



CUSTOMER SATISFACTION IN HOSPITALITY

Veronika Rudchenko

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UNIVERSITAT
ROVIRA i VIRGILI

Customer satisfaction in hospitality

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VERONIKA RUDCHENKO

CLIENT SATISFACTION IN HOSPITALITY

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FAIG CONSTAR que aquest treball, titulat "The customer satisfaction in hospitality", que presenta Veronika Rudchenko per a l'obtenció del títol de Doctor, ha estat realitzat sota la nostra direcció al Departament de Gestió d'Empreses d'aquesta universitat.

HAGO CONSTAR que el presente trabajo, titulado "The customer satisfaction in hospitality", que presenta Veronika Rudchenko para la obtención del título de Doctor, ha sido realizado bajo nuestra dirección en el Departamento Gestión de Empresas de esta universidad.

I STATE that the present study, entitled "The customer satisfaction in hospitality", presented by Veronika Rudchenko for the award of the degree of Doctor, has been carried out under our supervision at the Department of Business Management of this university.

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A blue ink signature of Dr. Juan Carlos Martín Hernández, consisting of a stylized 'J' and 'M'.

Dr. Juan Carlos Martín Hernández

A blue ink signature of Dr. María Victoria Sánchez Rebull, featuring a large, circular flourish.

Dr. María Victoria Sánchez Rebull

For the loving memory of my father

For the most important persons of my life:

Mark A., Jose Manuel, Tatiana and Nikita

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TABLE OF CONTENTS

TABLE OF CONTENTS	i
TABLES	iv
FIGURES	v
CHAPTER 1	1
CUSTOMER SATISFACTION IN HOSPITALITY	1
1.1. Abstract.....	1
1.2. Resumen	2
1.3. Resum	2
CHAPTER 2	5
INTRODUCTION	5
2. Justification and Scope of the Study	5
2.1. Research Questions.....	6
2.2. Thesis Structure	7
2.3. Research Strategy and Research Design.....	9
CHAPTER 3	11
THEORETICAL BACKGROUND OVER CUSTOMER SATISFACTION IN SOCIAL AND ECONOMIC SCIENCES	11
3. Introduction	11
3.1. Literature review of customer satisfaction according to the different social and economic areas	12
3.2. Comparing customer satisfaction in different scientific databases (Scopus and eLIBRARY)	13
3.3. Academic Outputs	14
PAPER I	15

Bibliometric analysis over research on “client satisfaction”	15
PAPER II	35
Are there any differences in client satisfaction investigation within Scopus and Russian journal publications?	35
CHAPTER 4	75
PARTICULARITIES OF CUSTOMER SATISFACTION IN TOURISM.....	75
4. Introduction	75
4.1. Literature review of customer satisfaction in different tourism sectors	75
4.2. Literature review of customer satisfaction determinants and consequences in hospitality	77
4.3. Academic Outputs	78
PAPER III.....	79
A bibliometric analysis of the customer satisfaction in tourism in high-impact Scopus journals	79
PAPER IV	103
Determinants and consequences of customer satisfaction in tourism: a systematic literature review.....	103
CHAPTER 5.....	141
GUESTS’ SATISFACTION. A SEGMENTATION ANALYSIS	141
5. Introduction	141
PAPER V.....	149
Hotel guests’ satisfaction: A segmentation analysis based on age and gender	149
PAPER VI	177
A gender and age segmentation analysis in Saint Petersburg. A case study for 3 and 4 stars hotels	177
CHAPTER 6.....	213
CONCLUSIONS	213

6.	Introduction	213
6.1.	Discussion and Conclusions	213
6.2.	Limitations and Suggestions for Future Research	216
	REFERENCES	219
	ANNEX	227

TABLES

Table 4.1. Tourism sectors where customer satisfaction has been investigated.....	76
Table 5.1. Linguistic Likert scales used in the questionnaire.....	145
Table 5.2. List of attributes to measure guests' satisfaction.....	145

FIGURES

Figure 3.1. Different customer satisfaction definitions	13
Figure 4.1. The research approach for the systematic literature review	77
Figure 5.1. A three steps process for the questionnaire construction	144

CHAPTER 1

CUSTOMER SATISFACTION IN HOSPITALITY

1.1. Abstract

The main objective of this dissertation is to analyze customer satisfaction in three different hotels, from three to five stars, located in the city of Saint Petersburg in Russia. The structure of the doctoral thesis is presented in three distinct parts: (1) A thorough systematic review of the literature on client satisfaction is carried out, focusing particularly on the social sciences and economics, also analyzing the differences observed by geographic regions by comparing the results of the international literature with those obtained in Russian scientific journals; (2) we analyze the peculiarities presented by this literature in a context more appropriate to the object of study of this research as is the tourism where a bibliometric analysis is presented as well as a study of the main determinants and consequences of satisfaction in the field of tourism; and (3) two empirical applications are presented using the results obtained through the application of a multicriteria hybrid model based on the fuzzy logic and on the global behavior technique obtained by the existing comparison with the ideal solutions observed in the analyzed sample. Two empirical exercises are presented that analyze the role of gender and age in the satisfaction experienced in hotels by analyzing overall the hotels included in the sample, as well as the results obtained for hotels of three and four stars. The results obtained allow us to conclude that age and gender decisively influence client satisfaction by discussing important management implications that have to be considered by the economic agents involved.

