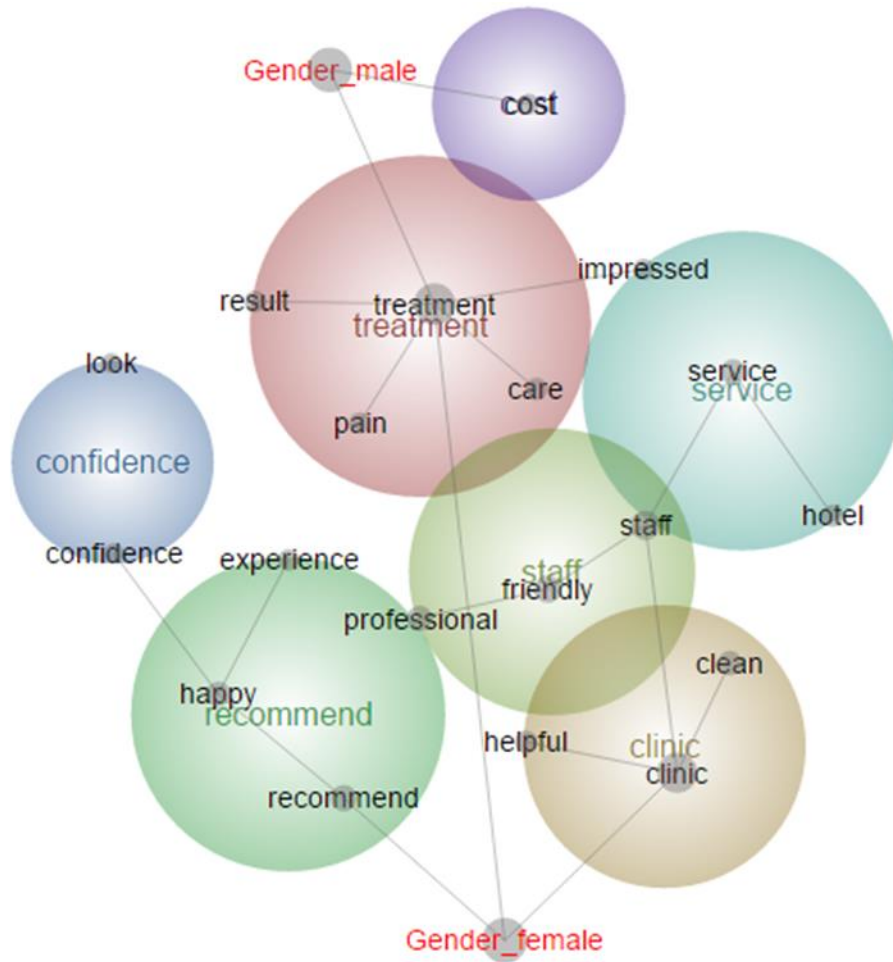Figure 6. Concept map view–cosmetic dentistry

In Figure 6, males selecting cosmetic dentistry are closely associated with *service* and *cost*. Females are closely associated with *treatment*, *recommend*, and *clinic*, as was the case with cosmetic surgery.

Frequency analysis

Table 6 illustrates the 63 most frequent words used in cosmetic surgery and the 60 words in cosmetic dentistry by medical tourists' web comments. We have selected the top five by likelihood percentage of each concept and with SPSS V.20 to conduct a descriptive statistic. The top five words in both cosmetic surgery and dentistry constitute medical tourism concepts. The experiences are described the most include: *friendly* and *cleaning* when referring to the clinic or hospital facilities, whereas medical experiences are reinforced by other words such as *helpful, staff,* and *confidence*. Tourists submitted to cosmetic procedures describe their

medical experience in terms of *happy* and *impressed* with the overall *look*. The analysis also revealed that tourists submitted to cosmetic dentistry are *happy* and *impressed* with the *look*, achieved after treatment.

Table 6. Most frequent used words

Cosmetic surgery-keywords (N=63)			Cosmetic dentist-keywords (N=60)		
Keywords	Frequency	Percent	Keywords	Frequency	Percent
friendly	8	12.7	friendly	8	13.3
clean	7	11.1	clean	7	11.7
helpful	7	11.1	helpful	7	11.7
staff	6	9.5	staff	6	10
confidence	5	7.9	confidence	5	8.3
experience	3	4.8	happy	3	5
happy	3	4.8	impressed	3	5
impressed	3	4.8	look	3	5
look	3	4.8	pain	3	5
pain	3	4.8	result	3	5
result	3	4.8	experience	2	3.3
service	3	4.8	hotel	2	3.3
hotel	2	3.2	recommend	2	3.3
professional	2	3.2	service	2	3.3
recommend	2	3.2	care	1	1.7
care	1	1,6	clinic	1	1,7
clinic	1	1,6	professional	1	1,7
treatment	1	1,6	treatment	1	1,7
Total	63	100	Total	60	100

4.5. Discussion

We narrowed the research into major concepts and themes (Crofts & Bisman, 2010). We base this both on co-occurrence frequency and on a careful assessment of the meaning of the identified concepts. In detail, words or concepts from the analysis that were not meaningful (e.g. ok, great, often) or that were too generic (e.g. facilities, facility) were deleted from the analysis. In addition, we merge some similar concepts (e.g. plastic surgery, cosmetic surgery).

The concept map seen in (Figure 4) addresses the first research aim and identifies by the degree of influence the seven major themes that explain the overall representation of cosmetic procedures.

The separate analysis for the group submitted to cosmetic surgery and cosmetic dentistry in (Figures 5 and 6) indicates six themes that explore gender differences and addresses the second research objective.

In this section, we first discuss the implications of the overall representation of cosmetic procedures (cosmetic surgery and cosmetic dentistry), and key attributes represented by themes in the concept map. Second, we analyze the demographic factors and the representation of the two groups, cosmetic surgery, and cosmetic dentistry. This analysis indicates to service providers, medical tourism attributes that these two population's values and their managerial implications.

Overall representation of cosmetic procedures

"Clinic" is the strongest theme in the narratives of medical tourists undergoing cosmetic procedures. Medical tourism is presently considered one of the fastest growing tourism sector worldwide (Penney et al., 2011). The connection between the tourism and the healthcare industry results in what is one of the largest service industries in many countries (Heung et al., 2011). To capture market share in medical tourism industry, a large number of clinics have been improving their services, offering a superior level of services to attract medical tourists (Han, 2013; Hume & Demicco, 2007). These medical facilities offer high-quality medical treatment and attentive service to their international customers (Han, 2013). The intention to visit and/or revisit is critical in the tourism context and clinics and hospitals want to succeed in the competitive world of medical tourism (Han & Hyun, 2015). In this study, we find that medical tourists deem the clinics' level of service to be the most significant factor in their experience, hence enhancing the likely - hood of repeat visits and positive reviews. The authors, even advocate that international medical tourists consider the quality of healthcare treatment offered by a clinic to be more significant than the service provided by the staff, thus they are more likely to revisit when they hold a high level of trust in the clinic (Han & Hyun, 2015). Guidelines to improve clinic quality include: modern facilities, hotel style service, well trained service employees, and more efficient communication (Lee, Han, & Lockyer, 2012).

The second most-frequently mentioned attribute was *treatmen*t, which emphasizes the relationship between treatment and holiday costs, capturing positive comments that relate "excellent value for money" and the *happiness with the service*. *Treatment* is a broad term, and includes: quality of treatment, safety, mitigation of risk, financial issues for patients and for destination countries; equity; and the impact on providers and professionals of medical tourism (Lunt & Carrera, 2010).

The medical tourist value *treatment* has shown in the reviews reports by the high satisfaction with quality of care received in countries of destination. The tourist experiences are described as *friendly* and *cleaning* when referring to the facilities, and are reinforced by other words related to staff like *helpful*, and *confidence*. Finally, the tourists describe their treatment results with *happy* and *impressed* with the overall *look*.

The results interact in various ways with demographic attributes, as the *treatment,* and their related health improvements depend on gender, behavioral factors, and level of education (Lunt & Carrera, 2011). As the level of education is improving worldwide, and gender differences tend to decline, it's expected that further health improvements, and quality of treatment is of particular importance for the growing senior population (Voigt, Brown, & Howat, 2011).

Time is a rich theme, covering information on the time prospective medical tourist spends searching for the information prior to engaging in medical treatment, and highly connected with the recovery time from surgery after treatment. Naturally, prompt service has a significant effect on customer satisfaction (Mathies & Burford, 2011). Recovery time is relevant for tourism activities, as it typically includes staying abroad for at least part of the recovery period, whereby such post-discharge time can be spent at tourist resorts that cater to international medical tourists (Adams et al., 2015).

Recommendation reviews received positive evaluations from medical tourist towards the service provided. Typical comments evidence the service provided by the clinic and by the medical staff. Recommendation is relevant for prospective medical tourists as recommendations of friends and online reviews from strangers are the most critical factors that

influence tourists' online booking (Salanova, Agut, & Peiró, 2005; Lunt & Carrera, 2011). This research is in line with Patterson (2007) which finds that for medical tourism, personal experiences and word-of-mouth recommendation are the two most powerful information sources used for decision-making (Patterson, 2007).

The concept *happy* is an affective attribute, happiness with life in general can have a positive influence on patient satisfaction (Mathies & Burford, 2011). Health status has a significant positive effect on happiness; a study conducted by Gerdtham & Johannesson (2001), suggest that socio economic variables, health status, gender, and education may be as important as income for happiness (Gerdtham & Johannesson, 2001). Consequently, medical tourists submitted to cosmetic procedures want to feel satisfied with their image, and especially they want to feel more attractive (Salehahmadi & Rafie, 2012).

A less frequently mentioned attribute that may be a potential influential medical tourism is *cost*. One of the drivers for medical tourism is cost because treatments are often being available in home countries, but at greater cost (Hanefeld et al., 2014). According to Oh (2000), perceived price plays a significant role in decision formation, price perception influences the customer's decision to engage in repeated business and spread positive word of mouth. Furthermore, cost-savings were also considered a major motivation factor for dental tourists aged 31 to 59 (Jaapar, Musa, Moghavvemi, & Saub, 2017). Our proposition is in line with Han & Hyun, (2015), who indicate that in the medical tourism context, clinics and destination countries must recognize the essential role of price reasonableness and utilize it when promoting efficient ways to boost customer retention and maximize revenue. Furthermore, market segmentation is recommended, for example an upper class medical tourist might be willing to pay more in exchange for high-quality clinics and safe medical care than the great majority of customers who prefer less costly medical care (Han, 2013).

The last theme is *questions* which is often connected to friendly staff and how they were able to provide all necessary information before treatment. *Question* is a significant concept, since reliable information exchange is an essential component of decision-making (Crooks et al., 2010). It is also relevant in the healthcare context, due to the presumed consequences of

medical-care expenditure and outcome of treatment for patients' well-being (Arunanondchai & Fink, 2006).

Hospitals can also have a major role in improving communication with prospective medical tourists through their websites: improving communication in different languages and providing pre and post procedure information (Jaapar et al., 2017).

Demographic factors and representation of two groups

Medical tourism research seldom has investigated the effect of gender on behavior, women and men are involved differently in the consumption of tourism (Swain, 1995). Gender roles influence all aspects of life, including choice in tourism (Jordan & Gibson, 2005). In this research, we are particularly interested in analyzing gender differences in cosmetic surgery and cosmetic dentistry.

Comparing both concept maps, we find that males undergoing cosmetic dentistry (Figure 5), and males undergoing cosmetic surgery (Figure 6) value *treatment*, *cost* and *service* most often. On the other hand, women associate closely with *recommend, happy, treatment*, and *clinic*.

Two new themes are identified in cosmetic surgery "staff" and "service", and two new in cosmetic dentistry "service" that overlaps with cosmetic surgery, and "confidence".

"Service" also connects with quality; perceived service quality was found to be a critical component that can significantly influence the perceived value of medical tourism (Wang, 2012). Service quality is also a major predictor of long-term growth and profitability, it is crucial for service providers recognize the harm caused by low integrity standards and make efforts to restore trust (Gong et al., 2015), particularly in a health care service context.

Brady & Cronin, (2001), defined customer service orientation as the willingness to adjust service delivery to meet the customer's needs and preferences. For example, patients who perceived a higher level of service quality show greater satisfaction with the services, as well as a higher level of loyalty to the clinic/hospital which provides medical services (Marković et al., 2014).

It is also noted that "staff" is ranked as the second most mentioned attribute in cosmetic surgery, which underlines the importance of the human factor. The staff has the ability to shape

customer perception towards the clinic or the treatment; customers develop their attachment to the clinic through the human factor of the staff (Zhang & Mao, 2012). Our research supports the findings of Han & Hyun (2015), that perceived quality, satisfaction, and trust in the staff and in the clinic significantly influences intentions to revisit clinics and the destination countries.

Patients who seek treatment abroad can realize major cost savings (Han, 2013). For healthcare clinics that have already established a reputation of high quality services, their competitiveness relies on the provision of those services at significantly lower price (Arunanondchai & Fink, 2005).

"Confidence" is a new attribute mentioned by medical tourists that travel overseas for cosmetic dentistry. When it comes to cosmetic procedures it is important to transmit credibility and confidence (Lunt et al., 2010). Tourists evaluate the credibility of a medical tourism destination and hold a positive destination image based on confidence (Dunne, & Hanrahan, 2015). Knowing the importance of patient confidence while choosing to travel abroad, some destination countries have established partnerships with world-renowned medical schools and hospitals in advanced countries as a shortcut to high confidence and immediate credibility (Kim, 2015).

This study contributes to the limited literature on medical tourism decision formation in four ways:

First, it connects the experiences of medical tourists, in the form of online reviews, with behavioral intentions; few studies have examined this link. The present research offers a pathway for identifying the more expressive terms medical tourist use; future researchers can use the online comments taking a further step from that material, and structure it for surveys or questionnaire studies (Pearce & Wu, 2016). Han & Hyun (2015) tested a conceptual model explaining medical travelers' intention formation; and proposed the identification of additional constructs in an international medical tourism context. Our study suggests proposes a new conceptual model that includes the concept of "happiness" while studding medical tourism and cosmetic procedures, and its possible positive effect on" recommendation". Integrating such constructs into a proposed model will further strengthen the theoretical framework providing more explanations on the recommendation process.

Second, it emphasizes how gender issues can affect the overall perception of the two most common cosmetic procedures: cosmetic surgery and cosmetic dentistry. As shown in the results both, female and male score higher satisfaction ratings. Females are closed associated with cosmetic surgery and males with cosmetic dentistry (Figure 4).

Very little has been written in relation to gender, specifically in reference to cosmetic surgery tourism (Lunt et al., 2011; Holliday et al., 2013). Some of the limitations of social media studies in tourism is the ability to determine consistently the social composition of the sample (Wu et al., 2014).

This study contributes to the very limited literature on medical tourism treatment preferences by gender. Demographic attributes can be used while addressing market segmentation. For example, while man value the "cost" of the medical "treatment". Women who constitute the great majority of the cosmetic market (Ackerman, 2016) are more willing to "recommend" the "treatment", if they feel "happy".

Third, we use international medical tourists' spontaneous reviews on social media as the basis of our analysis, which makes this data more authentic than data researcher coaxes from the respondent. Existing studies have established that social media play a critical role as facilitating services for consumers in many aspects of their travel plans. For instance, travel is an intangible concept and cannot be evaluated beforehand; travelers tend to rely on social media as an experienced source to lower the perceived risk and uncertainty (Ayeh, Au, & Law, 2013). Social media is essential to travelers as they decide destinations, accommodation and other activities to plan their travel, therefore social media will affect their travel and decision making process (Cox, Burgess, Sellitto, & Buultjens, 2009). Our study attempts to enrich previous findings by contributing to an understanding the information prospective medical tourists search during pre-travel phase (e.g. information on clinics and treatments), and post-treatment phase (e.g. share medical experiences, review clinics and hospitals, and describe outcome of treatment).

Fourth, it adopts Leximancer, such software is a powerful tool for unlocking the motivations and intentions of tourists, and this manuscript disseminates its use as a potential best practice in the field of medical tourism. Leximancer has recently gained the attention of some tourism scholars (Wu et al., 2014). This study collected reviews posted from 2008 to present, and provides insights into undertaking further studies of medical tourists using social media, especially online reviews as an information source. More important, it is vital to identify the

characteristics of the reviewers whenever possible in medical tourism field, their preferences, gender, country of origin, and country of treatment.

Although our findings offer some valuable insights, we acknowledge the limitations of our research. The proposed methodology requires validation and confirmation in future research, especially in light of the existence of contributor or self-selection bias in online postings. We base our study on written statements on the Treatment Abroad website, rather than a face-to-face interview, which would yield the opportunity to explore medical tourism experiences more deeply.

Another limitation of this study is that the small number of negative reviews, and may not be large enough to identify all issues that negatively medical tourists' cosmetic experiences and side effects from surgeries. Although a small number of negative reviews reported are a positive sign for medical providers, it may affect the comprehensiveness of identifying potential dissatisfaction attributes as well as influence the classification of the results from this study.

Now that we have mapped some of the salient concepts of medical tourism experience, future work may focus both on discovering more characteristics as well as on measuring such characteristics more accurately.

4.6. Conclusion

Medical tourism activity has become a significant niche of the tourist business industry. Many tourists choose to have medical treatments abroad and are eager to broadcast their experiences on the Web. Thus, as the amount of reviews increase, so does information credibility. Based on the consumers' reviews it was possible to identify the main key drivers and its interactions that influence medical tourism.

Practically, study provides a strategic for marketers and medical tourism providers to implement or improve the service attribute so that they can maximize prospective customers' experiences. Initially, medical tourism providers should prioritize the attributes, which could better guarantee the efficient allocation of resources to maximize customers' experiences.

By degrees of influence, the results suggest that the service provided by the *clinic* is the strongest theme for medical tourism, followed by the overall *treatment* experience, the *time* collecting health care information, and *recommendation.* A less frequent mentioned attributes that may also have a potential influence on medical tourism express how *happy* medical tourists were with the results, the overall *cost*, and the prompt response to customer *questions*.

Further analyses show that groups submitted to cosmetic surgery and cosmetic dentistry used the same narratives to represent their medical experiences, gender is an influential factor in evaluating different attributes.

Another practical implication is that positive reviews can create an opportunity for medical tourists' providers. An online reputation created mainly by favorable post experiences reviews represents their core competitiveness by which to attract customers and secure more online medical tourists.

The present research applied a computer-assisted quantitative approach using Leximancer to carry out medical tourism website content analyses to unlock the motivations and intentions of tourists. The research contributes to the quite limited literature on western medical tourism, identifying the key attributes and characteristics of tourist/reviewers in the medical tourism field, especially their preferences, gender, country of origin, and country of treatment. Our findings help managers and marketing with responsibilities' in medical tourism on interpretations of what constitutes good customer service, as described by those who deliver it, and the demographic attributes can be used when addressing market segmentation. For example, while men value the cost of medical treatments. Women, who constitute the great majority of the cosmetic market (Ackerman, 2016), are more willing to recommend a treatment if they feel happy.

To conclude, our study assessed the detailed attributes of medical tourism and service quality, that in turn will allow researchers to clearly identify measurement items and more thoroughly investigate the role of such quality constructs in international medical tourism decision-making processes.

5. In good wellness: Identification of satisfaction and dissatisfactions attributes in Thalassotherapy Spa and Resort

Abstract

Our study focuses on the Thalassotherapy Spa and Resort facilities associated with the wellness tourism, recreational activities and curative therapies with mineral water. This research identify the prevailing themes and reviews used by tourists in describing their post experiences, and we explore satisfaction and dissatisfaction attributes in particular. Data was retrieved from a content analysis of 3,116 customer reviews posted on TripAdvisor from 2010 to 2016, and we segment the top five countries that represent the Global Thalassotherapy and Spa Industry. Our findings indicate that tourists perceive the resort facilities, which includes the room condition, and Thalasso water treatments as the primary drivers of good service. Critical attributes of the room condition are room comfort, especially the bed, bathroom and shower facilities, and overall cleanliness. This research suggests that the analyses of Wellness Tourism data within Thalassotherapy Spa and Resorts facilities should be desegregated and re-aggregated according to sub groups (tags) that represent different satisfaction groups.

5.1. Introduction

Wellness tourism is a holistic concept associated with emotional and physical balance (Global Wellness Institute [GWI], 2014; Steiner & Reisinger, 2006).

Wellness is a strong consumer trend, as tourists increasingly seek authentic nature-based experiences (Wilson & Little, 2005). This trend is also due to more health-conscious, affluent consumers that are coping with stressful working environments; these tourists are driving this niche market (Heung & Kucukusta, 2013).

For centuries, tourists seek water retreats for treatment; these historical thermal instances are the birthplace of today's thalassotherapy spas (Yu & Ko, 2012). Wellness tourism has the advantage of supporting the preservation of traditional cultural and natural assets while stimulating the tourism industry (Lunt et al., 2011). Furthermore, wellness tourism is important for overall economic development: increasing tax revenues, creating jobs, and bestowing other positive spillovers on the local population (Eurostat, 2015).

Research conducted by the GWI (2013) predicts an annual growth of 7.3% between 2012 and 2017, generating a global impact of $1.5 trillion (GWI, 2013). The top ten countries in the industry are in either Asia or Europe, and they account for 85% of thermal and mineral springs revenue, while the top twenty accounts for 96% (Global Wellness Institute, 2014); Yeung & Johnston, 2014).

The world's thermal and mineral springs establishments are an important segment of the wellness tourism providing not only accommodations, but also therapeutic, and recreational uses (Heung & Kucukusta, 2013). In recent years, the spa industry has invested in building modern resorts that represent the largest segment of the wellness industry estimated at $74 billion in 2013 (Yeung & Johnston, 2014).

Wellness tourists may range from health treatments in particular to multiple purposes, including traveling, sightseeing, family vacation, and recreational activities (Heung & Kucukusta, 2013).

This fast growing market is driven by a tenacious competition among service providers and destination countries with the sole purpose of attracting more customers to this niche (Medina-Muñoz & Medina-Muñoz, 2013).

From a pragmatic perspective, it is particularly important to gather information about the demand for tourism in Thalassotherapy Spas and Resorts. More specifically, we compile and identify attributes pertinent to wellness tourism satisfaction and dissatisfaction, and discuss the results by degree of influence (Cadotte & Tugeon, 1988).

We select the information from post experience reviews available on TripAdvisor as the data to study tourists' therapeutic and recreation experiences.

Our findings have direct practical implications for the Wellness tourism business, namely in the Thalassotherapy Spa and Resorts as they propose the implementation of guidelines that can increase tourists' satisfaction and minimize dissatisfaction through better implementation of the financial resources.

Our contribution to the literature is to suggest that satisfaction groups should be represented as distinct subgroups in data analysis. We base this on our findings of customer satisfaction. The key drivers of good service are the resort facilities and hydrotherapy. In particular, the room conditions, including cleanliness, comfort, and bathroom facilities, are crucial attributes.

We organize the paper as follows. We offer a road map to wellness tourism industry, and an historic perspective of the spa heritage UGC, detailing our contributions. We then proceed to describe our data and methods of analysis.

After this, we present our results and discuss the global service evaluation. Prior to concluding, we state the theoretical implications and managerial, note the limitations and provide guidelines for future research.

5.2. Literature Review

Why is the wellness tourism industry on such a remarkable growth trend?

'The word wellness entered the mainstream vocabulary in the 1970's, and since then has grown dramatically in popularity over the last 15 years' (GWI, 2013 p ii). The notion of wellness was originally coined by (Dunn, 1959). Researchers have focused on defining wellness as a subset of the tourism industry that focus on promoting health related treatments, e.g. a medical examination by a qualified medical staff, diets, acupuncture, trans-vial injections, vitamins, and herbal medicines (Goodrich & Goodrich, 1987).

More recently, The Global Wellness Tourism Economy, (2013 p vi), defines 'wellness tourism as travel associated with the pursuit of maintaining or enhancing one's personal well-being'. http://www.globalspaandwellnesssummit.org.

In any case, the products and services of the health and wellness claim to be in the market for a set of distinctive features: an alternative to more conventional tourist products, well-being, relaxation, beauty, and promotion of healthy lifestyles and habits (Meyer, 2014).

The major players identified in the well-being market:

The thalassotherapy-Treatments with seawater.

The spa-Treatments with mineral water and additional means.

The spa resorts-Consumption of water and other means.

The climatism-Treatments using the climatic characteristics; and others-beauty farms, wellness hotels, spa hotels, and day spas (Puczkó & Bachvarov, 2006; Smith & Humphreys, 2006).

While each wellness market is unique, we observe several trends across continents namely

Wellness is the fastest growing tourism sector worldwide increasing with significant commercial operations and an increasing number of tourists (Clarke, 2010). Wellness plays a critical part in contributing to people's well-being (Schofield, 2004). We notice that more and more people are interested in enjoying a vacation or leisure periods with health benefits (Tomasović Mrčela, Borovac, Vrdoljak, Grazio, Tikvica Luetić, & Tomek-Roksandić,, 2015). The feel of health and relaxation is no longer enough; precedence should be moved to the unceasing interest of raising wellness and quality of life (Schroeder, 2007).

We witness a shift in the tourists' attitudes toward taking personal responsibility for individual health (Heung et al., 2011). People want to feel good and have a life experience that last in time. Wellness is considered a holistic tourism as it improves body, mind, and spirit (Clarke, 2010). It is in this context that the WTO includes a set of activities with a prospect to offer healing and well-being through using natural resources, which affect movement and stay in the accommodation units (http://www2.unwto.org).

Wellness tourists tend to be wealthier, compared to other tourism sectors, on average, they spend 59% more (Yeung & Johnston, 2014). Taking advantage of this exceptional wealthier

tourism, resorts have invested in different ways, including new spas, rebuilding old thermal facilities and promoting ancestor treatments (Tobergte & Curtis, 2013).

The GWI (2014), predicts a growing trend, based on modernization and a strong consumer demand.

An historic heritage

Europe has long been the worlds' wellness, leading continent for centuries individuals have travelled for healing purposes, and since the XIX century, there has been a trend of traveling to thermal/mineral springs for treatment (Lunt et al., 2011).

Along the health rehabilitate facilities, spas progressively turned their attention from health treatments using thermal mineral waters (Koncul, 2012).

In Asian culture, maintaining balance and harmony is the key to achieving good health and longevity. For example, in China wellness practices include, therapies based on traditional medicine, acupuncture and massage that attract countless tourists (Heung & Kucukusta, 2013).

Thalassotherapy Spa and Resorts

When somebody thinks about wellness tourism, he or she likely thinks about the Spa Resorts, and on spending some leisure time with family and friends (Goeldner & Brent, 2009). The word spa refers to hydrotherapy. Its etymology is the Latin verb Spargere, meaning to sprinkle or moisten, and is the name of the town in Belgium famous for its healing springs (Constant, Guillemin, Collin, & Boulangé, 1998).

Thermal spa treatments are a set of techniques directed to facilitating contact between natural mineral water and other complementary means (Constant et al., 1998). The main focus of thermal spa treatments elicits a set of effects from the specific composition of natural mineral water, along with the thermal spa environment and the application of multiple procedures (Puczkó & Bachvarov, 2006b). Synonyms of thermal spa treatments include mineral medicinal treatment, hydro mineral treatment, and derivations of these terms. Any treatments that must be medically prescribed and carried out at Thermal spa facilities may be regarded as thermal

spa treatments, where he effectiveness of hydrological medicine and associated benefits of the surrounding environment, enhance the wellness of spa users (Abertini, Teodori, & Conti, 2007).

For example, in an experimental research conducted by (Constant et al., 1998 p 1313),'patients improved in measures of physical and mental dimensions of quality of life, anxiety, depression, pain duration, pain intensity, and functional disability'. Overall health and preventative care are the fundamental objectives of thermal spa treatment (Choi, Kim, Lee, & Hickerson, 2015). The WHO recognizes the efficacy of hydrological medicine for treating various chronic diseases, and numerous functional disorders (Maraver & Karagulle, 2012).

Two-factor theory

The motivation-hygiene theory or the two-factor theory is the perception that dissatisfaction is not the opposite of satisfaction (Herzeberg, Mausner, & Snyderman, 1959).

The two-factor theory claims that individuals meet two distinct needs:

1-The hygiene factors or basic needs cause discontent when unmet.

2-The motivation factors or a person's growth needs, contributes to satisfaction when they are met.

For example, as an 'attribute's performance increases (or decreases), satisfaction increases (or decreases) proportionally' (Zhang, Ye, Song, & Liu, 2015 p 451).

The two-factor theory can help the practitioner to measure satisfaction rates and implement by degree of importance the bottom line service factors (Swan & Combs, 1976).

The identification of satisfiers and dissatisfies a typology first approached by (Cadotte & Turgeon, 1988), and developed in this research by using the Tags features from Leximancer is considered and original approach that can be useful in Thalassotherapy Spa and Resort to benchmark tourists' satisfaction.

Furthermore, this study unveils additional dimensions identified by customers, which can be integrated into the service quality construct it measures the level of importance of each particular dimension of Wellness tourism in Thalassotherapy Spa and Resort.

Customer experience has emerged as an important element of success or failure for service organizations; moreover, customers' memorable experiences are an important business matter (Chen, Liu, & Chang, 2013).

Highly satisfied customers stay loyal, remain customers for a longer time, and report positive reviews (Gursoy, Del Chiappa, & Zhang, 2017). Therefore, the degree of client satisfaction is the most reliable indicator for positive remarks about a company and its future profits (Anderson, Fornell, & Lehmann, 1994).