1.2. Resumen

La presente tesis doctoral tiene como objetivo principal analizar la satisfacción del cliente en tres hoteles de diferente categoría, desde tres a cinco estrellas, situados en la ciudad de San Petersburgo en Rusia. La estructura de la tesis doctoral se presenta en tres partes bien diferenciadas: (1) Se realiza una profunda revisión sistemática de la literatura sobre la satisfacción del cliente centrándose particularmente en las ciencias sociales y la economía, analizando también las diferencias observadas por regiones geográficas comparando los resultados de la literatura internacional con los obtenidos en revistas científicas rusas; (2) se analiza después las peculiaridades que presenta esta literatura en un contexto más adecuado al objeto de estudio de esta investigación cómo es el turismo donde se presenta un análisis bibliométrico así como un estudio de los principales determinantes y consecuencias de la satisfacción en el campo del turismo; y (3) se presentan dos aplicaciones empíricas utilizando los resultados obtenidos mediante la aplicación de un modelo híbrido multicriterio basado en la lógica borrosa y en la técnica de comportamiento global obtenida por la comparación existente con las soluciones ideales observadas en el conjunto de la muestra analizada. De esta forma, la parte empírica presenta dos trabajos que analizan el papel que juega el género y la edad en la satisfacción experimentada en los hoteles analizando de forma global el conjunto de los hoteles incluidos en la muestra, así como los resultados obtenidos para los hoteles de tres y cuatro estrellas. Los resultados obtenidos permiten concluir que la edad y el género influyen de manera decisiva en la satisfacción del cliente discutiéndose importantes implicaciones de gestión que tienen que considerarse por los agentes económicos implicados.

1.3. Resum

La present tesi doctoral té com a objectiu principal analitzar la satisfacció del client en tres hotels de diferent categoria, des de tres a cinc estrelles, situats a la ciutat de Sant Petersburg a Rússia. L'estructura de la tesi doctoral es presenta en tres parts ben diferenciades: (1) Es realitza una profunda revisió sistemàtica de la literatura sobre la satisfacció del client centrant-se particularment en les ciències socials i l'economia, analitzant també les diferències observades per regions geogràfiques comparant els resultats de la literatura internacional amb els obtinguts en revistes russes; (2) s'analitza després les peculiaritats que presenta aquesta literatura en un context més adequat a l'objecte d'estudi d'aquesta investigació com és el turisme on es presenta una anàlisi bibliomètrica així com un estudi

Abstract

dels principals determinants i conseqüències de la satisfacció en el camp del turisme; i (3) es presenten dues aplicacions empíriques utilitzant els resultats obtinguts mitjançant l'aplicació d'un model híbrid multicriteri basat en la lògica borrosa i en la tècnica de comportament global obtinguda per la comparació existent amb les solucions ideals observades en el conjunt de la mostra analitzada . Així, la part empírica presenta dos treballs que analitzen el paper que juga el gènere i l'edat en la satisfacció experimentada en els hotels analitzant de manera global el conjunt dels hotels inclosos en la mostra, així com els resultats obtinguts per als hotels de tres i quatre estrelles. Els resultats obtinguts permeten concloure que l'edat i el gènere influeixen de manera decisiva en la satisfacció del client discutint importants implicacions de gestió que han de considerar-se pels agents econòmics implicats.

CHAPTER 2

INTRODUCTION

2. Justification and Scope of the Study

Tourism is a multi-disciplinary and complex phenomenon, and in the moment of post crisis economy development like the current one, it plays an important role to develop different sectors of economy. It is a fact, that tourism is becoming a popular topic for research in managing enterprises' practice because of its economic importance worldwide. The academy is also showing this interest, especially in searching for the key elements of customer satisfaction in hospitality (Barsky, 1992; McKercher, et al., 2006; Radojevic, et al., 2015). One of the early publications on customer satisfaction is dated on 1954 when Forgy and Black analysed the topic in psychology counselling. Some year later, one of the first applications in economy can be attributed to Cardozo (1965) where the author presents in his study research over customer effort, expectations and satisfaction. However, regarding to tourism, customer satisfaction has many interrelations with other sectors of the economy like transport, hospitality and information systems. However, notwithstanding the importance of the tourism contribution to the economy of any country, there are still many gaps to be investigated (Bradley and Sparks, 2012; Campo and Yagüe, 2009; Chatzigeorgiou et al., 2009).

It is important to highlight that the hospitality sector is crucial for the development of tourism on any region of the world, and that client satisfaction is a very important topic that deserves the researchers' attention. For this reason, this dissertation chooses the client satisfaction in the hotel industry as the concrete field to develop the research study. As we analyse below, different research questions lead to different objectives, but in particular it is advanced here that a segmentation of the clients based on the age and gender forms the central core of this dissertation. Additionally, other important reasons can also explain this selection. Firstly, hotels being the fundamental element for tourism industry have witnessed a significant growth in recent decades thanks to increases in

visitor's income, leisure time, and political stability (Grado et al., 1998; Gunduz & Hatemi-J, 2005; Williams, 1998). Secondly, despite many attempts to explain "customer satisfaction in hospitality" or simply "satisfaction" itself, there still does not appear to exist a consensus regarding its definition (Giese & Cote, 2000). Thirdly, the literature on market segmentation and hotel satisfaction is still scant (Homburg & Giering, 2001) and the age and gender are ones of the main characteristics that must be investigated (Caruana, 2002; Del Chiappa et al., 2016; Shanka & Taylor, 2004).