Tourists show their unhappiness by spreading negative comments online, switching service providers, or complaining to the company (Zeelenberg & Pieters, 2004). The impact of negative comments online is two to ten times more potent than that of satisfied customers (Schlossberg, 1991). Other surveys have found that 75% of dissatisfied guests spread negative comments to their acquaintances, whereas just 38% of satisfied guests share their positive appraisal (Hoffman & Chung, 1999). It also is necessary to examine negative comments posted online, that might discourage the purchase (De Bruyn & Lilien, 2008).

UGC

Past studies demonstrated that customers tend to rely on other customers' comments more than Institutional content (Kardon, 2007). A possible explanation for this phenomenon could be the perception that sellers' tend to cover negative aspects, whereas customers trustworthy evaluate service strengths and weaknesses (Park, Lee, & Han, 2007). Hospitality and tourism research uses UGC widely, both for consumers sharing information and for making decisions. Researchers perceive online consumer reviews to be more likely to contain genuine information (Yoo & Gretzel, 2008).

5.3. Methodology

Data Collection and Information Source

We selected TripAdvisor as the platform from which to collect Thalassotherapy Spa and Resort tourists' reviews. TripAdvisor is the largest travel site and the largest travel community. They reach 66,7 million unique visitors per month on average (Media Metrix for TripAdvisor Sites, worldwide, February 2016).

For this study, we segmented the top five countries that represent the global Thermal/Mineral Springs Industry (China, Japan, Germany, Russia, and Italy). These nations account for 77.33% of total worldwide revenues (Yeung & Johnston, 2014).

In particular, we focus only in five-star Thalassotherapy Spa and Resorts establishments that offer primary thermal and mineral waters for bathing.

Only English reviews submitted from 2010 to 2016 were included: China with 7 resorts and 854 reviews (27%), Japan with 5 resorts and 650 reviews (21%), Germany with 8 resorts and 439 reviews (14%), Italy with 6 resorts and 723 reviews (23%), and Russia with 10 resorts and 450 reviews (14%). In Japan, China, and Russia, the great majority of the posts were in the native languages, and we could not use them for this research. We collected 3,116 reviews amounting to 327,960 words.

Data analysis

We employ Leximancer (4.0 Ed.) to study Thalassotherapy Spa and Resorts reviews about customers' satisfaction experiences. Leximancer uses quantitative method to conduct qualitative text analysis (Indulska, Hovorka, & Recker, 2012).

We clean the data to achieve interpretable results from the analysis. We first exclude certain grammatical words such as *a, the, as*, and spaces between words. We then replace plurals with singulars, and we substitute vernacular for obscure synonyms. We verify the selected comments for words having the same meaning, e.g. *staff* for *employee, customer* for *guests*, etc.

Model of semantic pattern

'The Leximancer is a relatively new software for transforming lexical co-occurrence information from natural language into semantic patterns' (A. E. Smith & Humphreys, 2006 p 262).

The software generates concept maps that help examine and extract knowledge from text:

(1) Interpretation of textual data from the main themes and concepts.

(2) Analyzing content groups that can be translated into concept maps.

(3) Analyzing each individual concept with the purpose to establish logical associations.

(Crofts & Bisman, 2010).

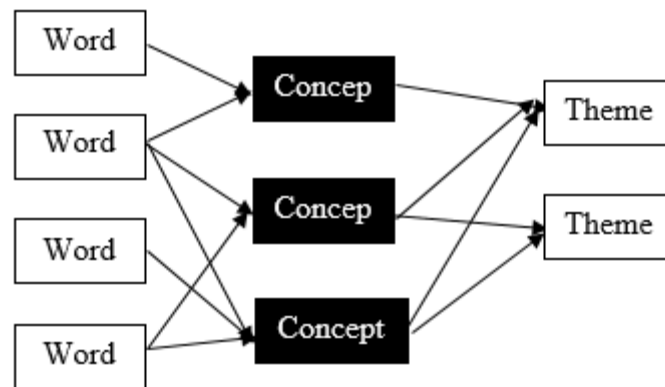Figure 7 illustrates Leximancer semantic path from words to concepts and from concepts to themes.

Figure 7: Semantic Pattern Model.

Adapted from (Leximancer, 2016).

5.4. Results

In this study, we then explore the concepts highlighted according to customer ratings (following TripAdvisor's classification: *Excellent & Very-good*, and *Poor & Terrible*.

The *Average* classification-neither positive nor negative reviews was considered neutral and therefore did not add additional information to our research.

Sample characteristics

Limited demographic information was retrieved as the Privacy Policy of TripAdvisor assures the security and confidentiality of the personal data information provided by reviewers. (https://www.tripadvisor.pt).

Table 7 displays the attributes of the Tourists visiting Thalassotherapy Spa and Resort; the sample consists of a pool of 3,116 reviews of tourists' experiences in five countries.

The sample included slightly more posts in Europe, 51% (Italy, 23%, Russia, 14%, and Germany, 14%) than Asia, 49% (China, 28% and Japan, 21%). The most common therapy type was Thalasso treatment (37%) followed by Swimming pool activities (25%) and Spa therapies (17%). The great majority of the reviews went on a trip as a couple (41%), followed by families (34%). More than half of the reviews (64%) rate their experiences as *Excellent*, and an additional 25% rate their experience as *Very Good*.

Table 7. Attributes of the Tourists visiting Thalassotherapy Spa and Resort

	(N=3,116)	**Percent**
Reviews by Country:		
China (7 resorts)	872	28%
Japan (5 resorts)	654	21%
Germany (8 resorts)	436	14%
Italy (6 resorts)	717	23%
Russia (10 resorts)	436	14%
Total	3 116	100%
*Therapy by Type***:**		
Thalasso treatments	1 153	37%
Swimming pool activities	779	25%
Spa therapies	530	17%
Wrapping treatments	405	13%
Other	249	8%
Total	3 116	100%
Travel with:		
With family	1 059	34%
As a couple	1 278	41%
With friends	343	11%
On business	312	10%

Demographic	(N=3,116)	Percent
Solo	125	4%
Total	3 116	100%
Satisfaction level:		
Excellent	1986	64%
Very good	774	25%
Average	209	7%
Poor	84	3%
Terrible	63	2%
Total	3116	100%

Qualitative results: Overall themes of the Thalassotherapy Spa and Resorts experience

The qualitative results enable us to interpret the content of the reviews, e.g. experiences, opinions, and feelings, and we can identify emergent concepts. Eight themes emerged from the overall representation of the Thalassotherapy Spa and Resorts experience as indicated below in the concept map in Figure 8. The dominant themes of connectivity and relevance are *resort* (4,262 hits), *room* (2,793 hits), *thalasso* (2,050 hits), *restaurant* (1,897 hits), *staff* (1,882 hits), *pool* (1,715 hits), *SPA* (1,458 hits), and *recommend* (882 hits), representing post-experience customer reviews.

Figure 8. Representation of the Thalassotherapy Spa and Resorts by top five countries.

Qualitative content analysis

We adopt the qualitative approach of narrative analysis to conceptualize tourist experiences by Country of origin, and their global appraisal (Gong et al., 2015). In Table 8, the qualitative approach aims to interpret the narrative textual variation (Banyai & Havitz, 2013).

Table 8. Thalassotherapy Spa and Resorts experiences and categories

Themes/concepts	China	Japan	Italy	Germany	Russia
Resort (2,262 hits) (Resort, free, best, front, facilities, including, location, lobby, business)	The resort is the best child-friendly place I have stayed in China. (Brilliant Resort and Spa Chongqing)	The Resort is such an unexpected surprise. Five star accommodation with both public and private spas. (Hyatt Regency Hakone Resort and Spa)	The resort has bikes free for the guests and the Thalasso facilities are amazing. (Verdura Resort)	The Resort is such an unexpected surprise. Five star accommodation with both public and private spas. (Edelweiss Lodge and Resort)	Everywhere is spotlessly clean throughout the Resort. (Radisson Blu Paradise Resort & Spa Sochi)
Room (2,793 hits) (Room, bed, nice, floor, large)	Hardwood flooring, stone clad/marble bathroom, free in-room safe, lovely (…) large beds, excellent bed linen, towels, in-room broadband. (Resort Horizon)	Large room, queen-size bed, and had a balcony, which allows you to see the beauty of the bay. (Hyatt Regency Hakone Resort and Spa)	The room was advertised as a sofa bed for children so this was a pleasant surprise. (Forte Village Resort - Hotel Castelo)	The room, food, service, parking, Wi-Fi, pool, laundry, are all exceptional. (Therme Boblingen)	The room is in a great shape with very spacious bathrooms. (Welna Eco Spa Resort)
Thalasso (2,050 hits) (Thalasso, feel, walk, amazing)	The hotel with its own beach and helpful staff, very calm, the best place for feeling relaxed, room was new and clean, all rooms are with computer and free internet the hotel grounds are amazing and well maintained with a lot of pools, very good spa with Thalasso treatments. (Huayu Resort and Spa Yalong Bay Sanya)	The hotel is well furnished with a fine selection of restaurants, a Thalasso Centre, an indoor pool, an indoor and outdoor Jacuzzi/thermal pool, steam and sauna, etc. (Lake Shikotsu Tsuruga Resort Spa Mizu no Uta)	We enjoyed the golf, the spa (loved the thalassotherapy pools) and walking around the property. (Fort Village Resort - Le Dune)	The indoor pool is great as it has several thalassotherapy courses along the perimeter. Once you are done with thermal pool you can proceed to sauna area. I recommend proceeding to sauna garden. (Steigenberger Grandhotel and Spa)	The Thalasso facilities were amazing and the staff of the hotel was friendly and made us feel at home when we returned from our sightseeing trip. (Rodina Grand Hotel and Spa)

Themes/concepts	China	Japan	Italy	Germany	Russia
Restaurant (1,897 hits) (Restaurant, breakfast, food, buffet, bar, dinner)	Food for breakfast (buffet style in western restaurant) and dinner (in a Chinese restaurant, Cantonese mostly) is good with excellent service. (Banyan Tree Resort)	The main breakfast restaurant had an excellent and huge selection and had great views. (The Terrace club at Busena)	The isolation gives a sense of peace, but the prices in the on-site restaurants are on the high side. (Hotel Capo D'Orso Thalasso & Spa)	We were underwhelmed with the selection in each restaurant but particularity the poolside bar/rest was poor in options and quality. (Severin's Resort & Spa)	The hotel has a good selection of restaurants and a very pleasant bar overlooking the harbor. (Swissotel Resort Sochi Kamelia)
Staff (1,882 hits) (Staff, service, friendly, excellent, helpful, wonderful, everything)	The staff was friendly, attentive and the service was high quality. (Pullman Lijiang Resort & Spa)	Great service, friendly staff with amazing views. (Okinawa Spa Resort EXES)	The housekeeping staff was friendly and went above and beyond (lining children's teddy bears up on beds / folding washing / general tidying) making it feels like a real holiday for a mum of 3. (Hotel Caesius Thermal & Spa resort)	Excellent location, friendly staff, and comfortable feeling the entire resort brings you once you arrive. (Marc Aurel Spa & Golf Resort)	Great view, very hospitable staff on reception, eager to help, smiling, great breakfast. (Rossie Boutique Hotel & Spa)
Pool (1,715 hits) (Pool, beach, area, beautiful, kids, sea, private, sauna, old)	The grounds are beautiful, there are lots of swimming pools suitable for children of all ages, including babies, and the beach is large, clean and well looked after.(Huayu Resort and Spa Yalong Bay Sanya)	The pool, private whirlpool, sauna, and pre-therapy room have fantastic views. (The Terrace club at Busena)	Pool area stunning, bikes to use around the resort a great addition, the beach also lovely. (Rosapetra Spa resort)	Pool and beach areas were wonderful and the grounds were immaculate. (Freun - Das Hotel Und Spa-Resort)	The hotel is new and very nicely built. Access to the beach and sea and with a lovely outdoor pool. The indoor pool which we did use is also a good size for lengths, and a nice Hamman, Jacuzzi and sauna.(Dovil Hotel & Spa)

Themes/concepts	China	Japan	Italy	Germany	Russia
Spa (1,458 hits) (Spa, massage)	Check out the spa, the hot stone massage was great.(Narad resort & Spa Perfume Bay)	We have enjoined Spa facilities and the Shiatsu massage which was great. (The Terrace club at Busena)	A very premium suite in front of the sea with all facilities to enjoy to the max with our 10 years old daughter : bike, golf, beach, indoor pool and spa - even massage for kids proposed (Fort Village Resort - Le Dune)	I tried the Spa and got wonderful Relaxing massages and Treatments from staff they really know their Job. (Hubertus Alpin Lodge & Spa)	Direct access to and service at the beach, all spa and fitness facilities, and an incredible swimming pool at the center of the Resort. (Welna Eco Spa Resort)
Recommend (882 hits) (Recommend, visit, price, experience)	Recommended that you go to visit the hot spring spa, it was great. The place was very large, the water was very clean, and the nibbling fish pool was really a fun experience for the whole family. (Huayu Resort and Spa Yalong Bay Sanya)	I strongly recommend spending time in the outdoor Jacuzzi on a cold winter night is a must! While it was cold outdoors, if only they had a sake counter nearby offering a hot drink or two, that would be perfect. (Hotel Orion Motobu Resort & Spa)	Food excellent, would recommend the seafood and a great selection for the vegetarian. Pool nice and overall, we had an incredibly relaxing stay and would definitely recommend the hotel. (Hotel Caesius Thermal & Spa resort)	Highly recommend it, and would come back with my family next time. (Brenners Park-Hotel & Spa)	The food in the area is brilliant and half the price of the UK. The Grand Cru restaurant across the road is Michelin chef designed cuisine with very fine wines. I highly recommend the Resort. (Swissotel Resort Sochi Kamelia)

Different satisfaction ratings groups of the Thalassotherapy Spa and Resort experience

In order to analyze the customer reviews by rating, we split the sample in two groups: *Excellent & Very-good,* and *Poor & Terrible*. We then proceeded with further analyses using Leximancer *Tag* features for both ratings. We did not consider reviewers who rated the experience as *Average*, since they did not disclose additional information for our research.

The concept map represented in Figure 9 contains information highlighting themes by satisfaction rate.

The ranking by number of hits indicate: *resor*t (7,448 hits), *room* (3,465 hits), *view* (2,707 hits), *massage* (2,530 hits), *restaurant* (2,388 hits), *beach* (2,068 hits), *breakfast* (1,636 hits), *pools* (1,535 hits), *recommend* (1,023 hits), and *thalasso* (325 hits). Ratings of *Excellent* or *Very Good* have six major themes closer to the tag: *restaurant, breakfast, recommend, beach, resort*, and m*assage*. Ratings of *Poor* or *Terrible* have one theme *room* closer to the tag.

Figure 9. Representation of the Thalassotherapy Spa and Resorts by satisfaction rate.

5.5. Discussion

In this study, we identified eight major themes as seen in Figure 8 of the Thalassotherapy Spa and Resorts experience. These themes capture the main features of customer satisfaction for this niche in the global wellness tourism industry. We outline the crucial attributes of these tourists in Figure 9 and distinguish them according to the degree of influence.