One novel aspect to highlight is that the majority of publications on customer satisfaction in hospitality are presented by English speaking authors on the base of EU and USA case studies, and there is an important gap to fill in other countries like Russia. Finally, in this thesis, we narrowed the object of our research to a particular city of Russia: Saint-Petersburg. This focus is based on the iconic image that the city still presents for many Russian and no Russian visitors.

2.1. Research Questions

The main object of this thesis by compendium of publications is to contribute to the understanding of the essence of the customer satisfaction in the hospitality industry and to what extent the customers' age and gender can influence the satisfaction through the study of three different hotels from Saint-Petersburg (Russia) with different categories.

This overall objective was divided into a number of questions representing sub-objectives that the study was designed to address:

Related to the customer satisfaction in social and economy sciences:

- What is the customer satisfaction in economy according to the Scopus publications base?
- Are there any differences in customer satisfaction approaches and definitions between Scopus publications and Russian science publications?
- Are there any differences or particularities in customer satisfaction in tourism?

Related to the customer satisfaction in hospitality:

- What is the list of the attributes that influence the customer satisfaction in hospitality?

- What kind of correlation exists between hotels' services, quality and customer satisfaction?
- It is possible to construct a list of determinants and consequences of customer satisfaction in hotel?

Related to the customers' age and gender in hospitality:

- Are there any differences of customer satisfaction in hotels that can be distinguished by age?
- Are there any differences of customer satisfaction in hotels that can be distinguished by gender?
- Does the customer satisfaction in hospitality vary by age and gender according to the different star category of the hotel?

2.2. Thesis Structure

The doctoral thesis consists of a series of chapters divided in three main parts that lead the reader along a path that will introduce the study of the customer satisfaction, first in general, afterwards in hospitality, and finally the third part deals with the empirical analysis of the three hotels under analysis, in which a segmentation analysis based on age and gender is carried out.

It is important to note that within the structure of the study, the first two parts are based on the systematic literature review methodology as it was considered necessary to conduct this type of research to obtain a better understanding of the theories, methods and data that can sustain the basis of this research. The systematic literature review is justified in many areas where strict laboratory experiments cannot be undertaken (Denyer & Neely, 2004).

Thus, the third chapter of this thesis presents as outputs two research papers. The first paper of this chapter analyses the evolution of publications over the topic of customer satisfaction using 2753 articles from Scopus database since 1954 up to 2015. The main conclusion of this paper is that there is a trend showing an increase of interest over the topic in different social and economic sciences as well as in different countries. The second paper of the chapter compares the topic using 1685 articles from the Scopus and the Russian scientific DBs distilling the main differences observed between these two

once antagonist worlds. This paper concludes that there are still important differences observed especially in psychology and medicine, besides the gap is diminishing.

The fourth chapter uses also the systematic literature review applied in the previous chapter, but now the emphasis is put on the analysis of customer satisfaction in tourism. Two main outputs as research papers are also included in the chapter. The first paper presents a bibliometric analysis using 495 papers published in 41 journals since 1988 up to 2016 (29 years), extracting important insights from the most 100 cited articles. The second paper is based on the same database highlighting now the main determinants and consequents of customer satisfaction in the field of tourism.

The fifth chapter is based on the survey constructed afterwards of the systematic literature review applied in the previous chapters of the thesis. A segmentation analysis based on the gender and age is performed to analyse the client satisfaction of three hotels of Saint Petersburg. Again, two main outputs as research papers are presented in the chapter. The first paper presents a satisfaction synthetic index developing a hybrid method based on the fuzzy logic and the overall performance according to the similarity of the ideal solutions observed for the whole sample of clients aggregating the three hotels under analysis. The second paper extends the analysis of the first paper analysing individually two hotels of the sample: the 3 and 4 stars hotels.

The sixth chapter concludes presenting the most important insights obtained in the dissertation, summarizing the main conclusions obtained in each of the papers contained in this research. In addition, papers limitations are underlined, the original contributions of the doctoral thesis are highlighted, and the future lines of research that can be addressed from this work are presented.

It is noteworthy to underline that the references in each section of the thesis are presented in the format required by each journal where the papers have been published or submitted. The annex presents the questionnaire used to collect the information from the hotel's visitors

The following section explains the research strategy and research design of the thesis.

2.3. Research Strategy and Research Design

This section presents the methodological design of the thesis and describes the undertaken approaches used to answer the posed research questions that helped to reach the thesis objectives.

Due to multidisciplinary nature of the research objectives of this research, there are different approaches that can be used to analyse the client satisfaction that depends on the authors' background and preferences as well as the research purposes. In our case, our research is based on the background provided by the systematic literature review and the fuzzy hybrid multi criteria decision making MCDM method that applies the principles of the fuzzy logic and the similarity to ideal solutions.