Representation of the Thalassotherapy Spa and Resorts

The first identified theme is *resort* (4,262 hits), which includes the characteristics of the facilities and the excellent location, the evaluation of the service that was worth the experience, and the feeling, as well as the extended arrangements that include travel by plain for international tourists or by car for domestic tourists.

In line with previous studies, the context directly influences the emotional feeling of the guests (Kandampully & Hu, 2007). Considering that the great majority of Thalassotherapy is an all-inclusive resorts with additional Spa service, one possible economic growth strategy might be to label wellness tourist destinations (Bristow & Yang, 2015).

For example, tourism and hospitality service providers, of this type of facilities can create a cluster with the label Thalassotherapy Spa and Resorts Wellness Tourism Destination.

In line with the research conducted by (Chen et al., 2013), one possible practical solution is the implementation of the *Business Excellence Model* from (European Foundation for Quality Management EFQM ®, 1999), integrating the satisfaction and dissatisfaction attributes disclosed in this research.

The second most-mentioned attribute was *room* (2,793 hits), which includes the room comfort of the private space, including the bathroom and the shower, a comfortable bed, and an association with cleanliness. Another concept related to room is the view to the sea. For all hotel scales, the most frequently reviewed attribute is the room. Not surprisingly, consumers tend to choose hotels that come with good reviews and offer good rooms (TripAdvisor, 2010; Noel, 2010). The room is fundamental in any hotel, and it's the main focus of any hotel image (Cadotte & Tugeon, 1988). Furthermore, room comfort is a strong predictor of customer recommendations for hotels across several sectors including luxury facilities, upper-upscale, and economy (Zhang & Mao, 2012) and is a determining factor for guest selection of hotels

(Saleh & Ryan, 1992). It behooves lodging providers to take into account customers' strong perceptions of room comfort and room view as influences on customer decision-making.

Thalasso (2,050 hits), highlights the services focused on rehabilitation and health related treatments. Prior research demonstrates the value of this therapy (Meyer, 2014) and its significance for the development of spa tourism (Dimitrovski & Todorović, 2015).

We suggest that thalassotherapy innovative treatments represent new opportunities for the wellness sector in destination countries, and intensify the competition for the tourism business (Heung & Kucukusta, 2013).

Restaurant (1,897 hits) primarily emphasizes the quality of the food and the buffet breakfast, and additional dinner service at the restaurant.

This theme incorporates the importance of food & beverage in wellness tourism that is the second-largest investment in the industry, representing $71.9 billion (16%), which is second only to $93.4 billion, which is (21%) of total annual expenses in wellness tourism (GWI, 2013). Our findings strengthen the importance that food & beverage are a core component of the hospitality industry (Ekiz, Khoo-Lattimore, & Memarzadeh, 2012), and that food quality is a critical attribute (Lu & Stepchenkova, 2012).

Staff (1,882 hits) is significant for service quality; customers highlighted friendly and helpful staff attitudes. This finding agrees with Zhang & Mao (2012) and Han & Hyun (2015); both of these prior studies assert the connection between staff attributes and customer revisit intentions. Personal interactions are the crux of the hospitality business and hence are critical for creating revisit intentions (Ekiz et al., 2012). Therefore, we propose that hotel and resort management invest in adequate training to continue to deliver high quality service and minimize staff turnover.

Thermal water, hot pools, and recreation pools are central to spa facilities, hence *Pool* (1,715 hits) and *Spa* (1,458 hits) are significant themes. Families traveling with children, especially, appreciate excellent recreational water facilities, which is worth keeping in mind for wellness tourism providers targeting this demographic. Our research is in line with (Marković et al., 2014), that evidences the importance of additional services in wellness tourism, such as recreational activities, social, and entertainment programs, around hot pools, and spas.

The last factor *recommend* (882 hits) encompasses consumers' revisit intentions. Research has demonstrated that satisfaction is a strong predictor of repurchase intentions and recommendation (Chi & Qu, 2008; Gallarza & Saura, 2006; Williams & Soutar, 2009). Our research is in line with (Patterson, 2007), pointing out that personal experience is a powerful information sources when making travel decisions.

Representation of the Thalassotherapy Spa and Resorts of satisfaction groups

UGC that express positive and negative emotions can have a major effect on purchase intentions (Schuckert, Liu, & Law, 2015).

The *Excellent & Very-good* group focuses their appraisal on the food quality, with emphasis on the *restaurant* overall service quality and the *breakfast* offered by the hotel. Because most resorts related to wellness tourism, promote healthy cuisine, with typical fresh options, it is expected that tourists can profit from those benefits (Voigt et al., 2011). Furthermore, food and eating can distinguish hotel attributes from their competitors (Spangenberg, Grohmann, & Sprott, 2003).

Resort and *beach* also receive positive comments mostly related to the resort location and friendly staff, the resort location closer to the beach is highly appreciated. The appearance of spa resorts added an iconic image to upper scale facilities (Chen et al., 2013). Our results are consistent with (Pan, MacLaurin, & Crotts, 2007) and also reveal that the strengths of these resorts lie in its heritage, location and activities.

The *massage* services are highly valued. Thalassotherapy Spa and Resorts major offerings include ancient massage techniques and treatments with mineral water (Puczkó & Bachvarov, 2006). All resorts from our sample offer massage services, face and body treatments. Special massage services can range from common massages like hot stone to exotic specialties like Watsu massage that require customized facilities. Wellness tourism represents a business opportunity (Pyke, Hartwell, Blake, & Hemingway, 2016), therefore we recommend that countries of destination not only continue to offer traditional, high-demand therapies but also create new combinations of water and massage to keep their portfolio of offerings innovative.

The big majority of tourists' reviews were willing to *recommend* spending time in Thalassotherapy Spa and Resorts. More recently, the relationship between hotel image and consumer behavior has become an area of greater emphasis, empirical studies demonstrate a clear relationship between positive perception of hotel brands and travelers' brand choices and their positive word of mouth (Zhang & Mao, 2012).

Service quality is an overall evaluation to the service excellence (Parasuraman & Zeithaml, 1988; Zeithaml, 1988).

In this research, we examine aspects of service quality that indicate customers' satisfaction or dissatisfaction towards the service. Consequently, we indicate to resort managers that when service quality is improved then it will lead to customer satisfaction (Marković et al., 2014), and recommend the hotel (Aguilar-Rojas, Fandos-Herrera, & Flavián-Blanco, 2015).

Room, earned negative comments from guests who rated the room settings as *Poor & Terrible*. Our findings are in line with the previous research on complaining studies in tourism (Ekiz, 2009). Furthermore, these results highlight the importance of private accommodation for guest satisfaction (Lu & Stepchenkova, 2012). This means that negative reviews and rates posted by tourists may influence brand's reputation as well in purchases intention (Ayeh, Au, & Law, 2013).

Accordingly, with Ayeh et al., (2013) we agree that the wellness industry through their Marketing Departments and Customer Service could systematically monitor negative reviews in social media platforms and establish a plan to improve services.

Theoretical contribution

This research contributes to the hospitality literature by revealing the influence tourists reviews of customer satisfaction and dissatisfaction.

Our research adds to scarcely literate on the definition of what are the grounds of a praiseworthy service, as reported by customers. This study promotes the value of exploring new areas of investigation qualitative data (Ballantyne, Packer, & Axelsen, 2009), in Wellness.

Furthermore, we propose a qualitative methodological approach that can be replicated while using customers' reviews in Thalassotherapy Spa and Resorts experiences. The collection of customers reviews as genuine data was the baseline for identifying satisfaction and dissatisfaction themes (Lu & Stepchenkova, 2012). With the help of Leximancer, we

aggregated data in satisfaction and dissatisfaction attributes which might be considered a novel approach in qualitative research.

From a practical perspective, this research contributes to the satisfaction literature through tagging Wellness Tourism themes that are limited for the Thalassotherapy Spa and Resorts market. When financial resources need to be managed carefully, we suggest that wellness facilities implement or improve the service attributes that can maximize guests' satisfaction and avoid dissatisfaction as reflected in Figure 9.

Managerial implications

The current research reveals the service attributes structure of Thalassotherapy Spa and Resorts logging satisfaction and dissatisfaction attributes among tourists.

Marketing managers should continue to assess the wellness tourism strengths and weaknesses, and follow up vulnerable areas of satisfaction.

Thus, management can take advantage of semantic software similar to the one used in this research to monitor online reviews relevant to their business. They can utilize UGC to solve customer problems, address customer concerns, and outline strategies to manage online interpersonal influence (Cox et al., 2009). Resort reputation is highly influenced from online reviews, and become critical in customer decision in the selection of this type of facilities (Meyer, 2014).

Furthermore, the Self-Assessment from the EFQM can offer organizations the opportunity to learn about the organizations strengths and weaknesses, and about the organization's progress on the achievement of excellence, and compare facilitates with the similar business organization (European Foundation for Quality Management EFQM ®, 1999).

The designation of Spa is used in the common vocabulary to identify all sorts of establishments. A communication plan from the Marketing and Public Relations following the guidelines from the GWI, clearing labeling the spa services in the Wellness Tourism should be implemented (Puczkó & Bachvarov, 2006).

5.6. Conclusion

This research on the Thalassotherapy Spa and Resort businesses associated with wellness tourism provides content analysis of key attributes of recreational facilities that use therapeutic

water treatments. Our study strengthens the importance of genuine tourists' reviews in depicting their vacation experiences.

Comments posted on TripAdvisor around Thalassotherapy Spa and Resort facilities are the data, and Leximancer enables content maps of the consumers' experiences.

Our initial contribution to the wellness tourism literature is to conceptualize the subgroups driving customer satisfaction in the thalassotherapy niche. Our thematic methodology, while not pioneering, is still relatively novel in the field and to our knowledge not hitherto applied to thalassotherapy. This approach generated practical advice for managers regarding the importance of room comfort, resort facilities, and spa treatments.

There were clear eight themes identified in the concept map in Figure 8 about Wellness tourists', overall representations of their Thalassotherapy Spa and Resorts experience. The relevant set of themes cluster is concentrated around the resort facilities and the location, with nice *rooms* and amazing *thalasso* treatments. The success of the customer experience hinges upon excellent *restaurant* service and to the friendly *staff*. *Pool* and beach areas are significant for children, while adults appreciate the *spa* and the massage. Ratings of *Poor* or *Terrible* were associated with room elements such as space and view.

There are several limitations to our work. The scope of this sample is limited to five-star luxury Thalassotherapy Spa and Resorts in the top five destination countries; future research may encompass other resorts in different geographical locations. One possible limitation is that the comments rated *Poor* or *Terrible* may be small in number to analyze negative complaints that affect satisfaction with Thalassotherapy Spa and Resorts. A final, important constraint of using TripAdvisor comments as data is the lack of demographic information of the reviewers.

Future studies in the wellness tourism domain could apply this qualitative approach to other niches, such as health resorts and sanatoria. Even within thalassotherapy, there are other levels of resorts that merit investigation. We view our research as an initial foray for understanding the increasingly significant field of wellness tourism, and we hope that others will join us in broader and deeper analysis of this fascinating type of tourism.

6. Listening to the Murmur of Water: Essential Satisfaction Attributes of Thermal and Mineral Spas

Abstract

Thermal and mineral spa treatments are an important therapeutic tool backed by centuries of experience and numerous scientific studies that have shown its effectiveness. This research undertook a content analysis of 887 reviews posted on Booking.com from 2015 to 2016, covering experiences in 10 spa hotels. On a theoretical level, this study identified attributes that were grouped into the following categories and that could be useful to any systematic understanding of thermal and mineral spas: 1) thermal and spa attractiveness, 2) facilities, and 3) food and beverages. The results also include satisfaction and dissatisfaction attributes that can be used as explanatory variables in market segmentation studies of thermal and mineral spas. On a practical level, this study's findings provide a strategic order of attributes based on consumer demographics for use by thermal and mineral spa facilities seeking to implement or improve service attributes and, thereby, maximize their guests' satisfaction.

6.1. Introduction

Tourism is the third largest socioeconomic activity in the European Union (EU), and this industry contributes significantly to the EU's gross national product and employment. Europe is currently the world's number one tourist destination (Juul, 2015).

The tourism industry has proven resilient to the present economic crisis, providing jobs, in particular, for women and young people (Eurostat, 2015). Recent research has found that there is a rapidly rising consumer interest in thermal springs-based activities, with most spa establishments experiencing solid growth in both attendance and revenues (GWI, 2014).

However, European tourism, as a whole, is not the fastest-growing tourism region in the world, and its market share, in terms of international tourist arrivals and receipts, is shrinking (Juul, 2015). In terms of geography, a growing number of tourists going to the EU come from emerging nations, although EU source markets still provide the largest portion of tourists (Juul, 2015).

Contrary to general European trends, the Portuguese tourism industry has experienced a significant increase, and it now generates around 5% of Portugal's wealth (Instituto Nacional de Estatistica [INE], 2017). In 2014, more than nine million foreign tourists visited Portugal, which is an increase both in the number of tourists and income—more than 12% over the previous year. Thermal spa facilities in Portugal, in particular, have been innovating in terms of supply, so they are already prepared to respond to the increasing demand for wellness tourism, which attracts growing numbers of people in search of healthy lifestyles (Ministerio da Economia e do Emprego [PENT], 2015). Despite thermal baths' innovations in recent years, tourism indicators in this area have fallen overall since 2011 (PENT, 2015). However, according to the Associação Termas de Portugal, the thermal spa sector had a turnover of 33 million euros—a growth of 40% over the previous year—in 2015 alone, although the sector remains below the values recorded in 2011. There is, therefore, room to grow on the level of demand, which means that spa facilities need to implement greater customer orientation (Marković et al., 2014).

According to the GWI (2014), Portugal ranks number 16 out of the top 25 thermal and/or mineral springs markets, with 84 establishments and 376.2 million US dollars in revenues. This further indicates the need for a solid service quality focused on customer satisfaction (Marković et al., 2014). Consequently, identifying the attributes associated with the attractiveness of

thermal spa services is critical for retaining satisfied customers. The present research's main goal, thus, was to analyze customers' evaluation of their past experiences regarding the quality of their overall experience.

This study first sought to identify the global attributes that are important in tourists' choice of thermal and mineral spa hotel. The second objective was to conduct an analysis of the influence that performance has on guests' overall satisfaction and dissatisfaction with thermal and mineral spas as wellness destinations.

The data were collected from user generated content (UGC) produced when tourists booked accommodations on www.booking.com. This proved to be a useful data source in the study of tourists' experiences in thermal and mineral spa facilities. The computer-based software Leximancer was used to explore these online reviews and investigate the role of thermal and mineral spa facilities in contributing to wellness tourism as a whole.

On a theoretical level, this research identified attributes that were grouped into categories and that could be useful to a systematic understanding of thermal and mineral spas: 1) thermal and spa attractiveness (i.e., thermal facilities and location), 2) facilities (i.e., hotel, restaurant, room, pool, and spa), and 3) food and beverages (i.e., breakfast and food). In addition, the attributes associated with satisfaction and dissatisfaction found in this study can be used as explanatory variables in market segmentation for the thermal and mineral spa sector.

On a practical level, the results provide a strategic order of attributes based on customer demographics that thermal and mineral spa facilities can use to implement or improve service attributes in order to maximize their guests' satisfaction. The three performance factors associated with male customers who perceived services negatively included *price, television (TV) channel*, and *breakfast.* The basic attributes that contribute to female clients' negative perceptions include *room, bed,* and *cleaning*. The performance factor of *cleaning*, in particular, caused overall satisfaction and dissatisfaction, but all of these factors need to be addressed by spa facilities because these attributes are given priority overall in hotel evaluations.

The paper below is organized as follows. The second section below provides a roadmap for wellness tourism and the health and wellness perspective on wellness tourism in the digital era. The third section describes the sample profile and methods of analysis. After that, the results are provided along with a discussion of the implications of these findings for both academics

and practitioners. Finally, the limitations of this study and possible directions in future research are given in the conclusion.

6.2. Literature review

6.2.1. Roadmap for wellness tourism

In terms of wellness tourism, Europe has for centuries been well in the lead, inventing the concept of truly holistic wellness that goes far beyond spas to include nutrition, traditional medicine, mindfulness and a powerful connection to nature. Examples of this are baths, healing systems, hydrotherapy, diet, and mental health (GWI, 2014).

The importance of wellness is now being increasingly acknowledged as a crucial aspect of tourism, both nationally and internationally (Hartwell, 2014). The relationship between tourism and wellness is self-evident, with growing numbers of people interested in combining leisure and health benefits. The wellness industry is, therefore, predicted to develop further, and, since this trend shows no sign of disappearing, further growth in wellness tourism can be expected (Voigt et al., 2011).

The tourism industry is expected to continue to have a quite strong impact on Europe's economy, with wellness tourism growing faster than other sectors. Europe's tourism market is expected to grow 2.8% annually over the next decade, outpacing the subcontinent's annual economic growth of 1.9% and making this industry Europe's fastest growing market (GWI, 2014). Currently, the tourism business in the EU has been confronted with a number of changes in the industry and tourists' profiles (Juul, 2015), as discussed in the following subsections.

6.2.1.1. Tourism industry developments

The most up-scale hotels have expanded their services to attract tourists who now see spa therapy as the determinant ingredient in resort vacations rather than merely an extra amenity (Voigt et al., 2011). The increasing demands for these kinds of services could be a window of opportunity for potential investors in wellness tourism. Thus, key determinants of destination attractiveness are a compound package of tourist attractions, infrastructure, and services that are provided by private or public organizations (Medina-Muñoz & Medina-Muñoz, 2014).

6.2.1.2. Demographic trends

Tourists are older than in past decades, and they go on more trips than in the past. The aging population tends to be more active, healthier, and wealthier and to live longer (Patterson & Pegg, 2009). As mentioned in a European Commission (2014) report, seniors tend to prioritize safety and to be increasingly quality conscious when traveling. Senior citizens of retirement age can travel during off-season periods, and these travelers tend to stay for longer periods (EC [Enterprise and Industry Directorate-General], 2014).

6.2.1.3. Gender

Research conducted in the field of hospitality indicates that women appear to be more inhibited by concerns in terms of leisure activities, especially if these entail being far from home (Pesonen & Komppula, 2010). When comparing the desire to travel by gender, researchers have observed that men and women have convergent purposes with regard to leisure activities. Women tend to spend vacation periods with family and friends (Borges Tiago, Couto, Tiago, & Dias Faria, 2016). Interestingly, family and a social entourage tend to make women more conservative, but this is not true of men, who show a greater overall willingness to travel than women do (Exworthy & Peckham, 2006).

While women are unquestionably more responsive to wellbeing activities than men are, statistics show that women's presence in the wellbeing segment is not greater than men's (Pesonen & Komppula, 2010). Nonetheless, the demand for wellness tourism is driven by women in their 50s and above (Kick Busch & Payne, 2003).

6.2.1.4. Technological evolution

Younger tourists tend to use the Internet and social media channels for tourism purposes (Schoen, Gayo-Avello, Metaxas, Mustafaraj, Strohmaier & Gloor, 2013). The Internet allows tourists to organize their holidays independently, and it has also increased the number of tourists booking parts of their trip separately (Lunt et al., 2011).

6.2.1.5. Education

Within the wellness context, tourists who are highly educated and health conscious can be categorized in two ways (Laesser, 2011). The first group is those tourists who seek a wellness travel experience and who are generally already healthy, seeking therapies to maintain their well-being (Abertini et al., 2007). The second group of tourists is those with medical conditions who journey to experience healing therapies (Wismar, Palm, Figueras, Ernst, & Ginneken, 2006). Wellness tourism continues to grow as more consumers look to travel as a break from a stressful lifestyle and an opportunity to maintain their health (GWI, 2014).

6.2.2. Wellness and health

Wellness tourism is big business, especially for the large numbers of baby boomers who are being increasingly targeted by marketers as a growing market segment. Many baby boomers are healthier, financially better off, and better trained, and they possess a greater desire for escape and seek authentic experiences (Patterson & Pegg, 2009). Baby boomers use medical thermal spas for truly medical purposes, namely, preventative health treatments, nutrition and fitness, and health and wellness education (Patterson & Pegg, 2009).

Experts expect that thermal and spa experiences will become more mainstream in the corporate world (Williams, 2006). The thermal and mineral spring industry includes structured and professionally delivered programs (Meyer, 2014) in the form of:

- Mineral spring spas—offerings with on-site natural mineral, thermal, or seawater resources, which are used in professionally administered hydrotherapy treatments
- European spa products focusing on wellness and health
- Resort and/or hotel spas—most have sprung up or are appearing where spas are a profitable amenity added to traditional resort vacation opportunities

In recent years, some spas have made a bid to adapt to new demands and consumption habits, diversifying their offer and investing in new equipment and their human resources' qualifications (Yeung & Johnston, 2014). However, the spa business is overall still less well structured to compete in the segment of health and wellness, and few facilities have actual services and activities directed at tourists. In addition, facilities are old, so some have an appearance unattractive to tourists (THR Asesores en Turismo Hiteleria y Recreacion, 2006).

Despite substantial investment in the refurbishment of spas and hotels—adding up to more than 200 million euros in the period between 2004 and 2008—these updates have still been insufficiently extensive to position Portugal, in particular, as a competitive destination in this sector (PENT, 2015). In order to develop sustainable tourism, the EC has co-sponsored the strengthening of cultural roots that help European and non-European tourists to discover how Europeans have lived since ancient times (Juul, 2015). The top destinations in this market include a large number of European countries with a long historical heritage of using thermal and mineral waters for curative and therapeutic treatments (GWI, 2014).

Thermal treatments represent a set of therapeutic actions practiced in thermal spas recommended or prescribed by a family doctor or hydrologist (Constant et al., 1998). Thermal treatments (*Healthcare and Medical Tourism in Bulgaria*, 2013) include treatments based on:

- Hydrotherapy—baths, hot and cold showers baths, and water massages better known as balneotherapy
- Climatotherapy—favorable climatic conditions
- Heliotherapy—sunbathing
- Aerotherapy—air bathing
- Thalassotherapy—seawater and algae
- Aromatherapy—essential oils

Thermal spa treatments are an important therapeutic tool supported by centuries of experience and numerous scientific studies that demonstrate its effectiveness (Maraver & Karagulle, 2012). These treatments can be defined as a set of techniques that facilitate contact between the person to be treated (i.e., the spa user) and natural mineral water and other complementary therapies (Constant et al., 1998). In a more restricted sense, thermal spa treatments elicit a set of effects obtained due to the specific composition of natural mineral water, assisted by the benefits derived from thermal spa environments and the application of relevant techniques (Edlin & Golanty, 2012). Treatments must be medically prescribed and carried out at a thermal spa facility. The effectiveness of hydrological medicine has been fully proven, and spa users also benefit from the associated effects of the surrounding environment (Abertini et al., 2007).

The GWI (2014) reports that over one-quarter of all thermal and mineral springs establishments offer value added spa services (e.g., massages and facials) along with bathing options. These

facilities offer a wide range of services, so they earn higher revenues than those facilities with bathing only (GWI, 2014; Tsang & Qu, 2000).

6.2.3. Wellness tourism in the digital era

The digital era has had a marked influence on many tourism phenomena and has also produced novel sources of data that can be exploited by researchers (Leung et al., 2013). The information that tourists generate is by and largely believed unbiased and capable of offering insights and real voices from an insider's perspective (Yoo & Gretzel, 2008).

Given the intangible nature of hospitality and travel experiences to prospective tourists who have never been to a destination before, it is not surprising that tourists search for information supplied by other tourists through UGC on the Internet (Lu & Stepchenkova, 2015). In particular, hotel customers can easily find most of the information they need online (e.g., price, location, and facilities) to compare hotel attributes and choose the most convenient (Sparks & Browning, 2011).

For customers, an online review is the most common way to communicate a complaint, comment on their satisfaction, and rate a place, service, or hotel. For managers, online reviews represent the best channel through which to assess additional information on service delivery, quality, and customers' demands—mainly from negative comments with low ratings because these are more likely to reflect real problems (Schuckert et al., 2015).

Online reviews are the electronic version of word-of-mouth. Electronic word-of-mouth refers to any positive or negative statement made by potential, actual, or former customers about a product or company, which is then made available to a multitude of people and institutions via the Internet (De Bruyn & Lilien, 2008). The importance of online reviews is growing among marketers, and many e-travel agencies are linking their sponsored products with customer reviews (e.g., TripAdvisor.com, Hotels.com, and ebooking.com) or are encouraging consumers to post product reviews on their websites (Mayzlin, 2006).

The digital age offers various opportunities for thermal and mineral spa tourists to harness the benefits of information communication technologies in an affordable and simple way (Abou-Shouk, Lim, & Megicks, 2013). As such, the Internet has become one of the most important platforms for travel-related services, in which tourism professionals can provide services and communicate information to their target customers (Tsang & Qu, 2000).

6.3. Methodology

6.3.1. Data collection and information source

Booking.com was selected as the platform from which to collect tourists' reviews of thermal and mineral spas in Portugal. This website encourages tourists to post positive and negative reviews while reporting their experiences, which serves the purposes of the present research. This study, thus, could identify satisfaction and dissatisfaction attributes by separating the reviews into two groups, generating a separate concept map by satisfaction and dissatisfaction, and, thereby, examining gender differences (Cadotte & Tugeon, 1988).

Booking.com is the most popular travel-related site (eBizMBA, 2016) with 40 million estimated unique monthly visitors, followed by TripAdvisor with 38 million.

For the present study, spa facilities were segmented based on the information available from the Portuguese Thermal Spas Association (see http://www.termasdeportugal.pt/). From the 40 thermal and mineral spas in Portugal, 10 hotels and/or resorts were selected based on a minimum average review score of 8.3 (i.e., from 0 to 10, with 10 = excellent).

The sample consisted of 887 reviews, 395 negative reviews (7,688 words) and 504 positive reviews (5,730 words). The retrieved reviews were those written in Portuguese and posted from January 2015 to November 2016. Additional information gathered from the website www.booking.com included the hotels and/or resorts' name, number of stars, review scores, and ratings, as well as the reviewers' gender.

6.3.2. Data analysis

To analyze the positive and negative texts reviewers posted on Booking.com, the Leximancer 4.0 version was used to process the data. This software has been largely used in social science research, for example, qualitative health research (Cretchley, Gallois, Chenery, & Smith, 2010), literature reviews of particular concepts (Dann, 2010; Indulska et al., 2012), and tourism (Scott & Smith, 2005). More recently, researchers have used Leximancer to examine tourists' shopping experiences (Wu et al., 2014), explore ecotourism satisfaction experiences (Lu & Stepchenkova, 2012), and investigate the role of themed attractions (Pearce & Wu, 2016).

Essentially, Leximancer uses a number of statistical-based algorithms to identify concepts in text data. Because the number of concepts is typically large, they are grouped by proximity into

clusters, which are themes (Leximancer Pty Ltd, 2016). The themes are represented on the concept map by color circles, all of which are presented by size and brightness according to the number of occurrences within the texts (Leximancer Pty Ltd, 2016).

Thus, Leximancer uses a quantitative approach to conduct qualitative analysis (Indulska et al., 2012), as this software assists researchers to examine texts from words to concepts and from concepts to themes (Anagnostopoulos & Bason, 2015b). To achieve interpretable results, all labels (e.g., the Algarve) or words that are not meaningful (e.g., his, couple, for, they, not, and there) are removed in order to address the research questions more efficiently. Finally, similar concepts are merged into one word (e.g., TV and Wi-Fi).

6.3.3. Sentiment analysis

Sentiment analysis—also known as opinion mining—refers to the use of natural language processing using text analysis and computational linguistics to identify and extract subjective information from source materials. Sentiment analysis has been widely applied to reviews and social media for a variety of applications that range from marketing to customer service (Schoen et al., 2013).

According to Turney (2002), sentiment analysis seeks to determine the attitude of speakers or writers toward some topic or the overall contextual polarity of documents. The strength of polarity is classified according to the closeness to very positive and very negative attitudes (e.g., "dirty," "good," "bad," "very," and "could not have done more to") (Turney, 2002).

Negative (i.e., weaknesses) and positive (i.e., strengths) reviews provided attributes that have been grouped in previous research into four categories in the hotel and restaurant hospitality context (Cadotte & Tugeon, 1988): satisfiers (positive attributes and/or strengths), dissatisfies (negative attributes and/or weaknesses), criticals, and neutrals. Other studies have investigated positive and negative attitudes in customers' review posts on websites, identifying six categories: positive, negative, mixed, neutral, irrelevant, or uncertain (Godes & Mayzlin, 2004). The present research used measures from experiences of both extremes of positive and negative.

6.4. Results

6.4.1. Sample characteristics

The demographic and psychographic information extracted with the reviews was somewhat limited. Among those who reported their gender, more were male (63%) than female (37%). The great majority of reviews (76%) included both positive and negative aspects related to their stay. Most of the facilities in the sample are in the north of Portugal (70%) (see Table 9).

Table 8. Attributes of Portuguese tourists visiting thermal mineral spas

Demographics	(N = 887)	Percent
Reviews by Gender		
Female	328	37%
Male	559	63%
Total	*887*	*100%*
Reviews by Type		
Only negative	54	6%
Only positive	162	18%
Negative and positive	671	76%
Total	*887*	*100%*
Reviews by Region		
North	620	70%
Center	179	20%
South	88	10%
Total	*887*	*100%*
Star Rated Hotels		
3 Stars	250	28%
4 Stars	513	58%
5 Stars	124	14%
Total	*887*	*100%*

6.4.2. General reviews

To address the first aim of the present study, a concept map was generated to reveal the most common themes and concepts (see Figure 10) found in all 887 reviews (13,418 words). In total, 395 negative reviews (7,688 words) and 504 positive reviews (5,730) were posted on Booking.com about 10 thermal and mineral spa facilities in Portugal. This map includes concepts—the smaller gray nodes—that are grouped into themes—the larger shaded circles (Leximancer Pty Ltd, 2016). As can be seen in Figure 10, the six dominant themes are *thermal* (702 hits), *room* (344 hits), *pool* (331 hits), *location* (246 hits), *food* (230 hits), and *staff* (210 hits) in post-experience customer reviews.