In the first part of the thesis, we mainly use the systematic literature review of “customer satisfaction in social and economy sciences” and “customer satisfaction in tourism” publications. Systematic literature review is quasi-scientific investigations, although do not involve strict laboratory experiments and it was originated in the 1990s in the field of medicine, although more recently it has also been adopted in physical sciences such as systems engineering, and in social sciences such as marketing, tourism, and strategic innovation (Ginieis et al., 2012). Our research develops the systematic literature review through five distinctive stages that were proposed by Booth et al. (2014).

Additionally, the selection of the empirical articles is constrained to those that have appeared in Scopus database, excluding conference proceedings and symposiums presentations. These criteria also exclude non-English literature with predominantly national readerships (Boselie et al., 2005), since normally these sources have little influence on the international academic debate about a topic. However, in some part of our research we applied the systematic literature review of Russian authors' publications, as the further empirical research is undertaken on the base of Russian hospitality segment and it is also important to investigate the theoretical background from the Russian scientific database as our research is based on three hotels located in a Russian city. In agreement with Gallardo-Gallardo et al. (2015), we used Scopus (Elsevier) and additionally Russian (eLIBRARY) databases for article identification and retrieval. Moreover, since there are not any peer-reviewed publications of relevance on “customer satisfaction” in Scopus database prior 1954, the period from 1954 to 2016 (both years

included) is established as the time frame for this paper included in the dissertation. In order to provide a coherent comparison between the papers included in the database, it was decided to select only articles with a “scientific structure”, i.e. those with a methodology part.

To address the questions mentioned in the last third section of this thesis, we determine the level of guest satisfaction using quantified sentences that are applied in the resolution of a great variety of problems that are the consequence of the imprecise information provided by humans in natural language (Delgado et al., 2014). The imprecise nature of the responses is analysed by the use of the principles of the fuzzy logic theory. The origin of the theory is that many of the sets found in reality do not have clear and defined boundaries of the elements that are internally contained. Thus, Zadeh (1973) explains that the fuzzy logic is the natural methodology that provides a perfect analytical framework to handling linguistic information that can then be analysed through the use of MCDM models.

CHAPTER 3

THEORETICAL BACKGROUND OVER CUSTOMER SATISFACTION IN SOCIAL AND ECONOMIC SCIENCES

3. Introduction

This chapter of the thesis has a descriptive, analytic and exploratory character in relation to “customer satisfaction in social and economy areas” and “differences in customer satisfaction investigation within Scopus and Russian journals publications”.

A systematic literature review was conducted to investigate the relevant areas of publications over customer satisfaction in social and economic areas that were identified through the analysis of scientific papers’ and journals’ evolution. Thus, a database is constructed through a systematic selection process applied to English language publications in all areas within social and economics sciences. Paper I entitled “*The bibliometric analysis over research on “customer satisfaction”*” was published in 2017 in *the Problems and Perspectives in Management*, vol. 15, No.1, pp. 99-106 (The journal is indexed in Scopus, among others). This paper was also presented at The International Business and Social Sciences Research Congress (Paris-France) in 2015.

The first paper was extended selecting additional publications presented in Russian scientific database (eLIBRARY). Thus, paper II entitled “*Are there any differences in client satisfaction investigation within Scopus and Russian journals publications?*” was written.

Consequently, this chapter is logically divided into two well connected sections. The systematic literature review on “customer satisfaction in social and economy sciences” is

detailed in the second section, meanwhile the third section analyses the main differences observed between the two geographical studied areas. The chapter ends presenting the two mentioned papers.

3.1. Literature review of customer satisfaction according to the different social and economic areas

It is not a surprise that the majority of publication in Scopus database is in English language. It can be concluded that this is the natural consequence that English is the lingua franca used in the scientific world, while the investigation in other languages is also present and must be taken into consideration in order to create the full picture of research topic. Thus, the idea of this chapter is to investigate the research topic under two different perspectives: (1) the evolution of the field on the social and economic areas; and (2) the existing differences of the approaches proposed by English and non-English speaking authors.

Satisfaction became a widely studied topic in social and economic sciences and initially described as the situation when client's needs and expectations were fairly met (Pitic, 2015). Further, Oliver (1980) concludes that a variety of authors' definitions of satisfaction are "consistent with the expectancy disconfirmation model", while Churchill and Surprenant (1982) say that "the vast majority studies on customer satisfaction have used some variant of the disconfirmation paradigm". So, there is not a unique conception about "what the customer satisfaction is", and each author links the satisfaction research exclusively with a sort of exhaustive literature reviews because previous studies have used a large number of theories to explain the essence of customer satisfaction (Figure 3.1).

Moreover, the increase number of publications clearly shows the interest and opportunity to fill the existing gap in the literature, because most of the previous literature was partial and incomplete. The first article on "client satisfaction" appeared in Scopus on 1954 and there was a gradual growth in the articles' number. Since 1973 to 1981 there was a constant interest over it and a positive growth trend. In this regard, it is possible to highlight that the last two years 2015-2016 present 115 articles with the following structure: 68% articles in the health discipline (Fraser & Wu, 2016; Norlander et al., 2016), and only 12% articles in business, management and accounting areas (García-Fernández et al., 2016; Tarhaničová, & Glova, 2016).

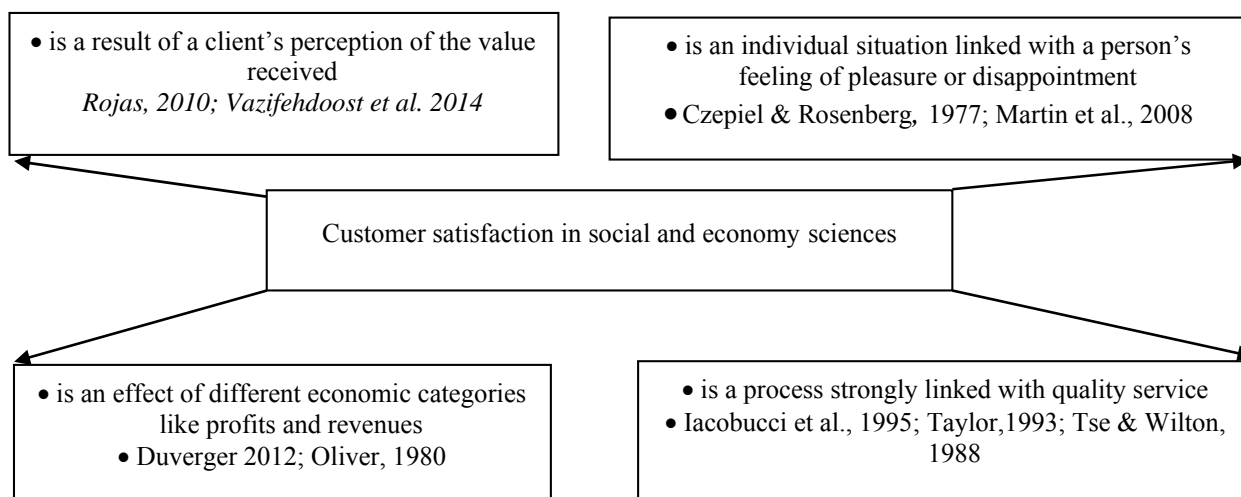


Figure 3.1. Different customer satisfaction definitions

Despite of the big amount of different approaches and definitions of customer satisfaction, it can be said that one of the most popular definitions is **“what people need and want to make their life better participating in some economy activity.”**

3.2. Comparing customer satisfaction in different scientific databases (Scopus and eLIBRARY)

There is a large body of the literature that has analyzed customer satisfaction in Scopus database (Anderson, et al., 1994). However, despite of the importance of customer satisfaction, it is argued that due to the dominance of the English literature it might be possible that the existed scientific research does not present the full picture over the research topic. English language publications on customer satisfaction dominate over other languages (95%) in Scopus database. However, a block of literature in other than English languages also exists and the approaches and results should be taken under consideration. For this reason, we compare the literature of English and Russian language scientific databases. Thus, a compendium of the particularities and differences observed between the Russian and no-Russian authors could be obtained.

Surprisingly, in Scopus database since 2002 year, out of the total 1405 articles on customer it was observed that there are only 5 Russian authors. It is important to underline that the starting year of the time frame of research was limited to 2002 because the Russian database started this particular year.

The results of this analysis demonstrated a quite strong evidence that Russian and non-Russian authors publications on customer satisfaction present a different trend and not all the research areas present the same importance in terms of the number of publication and topics of interests for the Russian and non-Russian authors.

3.3. Academic Outputs

This last section aggregates the obtained results over customer satisfaction research and presents the particularities in investigation over the object of research between Russian and non-Russian authors of scientific articles.

As previously said, this chapter contains two different papers that highlight the academic contribution, originality and show also some limitations.

The papers are entitled as: (1) *“The bibliometric analysis over research on “customer satisfaction”*”; and (2) *“Are there any differences in client satisfaction investigation within Scopus and Russian journal publications?”*

PAPER I

Bibliometric analysis over research on “client satisfaction”

Abstract: The objective of this study is to analyze publication’s evolution on the topic of client satisfaction using the Scopus database in English language for the period 1954-2016. The methodology used in this paper is a literature review conducted on 2753 scientific articles and 156 journals. After establishing 100 top publications topics on client satisfaction, we find that authors used almost the same methods of research and data collection. The main results demonstrate the increase of interest over the theme in different social and economic sciences as well as in different countries. Important scientific journals also increase the number of publications on client satisfaction. Besides the high interest over this theme in the academia, the international literature reviews are still scarce. Our approach, based on the construction of a database using a systematic selection process that was applied to English language publications on social and economic science areas, is a valid tool that can be applied for literature reviews in all areas within social and economics sciences. To our knowledge, the bibliometric analysis is applied for the first time on client satisfaction, so this is also a novel aspect of the paper to highlight.

Keywords: client satisfaction; literature review; analytical approach.

JEL Classification: C80, E21, Y10

1. INTRODUCTION

In the late 1990s and early 2000s "client satisfaction" became a widely studied topic in a variety of management fields. In social and economic sciences was initially described as the situation when client’s needs and expectations were fairly met (Pitic, 2015). It is usually analyzed with other important business topics that include drivers, mediators or endogenous variables.