The software used allowed the extraction of contextual information of text tags by negative and positive reviews and by male and female reviewers, which expanded the basic features of this research in terms of content analysis (Smith & Humphreys, 2006). The tags defined by gender reveal that male reviewers are closer to three concepts: *room, salon,* and *restaurant*. Females are closer to the concept of *thermal*. A detailed analysis using tags for negative reviews indicated poor quality ratings associated with the concepts of *pool* and *bath*. In contrast, the concepts of *sympathy, comfort*, and *breakfast* were mentioned in positive reviews.
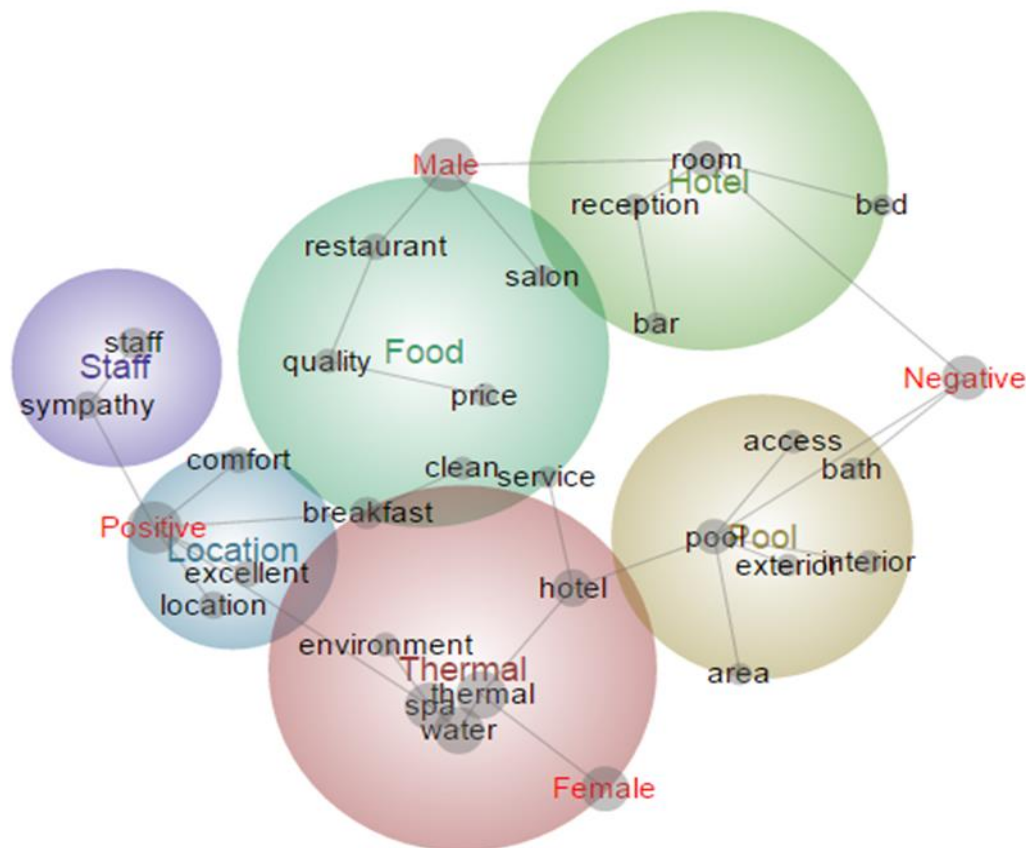
Figure 10. General concept map of reviews

6.4.3. Negative and positive reviews

For consumers, an online review is now the most usual way to register complaints, express feelings, comment on levels of satisfaction, and rate services or hotels (Yoo & Gretzel, 2008). For management, online reviews represent the best channel to assess additional information on service delivery and quality, especially from negative reviews with low valuations because these are more likely to reflect real management problems (Schuckert et al., 2015). However, both negative and positive reviews generated special interest in this study as they can help to understand more fully tourists' experiences during their stay in thermal and mineral spas.

6.4.4. Negative reviews

The negative reviews posted on Booking.com were identified by content analysis, resulting in 395 reviews (7,688 words) with six dominant negative themes, as shown in Figure 11. The themes most closely associated with negative experiences are *thermal* (167 hits), followed by *pool* (118 hits), *price* (73 hits), *restaurant* (51 hits), *room* (47 hits), and *service* (19 hits). *Thermal* and *air-conditioner* are the two major complaint categories showing high counts in reviews by females. The major complaint categories identified by male reviewers are *pool, clean, exterior, price, spa*, and *restaurant.*
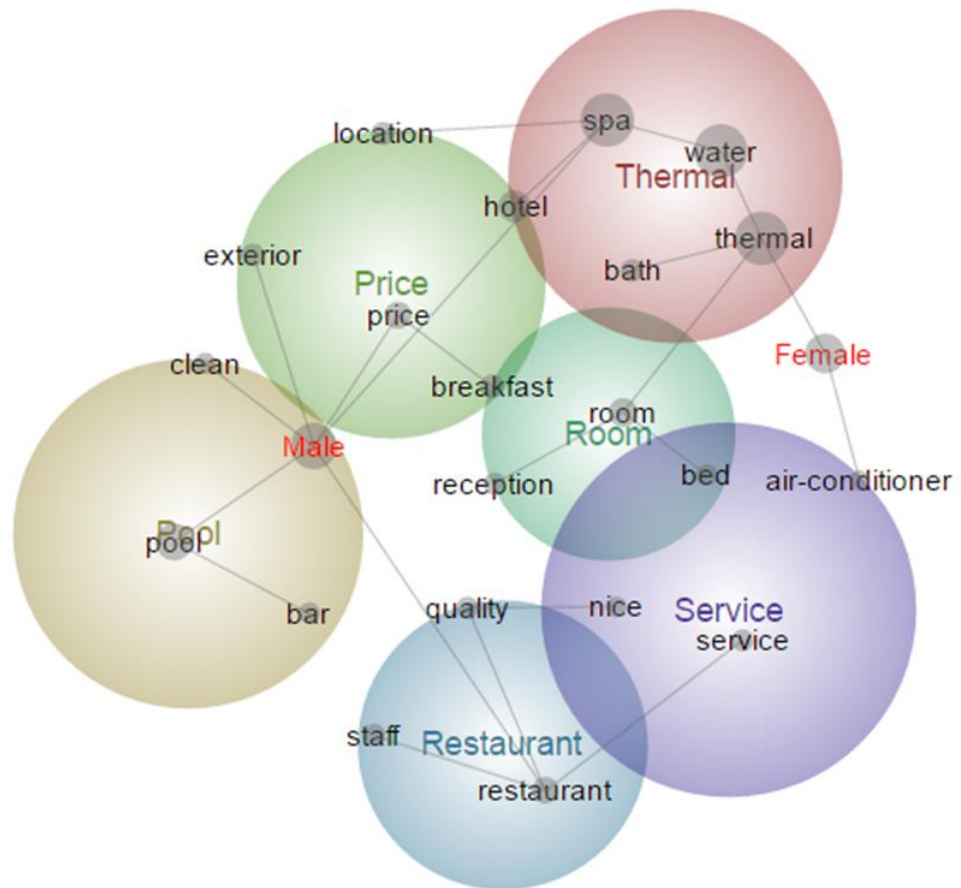
Figure 11. Concept map: Negative reviews

6.4.5. Positive reviews

Positive reviews of well-being tourism facilities were identified by a content analysis that resulted in 504 positive reviews (5,730 words), as shown in Figure 12, which provides a concept map of the six key positive themes. The six most prominent themes are *hotel* (380 hits), *experience* (294 hits), *thermal* (290 hits), *staff* (231 hits), *food* (66 hits), and *rest* (64 hits).

Staff and *space* receive the most positive reviews by female reviewers, while major positive attributes identified by males are *restaurant, hotel, room*, and *relax*.
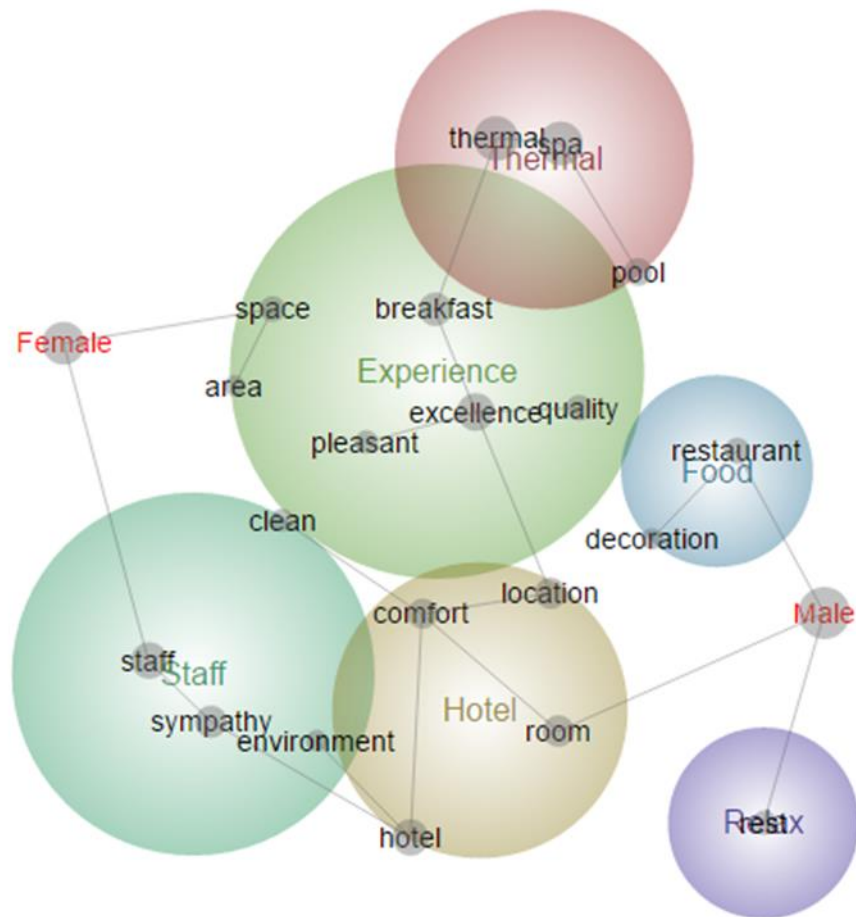
Figure 12. Concept map: Positive reviews

6.4.6. Frequency analysis

Thermal and mineral spa facility experiences were examined using thematic content analysis, which included identifying informational themes and generating frequency counts of these themes. This formed the basis of the content component analysis by favorable and unfavorable reviews. Table 10 presents the frequencies of keywords extracted from 887 reviews. The words with a frequency less than 50 were excluded from further research. The top five most frequently occurring words are *hotel* (335 hits,), followed by *room* (323 hits), *pool* (259 hits), *staff* (145 hits), and *breakfast* (141 hits).

Table 9. Frequency analysis: Main attributes and categories

Concept (Count)	Frequency of Occurrence	Favorable Reviews	Unfavorable Reviews
Hotel (335)	59%	The quality of the hotel (location, dinner meals . . . architecture, decoration and overall service) [male] The hotel architecture, thermal pool, *a la carte* meal, and excellent buffet at a low price [female]	I did not like the state of degradation of the hotel considering the price I paid. [male] Huge hotel, labyrinthine, lack of signage (impossible to find the pool or the restaurant) [male]
Room (323)	57%	The room is extremely clean. [female] The bathroom and bedroom were immaculate. [female]	More light needed in the corridors and in some areas of the room and a lack of towels and slippers [female] Poor toiletries and missing extra blankets in the room [male]
Pool (259)	46%	The pool with very warm water was great. [female] Excellent pool (cleaning and infrastructure available) [male]	I found the pool too small for so many guests. [male] The pool was dirty; the spa was old and dirty—a disappointment. [male]
Staff (145)	26%	Friendliness and professionalism of the hotel staff providing pool and room service [male] Super nice and attentive staff [female]	Hotel far from the spa and inexperienced and disinterested staff [female] Lack of staff, disorganized, lack of professionalism [male]
Breakfast (141)	25%	The breakfast is very good. [male] The surrounding area was well maintained, and the breakfast had a greater than expected variety of food. female]	The small breakfast room generates some delays in the availability of tables. [female] The breakfast food was tasteless. [male]
Spa (118)	21%	The spa was very quiet and well equipped. [female] Excellent spa included in the overall price [male]	The spa is close to the hotel but, during the winter, it is unpleasant to access the spa. [female] The cost of using the spa, namely, the swimming pool with showers and Turkish bath, seemed a little high. [male]

Concept (Count)	Frequency of Occurrence	Favorable Reviews	Unfavorable Reviews
Location (116)	20%	Quiet location, nice room, and comfortable bed [female] Interesting location, very spacious and full of green spaces [male]	No indication of location to help find the hotel [male] The pool is located in the shade very early, and, for that reason, both the water and the pool area are cold very early. [female]
Restaurant (103)	18%	The restaurant is very good, the room very nice, and the price-quality ratio is excellent. [male] Restaurant meals were cooked very well. [male]	The restaurant is very expensive considering that guests stay for long healing periods. [male] At the front desk, no one was able to tell us the restaurant prices or what dishes were available. [male]
Friendly (98)	17%	Helpful and friendly staff [male] Generally friendly environment [male]	No one was friendly during check in; staff are not friendly at all. [female] Inexperienced service [male]
Comfort (85)	15%	I found the comfort of the room, the space in front of the restaurant, and the décor to be excellent. [male] I liked the level of comfort and calmness of the hotel and the landscape around it. [male]	The modern design diminishes the comfort in some respects. [male] The room is not comfortable. [female]
Indoor (58)	10%	Silence, calm, pleasant place, interior and exterior decoration [male] The place and the interior wood decoration of the pool [male]	The interior of the hotel needs to be redone with a new décor. [male] Indoor pool and spa: usually empty, despite the overly occupied outdoor pool, because it costs €11 per hour [male]
Quality (55)	10%	The restaurant, without being extraordinary, has an excellent price-quality ratio. [male] The spa is very good quality with reasonable prices but outside the hotel. [male]	Delay in service, quality of food, lack of light outside so had to read the menu with the light of a mobile phone [male] The resort's restaurant is overpriced for the quality offered. [female]

Concept (Count)	Frequency of Occurrence	Favorable Reviews	Unfavorable Reviews
Excellent (54)	10%	I liked everything, particularly the attentiveness and friendliness of the staff and the dinner, which was excellent. [male] General facilities, good mattress comfort and excellent bath [male]	A great location at a good price, but not excellent for this kind of hotel [male] Breakfast is very weak given that the region of the hotel has excellent products. [male]

6.5. Discussion

To address the first aim of this study, a general concept map was produced to identify the most common themes and concepts that represent thermal and mineral spa experiences (see Figure 9). The second aim was to examine how guests evaluate their negative see Figure 11 or positive experiences see Figure 12.

6.5.1. General review evaluation

The data used to identify the six main themes shown in Figure 10 provide the basis for a solid understanding of each theme, as well as practical suggestions. First, the *thermal* facilities are the most frequently mentioned attribute. More than half of the customers who mentioned this attribute highlighted the "easy access, and location with magnificent views." One example of a customer review said, "The thermal treatments area is very pleasant and relaxing; we have returned home feeling rejuvenated." Tourists consider the main attraction to be the thermal waters, knowing that the mineral and thermal waters have natural healing properties (Yeung & Johnston, 2014).

Previous research has long recognized that both tangible (e.g., location and access) and intangible (e.g., pleasant and relaxing facilities) components of hotel service shape the functional and emotional features of hotel image (Cadotte & Tugeon, 1988). Important attributes in the present research are also found in the literature, including hotel choices and atmosphere; clean, comfortable, and well-maintained rooms; convenient location; safe environment; and prompt and courteous service. These are important elements of customer satisfaction, which, in turn, contributes to customers' favorable image of hotels (Zhang & Mao, 2012).

Room comfort emphasizes the room's quality as reflected in comments such as "[q]uiet room, [which is] cozy [and] comfortable . . . [and] great for a few days of rest. . . . The staff is nice, [and the place has a] nice atmosphere [and a] very comfortable bed." Overall, hotel hospitality can involve five dimensions: comfort, personalization, warmth, welcoming staff, and special relationships and service straight from the heart (Ariffin & Maghzi, 2012).

The present results highlight the importance of private accommodations for customer satisfaction in thermal and mineral spa hotels and resorts (Lu & Stepchenkova, 2012). Dissatisfied comments express concerns that are important to hotel managers, such as poor room maintenance and lack of amenities and accommodation conditions that fall below a minimum expected standard.

The theme of *pool* reflects how health resorts and sanatoria use thermal mineral water pools for treatments and recreational activities (GWI, 2014). The pool is often described as a primary problem that ruins thermal and mineral spa resort tourists' experiences, particularly "the exterior access to the pool during cold months," "the water temperature," and "the small dimensions of the swimming pool that cannot accommodate all the hotel guests."

Since Europe is considered a leading destination for the elderly (European Commission, 2014), thermal facilities could promote health and fitness during low season by emphasizing swimming pools and spas. Swimming and aqua aerobic classes, in particular, have become popular because of their well-known therapeutic benefits (Patterson & Pegg, 2009).

Location attributes in reviews mainly highlight the "[e]asy accessible location with magnificent views." One reviewer highlighted the "[c]lose location to other places of interest."

Lu and Stepchenkova, (2012) conducted a similar study whose results also indicate that the room, nature, food, location, and value for money influence guest satisfaction. The geographical location and natural assets include the sun and sea in the western coastal and southern regions, biodiversity, diverse topography, and historical heritage (Portugal, 2014). These assets can be increasingly leveraged by entrepreneurs to develop thermal and mineral spa businesses that fuse unique settings, local traditions, and location-specific offerings with world-class built environments and services.

Food quality is a critical attribute for male guests. Reviewers praised the food quality and prices in such comments as "[a v]ery good restaurant, very nice room and excellent price-quality ratio" and "[the f]ood [is] very well prepared and tasty."

Wellness tourism spending may not always take place in businesses or activities that are typically associated with wellness (GWI, 2013). For example, health tourists see relatively low-quality foods and beverages and weak post-care services as major flaws (Heung et al., 2011). Han & Hyun (2015) recommend that, to overcome these weaknesses and to be more competitive, hotel-style services, facilities, and restaurants within specific properties need to be improved.

The *staff* was the last frequently mentioned attribute. This primarily highlights the staff's positive attitude. Examples provided by guests are "the staff are super nice and attentive," and "[t]he staff are always ready to help you."

Hotels' staff is an important predictor of trust. Trust comprises two aspects, namely, trust in employees or staff and trust in a company's practices (Sirdeshmukh, Singh, & Sabol, 2002). The first facet of trust relates to customers' perceptions of staff behavior and performance in service encounters. The second is mainly based on company performance (Ariffin & Maghzi, 2012). Nevertheless, the reviews analyzed in the present study often mentioned that the staff are unprepared, so the short-term success of this type of facilities depends heavily on continued investment in proper training that meets international standards.

6.5.2. Negative reviews

Three new themes emerged from the separate analysis of negative reviews. Unfavorable comments included complaints about the *price* as compared to perceived service quality. As one customer complained, "The price is too high for the quality of the service." Another guest wrote, "The rooms are very old fashioned, which makes the price too high."

Notably, companies that show little or no sensitivity to customers' experiences and focus only on reducing their costs to ensure lower prices may actually decrease the value of their offerings (Berry, Carbone, & Haeckel, 2002). Therefore, in line with Han & Hyun (2015) findings, marketers and managers of thermal spa resorts must recognize the complex and essential role of reasonable prices and utilize these when developing efficient ways to boost customer retention and maximize revenue.

Restaurant was a critical theme, especial for male guests. One reviewer particularly noted, "[T]he price, quality (and quantity) ratio of the restaurant is just not acceptable." Another guest commented about "[t]he lack of attention given by the staff [to clients] in the restaurant."

In the spa context, the price customers pay includes the meals and services they receive. In such a complex pricing environment, utilizing price perceptions to understand the role of prices is more effective than using objective pricing strategies (Han & Kim, 2009). Full-service restaurant customers evaluate not only food but also multiple aspects of service experiences, such as special treatment, reliable services, familiarity with the provider, and comfort (Kim, Chen, & Jang, 2006). Thus, understanding the multiple aspects of services is particularly important in the full-service restaurant sector. Furthermore, gastronomic heritage, food, and culinary expertise can be used as a strategy to boost Portuguese wellness tourism offerings.

The last negative appraisal attribute is *service* quality. As one customer complained, "The food was very good, but the service was unprofessional." Another reviewer reported "old infrastructures and poor service."

Chu & Choi (2000) note that what differentiates one setting from another is not only the food and facilities but also the quality of services provided by hotels. Online communities provide people with vicarious access to prior service experiences on which these potential clients can base their beliefs or trust that a firm will deliver quality service (Godes & Mayzlin, 2004). Therefore, marketing, hotel, and public relation managers must monitor online reviews that can have a negative impact on service quality perceptions.

6.5.3. Positive reviews

Of the themes the analyses extracted from positive reviews, the most frequent is *hotel*. Theoretical studies in the literature suggest that employees' service mindedness and thoughtful actions enhance customers' perception and, thus, lead to a favorable hotel image (Zhang & Mao, 2012). Positive reviews strengthen overall image with statements such as "[a m]odern [and] comfortable hotel with an excellent view" or "[the f]antastic pool [was] very pleasant . . . [and] I enjoyed the gardens, the park, and the lake."

A number of empirical studies have found a clear relationship between positive perceptions of hotel brands and travelers' brand choices and their positive word of mouth (Dimitrovski &

Todorović, 2015). In addition, Kandampully & Hu (2007) point out that hotel image is influenced by both service quality and satisfaction and these, in turn, enhance hotels' image, thereby gaining customer loyalty. In line with the cited authors, the present study confirms that hotels' favorable image is created by improving service quality.

Two new themes appeared in positive appraisals: *experience* and *relax*. As one guest mentioned, "[This is a m]agnificent location where one feels relaxed. . . . [A]fter one week in the hotel I left feeling younger."

Chen, Huang, & Petrick (2016) examined the relationships between holiday recovery experiences and life satisfaction through the mediating role of tourism satisfaction. The cited authors found that individuals who are able to control what they want to do feel relaxed and disconnected from work, and, when they have new and challenging experiences during their holidays, they were more likely to be satisfied with their holiday experiences (Chen et al., 2016).

Given the emerging wellness trend, marketers delineating marketing campaigns need to emphasize leisure experiences (Patterson & Pegg, 2009). Advertisements should include statements of wellness tourists about their perceived experience with escape and relaxation programs (Mueller & Kaufman, 2001).

Market research has shown that, on average, three-star to five-star hotels provide comprehensive wellness facilities. Wellness hotels should, therefore, specialize in health information, individual care, and a wide range of cultural and relaxation programs. Although the same hotels can host cure and wellness guests, these two segments have to be considered separately when deciding on marketing strategies (Mueller & Kaufman, 2001). Therefore, understanding the key positive and negative concepts of reviewers offers critical information that helps managers to identify realistic consumer options from which hotels can create appropriate strategies and competitive advantages in the well-being tourism sector.

6.5.4. Theoretical implications

From an academic point of view, the literature on tourism has converged on the importance of destination attractiveness to tourist satisfaction and tourism competitiveness (Caber, Albayrak, & Matzler, 2012). Because of the wide range of literature on destination attractiveness, no

global set of key attributes has been found that makes destinations competitive. Thus, a wide range of attributes has been identified and accepted as significant (Caber et al., 2012).

The present research identified attributes that were grouped into categories and that could be useful to a formal understanding of thermal and mineral spas:

- Thermal and spa attractiveness (i.e., thermal facilities and location)
- Facilities (i.e., hotel, restaurant, room, pool, and spa)
- Food and beverages (i.e., breakfast and food)

Tourists are not all the same. They have different images of their experiences, and their sociodemographics are heterogeneous (Dolnicar, 2008). Thus, the qualitative interpretations examined in the present study further enhance the above-described hotel and resort spa attributes' accuracy. Furthermore, this research segmented the sample according to gender. The six service attributes found thus capture the key service details mentioned in the review texts. Finally, the satisfaction and dissatisfaction attributes can be used as explanatory variables in market segmentation for thermal and mineral spas.

6.5.5. Managerial implications

The attractiveness of wellness destinations is fundamentally based on what practitioners and researchers have identified as the key attributes of destination attractiveness and customer satisfaction (Medina-Muñoz & Medina-Muñoz, 2014). Lodging businesses need to use these attributes to move from simply avoiding customer dissatisfaction to maximizing customer satisfaction through above-and-beyond service delivery (Zhang & Cole, 2016).

On a practical level, the present study's results provide a strategic order of attributes based on customers' demographic attributes that thermal and mineral spa facilities can use to implement or improve their service attributes and, thereby, maximize their guests' satisfaction. The three performance factors male customers perceive negatively are the *price, TV channel*, and *breakfast*. The basic concepts that contribute to female clients' negative perceptions include the *room, bed,* and *cleaning*. The performance factor involving *cleaning* causes overall satisfaction and dissatisfaction.

These factors should, therefore, be given priority overall when examining hotel evaluations by guests. To be successful, managerial strategies need to be able to increase tourism expenditure and visitor numbers and provide satisfying, memorable experiences (Pyke et al., 2016).

6.6. Conclusion

The present research on thermal and mineral spa hotel businesses associated with wellness tourism included content analyses of key attributes of recreational and health facilities that offer therapeutic water treatments. Unlike many highly-structured assessments in previous satisfaction and valuation surveys, this study emphasized customers' natural language used in their depictions of spa experiences. Reviews posted on Booking.com about 10 thermal and mineral spa facilities provided the data, and Leximancer software produced content maps that represent these consumers' experiences.

This research's initial contribution to the literature on thermal and mineral spa tourism was to conceptualize the attribute subgroups driving customer satisfaction and dissatisfaction in this niche market. The qualitative methodology applied, while not pioneering, is still relatively new in the field, and, until now, this method has not been applied to thermal and mineral spa facilities. The results include practical advice for managers regarding the importance of *thermal* conditions and equipment, *hotel* facilities, *food* quality and price, *pool* and baths access, *location* and accessibility, and *staff* professionalism and friendliness. These six themes (i.e., thermal, hotel, food, pool, location, and staff) were clearly identified in the concept map see Figure 10 of customers' overall representations of their thermal and mineral spa experiences.

Hotel service quality has long been a major concern and hot topic for scholars and practitioners alike (Ye, Law, & Gu, 2009). Previous research has indicated that the service quality of Portuguese hotels is still lagging behind international standards (Brochado, Rita & Gameiro, 2015; Tsang & Qu, 2000). One possible strategy to leverage the thermal and mineral spa demand and sector could be for entrepreneurs and local governments to develop more spas that fuse unique settings, local traditions, and placement-specific offerings with world-class built environments and services. Portugal's natural assets include a moderate continental climate with sun and sea in coastal areas, a diverse topography and gastronomy, and an ancient historical background.

Several limitations of this study arise from the number of negative reviews (395) being somewhat lower than the positive reviews. This may mean that the sample was not sufficiently large enough to identify all potential issues that might negatively affect dissatisfaction with thermal and mineral spa facilities.

Furthermore, the results of this study rely on the assumption that all the reviews were posted by guests who have actually stayed in the facilities (Ayeh et al., 2013). Finally, a post-experience sample could have selected for a particular kind of customer who posts reviews. Conducting additional interviews could help to gain a better understanding of customers' motivating factors that influence satisfaction and the relationship between these factors and the satisfaction and dissatisfaction with hotels in online posts.

A question worth investigating in future studies is how Internet usage in health and wellness trip planning differs between tourists who seek a leisure experience from those who travel for health purposes. Another recommended line of future research would be to focus on additional factors that are not included in this research, which could contribute to a better understanding of tourists' choice of health and wellness destinations (Medina-Muñoz & Medina-Muñoz, 2013).

7.   Theoretical Implications

The present research applied a computer-assisted quantitative approach using Leximancer to carry out content analyses. This software is a powerful tool for unlocking the motivations and intentions of tourists, and the above-described results are an excellent example of Leximancer's application as a potential best practice in the field of medical and wellness tourism. In addition, the current study showed the importance of identifying the characteristics of reviewers whenever possible in the medical and wellness tourism field, especially their preferences, gender, country of origin, and country of treatment.

This research contributes to the quite limited literature on medical and wellness tourism treatment preferences by gender. Demographic attributes can be used when addressing market segmentation. For example, while men value the cost of medical treatments. Women, who constitute the great majority of the cosmetic market (Ackerman, 2016), are more willing to recommend a treatment if they feel happy.

This exploratory research's findings add to the sparse literature on interpretations of what constitutes good customer service, as described by those who deliver it. The three studies presented in this thesis, in particular, promote the value of exploring new areas of research using qualitative data (Ballantyne et al., 2009) in the field of medical and wellness tourism. Finally, the present study's results strengthen the empirical evidence in this area and suggest the validity of integrating new topics within a broader conceptual framework.