Oliver (1980) concludes that a variety of authors’ definitions of satisfaction are “consistent with the expectancy disconfirmation model”. Churchill and Surprenant (1982) say that “the vast majority studies on customer satisfaction have used some variant of the disconfirmation paradigm”. So, there is not a unique conception about “what the client satisfaction is”.

Client satisfaction is a result of a client’s perception of the value received in a transaction or relationship, where value depends on the perceived quality relative to price and client

acquisition costs, and relative to the value expected from transactions or relationships with competing vendors. So, high levels of client satisfaction (with pleasurable experiences) are strong predictors of client retention, client loyalty, and products repurchase (Rojas, 2010; Vazifehdoost et al. 2014).

Furthermore, there is a large body of research confirming that satisfaction is linked with a person's feeling of pleasure or disappointment which resulted from comparing a product's perceived performance against expectations (Czepiel & Rosenberg, 1977; Martin et al., 2008). These definitions demonstrate that it can be seen as a core of human experience that ties their minds to some company's products or services.

Some authors show the connection between client satisfaction and other economic categories different from profits and revenues. Duverger (2012) demonstrates how dissatisfied customers can trigger innovative service ideas. Anderson (2011) explains loyalty in e-markets through satisfaction. Nonetheless, researchers and managers have not treated satisfaction as a relative construct. Managers widely believe that customer satisfaction is a fundamental determinant of a long-term consumer behavior (Oliver, 1980).

Moreover, Iacobucci et al. (1995) find that service quality and customer satisfaction are important concepts to researchers studying consumer evaluations and to practitioners as a mean of creating competitive advantages and customer loyalty. This idea is developed by Tse and Wilton (1988) "it is generally agreed that satisfaction can be defined as... the evaluation of the perceived discrepancy between prior expectations... and the actual performance of the product". Taylor (1993) describes the nature of the relationship between service quality and consumer satisfaction regarding the formation of consumers' purchase intentions across four unique service industries.

In a competitive marketplace where businesses compete for clients, client satisfaction is seen as a key differentiator (Hosany & Witham, 2010) that allows companies to attract new clients. Oliver (1993) argues that consumer satisfaction is a process that involves states that are not limited to mere satisfaction. Taylor (1993) describes the nature of the relationship between service quality and consumer satisfaction regarding the formation of consumers' purchase intentions across four unique service industries. Iacobucci et al. (1995) analyze how the consumers perceive the differences between service quality and satisfaction.

From our bibliometric analysis, we conclude that there is not a single article that deals exclusively with a sort of exhaustive literature review on client satisfaction. Thus, our research aims to fill this gap by investigating this interesting topic.

The rest of the paper is structured as follows: in the second section, a description of the used methodology and data source of publications on client satisfaction is presented; in the third section, the main findings are shown; finally, some conclusions and limitations of the paper are included.

2. METHODOLOGY

The following methodology is used to find and analyze the articles about client's satisfaction that were subsequently reviewed. Scopus database is selected to search all articles that deal with "client's satisfaction"; a period of investigation and the main keywords are selected; the journals' trends and results are obtained; the evaluation of the articles is presented; finally, all the results are summarized, analyzed, and interpreted.

2.1. Selecting the database

Although different databases can be considered we chose Scopus because: (1) it is the world's largest single bibliographic database that indexes more than 21,000 titles of scientific international publishers; (2) it offers the possibility to search for keywords included in the article title, abstract and keywords; (3) it provides links to the publishers' websites and full text of articles; (4) it classifies all included papers according to the special section on Social Sciences and Humanities into subcategories; (5) it permits us to compare the searching results according to keywords; and (6) it presents some specific features on journals that identify those that deal exclusively with the subject of research.

2.2. Establishment of the investigation period

Publications during 1954-2016 are analyzed in Scopus. We started in 1954 because the first paper on client satisfaction was published in 1954. Thus, the period range was selected to have the amplest possible period.

2.3. Identification of keywords "client satisfaction"

We choose for the search "client satisfaction" as keyword to limit our investigation. Initially, the selection made the search very inconsistent and unsatisfactory, so we split both words into "client" and/or "satisfaction". The word "client" is used in countless research works in fields such as economy, medicine, psychology, and business management. The word "satisfaction" is

very general, but it is strongly linked to healthcare settings in medicine areas. In this paper, “satisfaction” is chosen having in mind the definition given in the first section “what people need and want to make their life better participating in some economy activity.”

2.4. Search criteria to include the papers

During the compilation, other characteristics of publications were taken into account like the type of source, document type and language. The publications on client satisfaction are presented in different languages other than English, but we focus on English language, because it represents 96.3% of all publications. We narrow the research including only papers published in academic journals, so other sources like books or chapters of books are finally excluded.

3. RESULTS

The following logic was followed in the study. First, an analysis on journals trends regarding the downfalls and peak years is conducted. The journal’s ratings on “client satisfaction” and its citation level are presented by years. Then, the analysis of the articles on “client satisfaction” is conducted within the 63 years period. The article’s classification by areas, its dynamics, sources of publication, countries of publication and language are presented. Further, article’s study areas on client satisfaction in accordance with the directions provided by Scopus are analyzed. Finally, an analysis of the methodology and data sources of publications on client satisfaction is presented.