8.   Practical Implications

Social media is essential to travelers as they decide about destinations, accommodations, and other activities while planning their trip. Therefore social media affects their travel and decision-making processes (Cox et al., 2009). This research sought to enrich previous findings by contributing to a better understanding of the information prospective tourists search for in the pre-travel (e.g., information on facilities and treatments) and post-travel phases (e.g., share medical experiences and review clinics, hospitals, and thermal and mineral spas).

In the field of tourism, management can take advantage of software, such as tools that conduct review analyses, to monitor online customer reviews and comments systemically. Managers can utilize UGC to resolve customer problems, address customer concerns, and outline strategies to manage online interpersonal influence (Cox et al., 2009). For example, resort reputation is highly influenced by online reviews, and these become critical in customers' selection of this type of facility (Meyer, 2014).

When resources are scarce, management need to prioritize top-of-the-line service delivery attributes identified in the present study in customers' negative reviews—the absence of which can result in significant customer dissatisfaction. The lodging business should move on from avoiding customer dissatisfaction to maximizing customer satisfaction through above-and-beyond service delivery (Zhang & Cole, 2016).

9.   Limitations and Suggestions for Future Research

The present study reviewed conceptual and empirical research on medical and wellness tourism from the past decades. This research explored the theoretical background and globalization of the medical and wellness phenomena, but the analyses did not include positive and negative outcomes. Nonetheless, the results produce a deeper understanding of the role of medical and wellness tourism in terms of the common trade-offs for service providers and tourists.

Future research needs to provide an outline of these tensions and trade-off in relation to common elements of the medical and wellness tourism. Researchers could consider the following in future studies:

1. Medical tourism—demand side markets versus supply side markets
2. Quality of information in medical and wellness tourism—the role of Internet information versus advertising and marketing
3. Question of whether this can be called an industry—medical tourism versus ethical issues
4. Process of shifting from medical to wellness tourism—treatment versus prevention

10. Conclusions

This research project sought to meet the objective of identifying key drivers that influence prospective medical tourists' decision-making and satisfaction and dissatisfaction attributes in medical and wellness tourism, as well as to achieve the goal of contributing to an expanded perspective on medical and wellness tourism. The research included three studies investigating tourists' post-experiences and perceptions based on UGC in Web reviews.

The first study provided an overview of medical tourism activities, which have become a significant niche of the tourism industry. Based on consumers' reviews, it was possible to identify the main key drivers that influence medical tourism and their interactions. In terms of degree of influence, the services provided by *clinics* is the most critical driver for medical tourism, followed by the overall *treatment* experience, the *time* collecting healthcare information, and *recommendations*. Less frequently mentioned attributes that may also have a potential influence on medical tourism include how *happy* medical tourists are with results, overall *costs*, and prompt responses to customer *questions*.

The second study explored thalassotherapy spa and resort establishments associated with the wellness, recreational, and therapeutic uses of water in the five top countries in this sector. The analyses identified the dominant themes and phrases used by tourists when reporting their experiences, in general, and explored satisfaction and dissatisfaction attributes, in particular. There were eight clear themes identified, of which the most frequently expressed are *resort* facilities and location, with nice *rooms* and amazing *thalassotherapy* treatments. The success of customers' experiences hinges upon excellent *restaurant* services and friendly *staff*. *Pool* and beach areas are significant for children, while adults appreciate the *spa* and massage services.

The third study focused on thermal and mineral spa hotels in Portugal associated with wellness and health that use therapeutic water treatments. There were six clear themes identified (i.e., thermal, hotel, food, pool, location, and staff). The most commonly expressed themes are *thermal* conditions and equipment, *hotel* facilities, *food* quality and price, *pool* access and baths, *location* and accessibility, and professional, friendly *staff*.

The above-discussed research on tourists or consumers post-experience reviews generates a better understanding of which of these individuals' motivating factors influence satisfaction, as well as the relationship between these factors and medical and wellness tourists' satisfaction

and dissatisfaction. This thesis, thus, advances knowledge of both marketing theory and practice. The findings contribute to the literature on medical and wellness tourists' decision-making processes by identifying these tourists or consumers' key drivers. The new conceptual models proposed provide more explanations of the recommendation process and suggest additional constructs in international medical tourism (e.g., *happiness*) and wellness tourism (e.g., *thalassotherapy* and *thermal*) contexts. By integrating these constructs into the proposed model, the results further strengthen the theoretical framework and provide more explanations of the recommendation process. Finally, the findings emphasize how gender issues can affect the overall perception of medical and wellness tourism.

This research was an initial foray into understanding the increasingly significant field of medical and wellness tourism, and, hopefully, other researchers will join in conducting broader, deeper analyses of this fascinating type of tourism. A better, more detailed understanding of the attributes of medical and wellness tourism and its service quality, in turn, will allow researchers to identify more clearly measurement variables and investigate more thoroughly the role of these quality constructs in medical and wellness tourism decision-making processes.

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Appendices

Appendix A - The Treatment Abroad medical tourism portal

Treatment Abroad has been established for ten years. The site aims to provide those considering medical tourism with the information they need to make the right choice of hospital, clinic or doctor abroad (www.treatmentabroad.com).
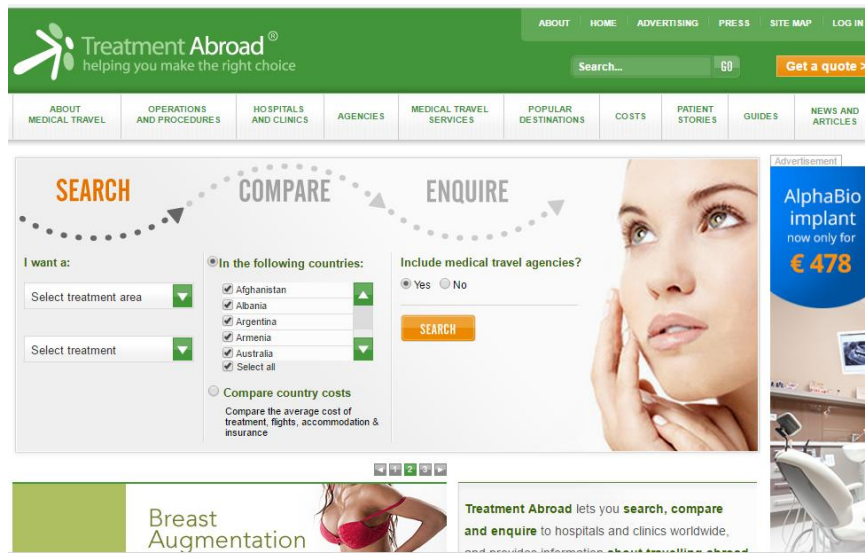
Figure 13. Treatment Abroad medical tourism portal

Appendix B - The Reviews Treatment Abroad of medical tourism portal

Medical Tourism Reviews, managed by Treatment Abroad, enables patients to publish reviews and comments about their experience of travelling for treatment (http://reviews.treatmentabroad.com/)

Figure 14. The Reviews Treatment Abroad of medical tourism portal

Appendix C - The Reviews Detail of Treatment Abroad of medical tourism portal

Medical Tourism Reviews provides the "word of mouth" that can help you to make the right choice of medical travel agency abroad. Choosing a country below to find reviews of medical travel agency in your preferred country, it allows, "Write a Review" sharing your medical tourism experience of medical travel agency abroad with others (http://reviews.treatmentabroad.com/cosmetic_clinic/belgium/clinic_beaucare).

Figure 15. The Reviews Detail of Treatment Abroad of medical tourism portal

Appendix D – TripAdvisor Portal

TripAdvisor® is the world's largest travel site, enabling travelers to unleash the potential of every trip. TripAdvisor offers advice from millions of travelers, with 435 million reviews and opinions covering 6.8 million accommodations, restaurants and attractions, and a wide variety of travel choices and planning features (https://www.tripadvisor.com/).
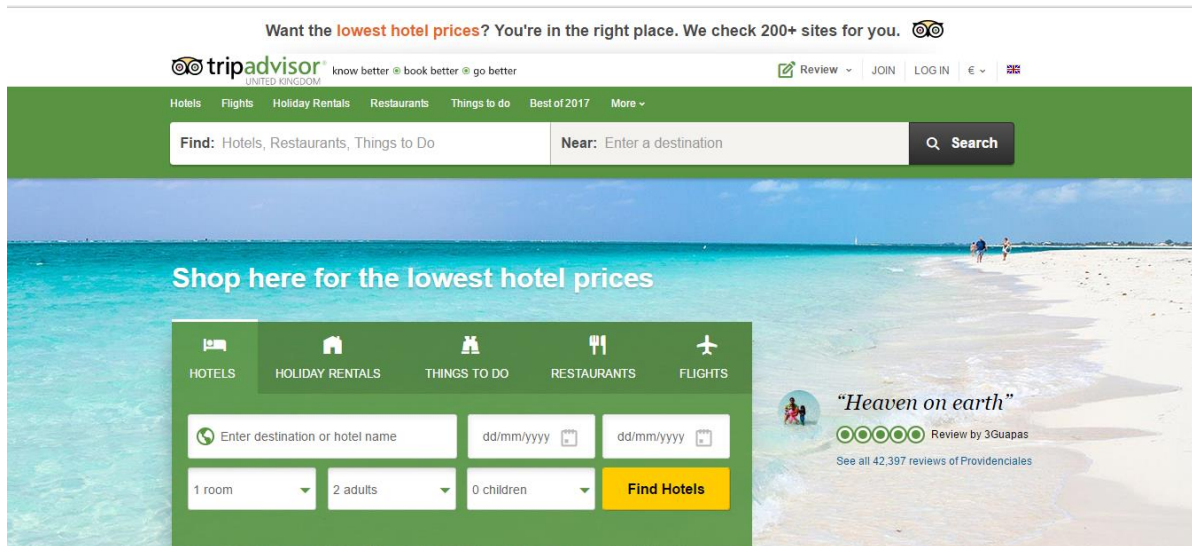
Figure 16. TripAdvisor portal

Appendix E – TripAdvisor Reviews Portal

TripAdvisor was the data source to retrieve the Resort & Thalasso Spa reviews
(https://www.tripadvisor.com/Hotel_Review).

Figure 17. TripAdvisor Reviews Portal

Appendix F – Booking.com Portal

Booking.com B.V., part of the Priceline Group (Nasdaq: PCLN), owns and operates Booking.com™, the world leader in booking accommodations online. Each day, over 1,200,000 room nights are reserved on Booking.com. The Booking.com website and apps attract visitors from both the leisure and business sectors worldwide.

Established in 1996, Booking.com B.V. guarantees the best prices for every type of property, from small, family-run bed and breakfasts to executive apartments and five-star luxury suites. Truly international, Booking.com is available in more than 40 languages, and offers 1,154,083 active properties in 225 countries and territories (http://www.booking.com/).
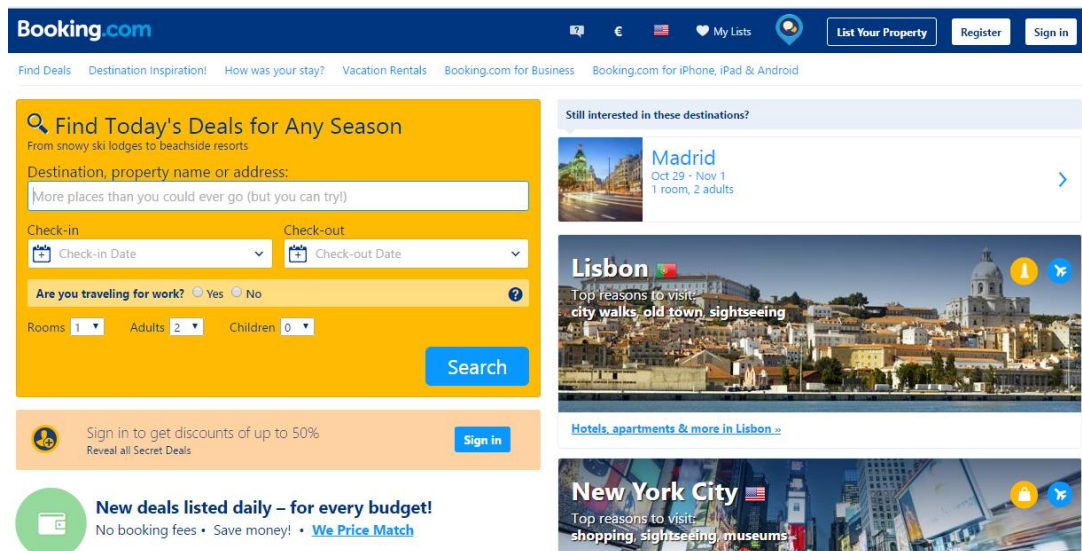

Figure 18. Booking.com

Appendix G – Booking.com Portal Reviews

Only a customer who has booked through Booking.com and stayed at the property in question can write a review. The review contributions and property responses will highlight a wide range of opinions and experiences, which is critical in helping guests make informed decisions about where to stay (http://www.booking.com).
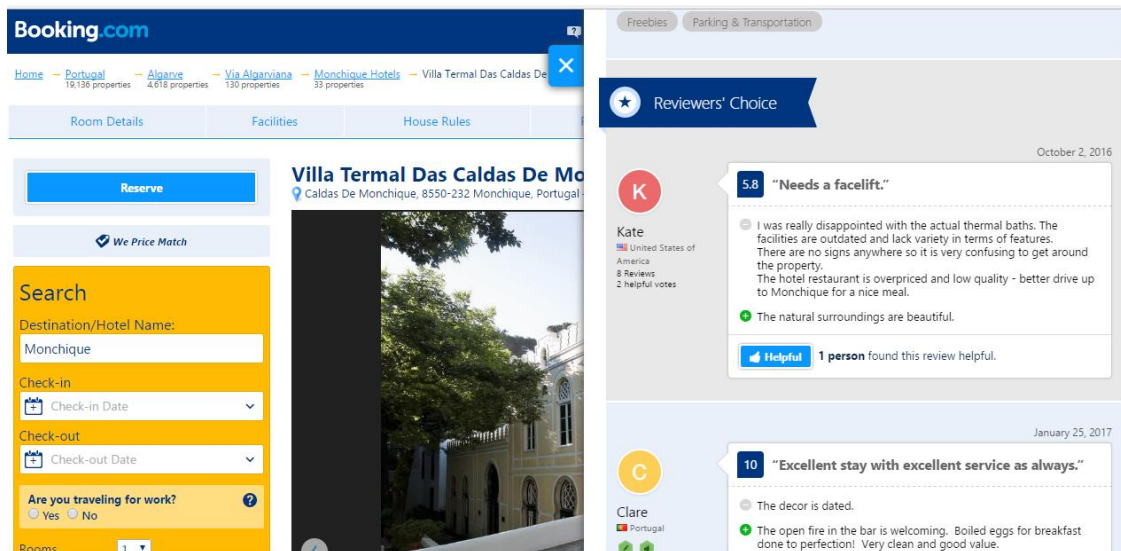

Figure 19. Booking Detail Reviews