3.1. Analysis of journals on client satisfaction

We analyze all the journals under the research on “client satisfaction” in Scopus in 63 years (1954-2016). Number of journals significantly increased from 1 in 1954 up to 156 in 2016. It should be noted that each year new journals entered in all science classifications and the total number increased almost in 300%.

According to the number of publications, 4 out of the 5 leading journals are related to health disciplines, and only 1 transcends the boundaries of this discipline. These 5 journals accumulate the 20% of the total publications. The heterogeneity of the analyzed theme is shown by the fact that 65% of the journals present only 1 paper, 15% between 2 and 5, and only 20% more than 5.

The Journal of Counseling Psychology published 107 articles in 63 years, Community Mental Health Journal 68, Psychiatric Services 49, Journal of Clinical Psychology 45 and Evaluation and Program Planning 42. Another important issue is that from 1955 to 1975, publications on

client satisfaction were only in the Journal of Counseling Psychology, and this is still in the leading position. In 1975, Clinical Psychology started publications on the topic but its relative ranking decreased in favor of other two journals: Community Mental Health and Psychiatric Services. Also, Journal of Clinical Psychology, not only occupied the leading position for the analyzed period, but it published 9 papers in 2011, the maximum figure for any journal analyzed. It is interesting to highlight that Indian Journal of Science and Technology, included in Scopus since 2007, has 1 article in 2015 and 6 in 2016.

Three clear peaks on the highest publication activity are identified: Journal of Evaluation and Program Planning (7 articles in 1983); Psychiatric Services (7 in 1996); Journal of Counseling Psychology (9 in 2011). Later in 2012, there is a sharp decline in publications that can be partly explained by the fact that in 2000 many new journals published papers on this topic. It is also important to note that none of the above-mentioned journals has a constant growth up to 2015.

However, citation level of publications in journals experienced an increasing trend during between 1996 and 2013. Readers will have noted that the reference period for citations has been changed, and there are objective reasons for this: Scopus does not have complete citation information for articles published before 1996 and the three year gap is done to have an adequate maturity period for the paper to be cited. Journal of Psychiatric Services is the leader by citations (8864 citations in 2013 against 196 in 1996); Journal of Clinical Psychology (6828 in 2013 against 1966 in 1996); Journal of Counseling Psychology (6182 in 2013 against 1654 in 1996); Community Mental Health (1742 in 2013 against 476 in 1996); the Journal Evaluation and Program Planning (1490 in 2013 against 450 in 1996). Additionally, the journal Psychiatric Services, which is the leader by citations (8864 in 2013), initially had the lowest citation level (196) in 1996 among this privileged set of journals. Secondly, in 1996 the leader of citations was the Journal of Clinical Psychology (6828) that occupied the second position in 2013.

3.2. Analysis of article's number on client satisfaction

Articles on "client satisfaction" appeared in Scopus since 1954 for a total of 2753. The growing interest in the topic is proved. We can see a gradual growth in the articles' number from 1954. Since 1973 to 1981 there was a constant interest over it and a positive growth trend. A negative trend is observed in the period 1981-1988, and during 1988, the activity failed almost to the level of 1975, partly because Scopus continued a further specialization in different areas: for example, Journal of Clinical Psychology, Family Process and Social Indicators Research, among others. In 1989, there was an increasing leap mainly because Psychology Journal

presented a series of publications over client satisfaction. In the subsequent ten years period (1982-1992), the observed dynamics was quite unstable, in spite of the appearance of new journals like *Evaluation and Program Planning*, *Evaluation and the Health Professions*, *Social Work in Health Care*, *Journal of Applied Behavior Analysis*, and *Journal of Applied Psychology*. Since then up to nowadays, the interest on the topic is increasing and this seems that this will be alive in the future. In this regard, we highlight the last two years 2015-2016 with 115 articles: 68% articles in the health discipline (Fraser & Wu, 2016; Norlander et al., 2016), and while only 12% articles from business, management and accounting area (García-Fernández et al., 2016; Tarhaničová, & Glova, 2016).

3.3. Countries of publications on client satisfaction

Dynamics of papers and changes in areas of publications illustrate that countries vary very much with respect to the number of publications. Looking at the top 5 authors' nationalities, it accounts for the 67% of the total number of published articles. The US was the most prolific country with 1123 published articles, followed by the UK, Canada, Australia, and the Netherlands with 283, 173, 167, and 56 published articles, respectively. Analyzing the cross-section data, the rankings for the nationalities is not stable with the exception of US which outperformed all the rest of the countries dynamically. Thus, it is important to highlight that the first publication belonged to American authors Forgy and Black (1954).

3.4. Study areas

Analyzing the different areas of study like Social Sciences, Psychology, Business, Management and Accounting, Medicine, Decision Sciences, and so forth up to a total of 20 different areas, the 4 more important areas are: Social Sciences, Psychology, Business, Management and Accounting, and Medicine. It is always difficult to categorize the published paper in only one area, as in many cases, the lines for the categorization can be very red. However, it can be seen that the 4 more important areas accounted for a total representativeness of more than the 70%. Besides these big four, it can also be highlighted how other areas like Health Professions, Nursing and Engineering were also important with more than 10% of representativeness.

3.5. Methodology and data source of publications on client satisfaction

The analysis of the research methods and data collection is based on a strict selection of the most representative 100 publications. Firstly, we select the authors with the highest number of publications (more than 5 papers); secondly, the most cited authors; thirdly, authors with the highest h- index (Table 1).

The subject area is mainly represented (73%) by medicine and psychology areas. It can be seen that the publications in this particular set is quite unevenly, being the period 2010-2016 clearly overrepresented. The most popular author is Drake R.E., considering the number of publications (13), his h-index is 76, and has 9694 citations. For some other authors, the pattern between the number of publications and citations is not so clear. It is also important to highlight that almost all authors are from USA with the exception of one who is from Singapore.

Table 1. 100 publications on client satisfaction

Author	H index/Citations	Research methods	Years	Subject area
Attkisson	16/2483	QIA QnA	1993, 1984-85, 1983(2), 1981-82, 1979	SS/BMA
Becker	37/4517	FA QnA	2005, 1998(2), 1996-97,1994	M/Hthp
Bond	45/4276	QnA Cases	2009, 2001, 2002, 1996-1998	M/Hthp
Calsyn	22/1501	Cases QIA	2006, 2003, 1997, 1994-95, 1992	M/SS
Drake	76/19694	PS QnA	2007, 2006(3), 2005, 2001,1999,1998(2), 1994-97	M/Hthp
Gelso	29/2114	QnA QIA	2014, 2011(2), 2010, 1987, 1973	Psy/M
Hsieh	9/241	Cases QnA	2014, 2012(2), 2009(2), 2006(2)	SS/Psy
Lambert	47/6446	QIA QnA	2012(2), 2011, 2006, 2004, 1984, 1978	Psy /M
Ling	19/1240	FA QnA	2015, 2014(4), 2013, 2005(2)	E/BMA
Morse	17/685	Cases QnA	2006, 2003, 1997, 1994-95, 1992	M/SS
Owen	14/593	QnA	2014, 2013(4), 2012(2), 2011(3), 2010	E/BMA
Rodolfá	14/454	FA QnA	2013(2), 2012, 2011(2), 2010	Psy/M
Rosenheck	76/18954	QnA QIA Cases	2014, 2012(2), 2005-06, 2004(2), 1999, 2000, 1995	M/SS

Subject area from Scopus: **M**-medicine; **Hthp**-health professions; **SS**-social sciences; **Psy**-psychology; **BMA**-Business, Management and Accounting; **E**-Engineering.

Research methods in articles: **PS**-pilot study, **QnA**-quantitative analysis, **QIA**-qualitative analyze, **FA**-factor analysis.

Source: Compiled by the authors

Within the 100 publications, the most popular methods of research are factor analysis and quantitative analysis. Although, most of these publications are not focused in economic and social areas, this method is also applied profusely in business and economic areas (Adogwa et al., 2012; Moreno-Peral et al., 2014). We find a similar situation with the popularity of quantitative analysis in research on client satisfaction (D'Elia et al., 2014; Miyajima et al., 2014).

Regarding data collection methods, the interviews and surveys are the basic tool, independently of the subject area of study. For example, Prisecaru & Constantinescu (2011) present a standard questionnaire to collect information regarding service quality. Chen & Yu (2009) on the base of a survey questionnaire analyze clients' satisfaction in both Taiwan and Singapore.

4. CONCLUSIONS

The bibliometric analysis on client satisfaction examines the evolution of the topics of interest over a 63 years period on the base of academic publishing observations. From our analysis we conclude that the systematic literature reviews on client satisfaction are very scarce, and almost all papers consulted had a very simple literature review just to give some context to the paper. The increase of publications number clearly showed the interest and opportunity to carry out this approach in order to fill this existing gap in the literature, because most of the previous literature was partial and incomplete.

Some insights and patterns were obtained. For example, a positive growth trend was observed since 2007 and the number of publications reached 115 in 2016. A tentative explanation for this trend can be underpinned in the recession and economic downturn period that firms confronted. Regarding the areas of study, medicine and other areas related to the health sector were in the group of the most representative.

According to the distribution of publications by journals, only the 41% published more than 3 articles per year, and less than 2% of them published only 2. Significant differences were also observed looking at the authors' nationalities, where the US showed a very dominant position. Most of the top 5 nationalities were from the Anglo-Saxon world, so it was not strange to find that a very ample part of the publications (96.3%) were written in English.

One of the main contributions of this paper was based on a comprehensive literature review of previous publications, and this can be used for further investigation on any other topics of research interest.

Other important findings are related to the most common methods applied and data sources used. Analyzing 100 publications according to some criteria, the most popular methods of research were factor and quantitative analysis; while data collection methods were based on interviews and surveys using questionnaires.

We end this section highlighting that our findings will provide a meaningful source of information about client satisfaction for a numerous set of characteristics that can support future research. However, it can be said that our study is only based on "client satisfaction" keyword and on Scopus for the period 1954- 2016.

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PAPER II

Are there any differences in client satisfaction investigation within Scopus and Russian journal publications?

Abstract

Client satisfaction is a critical element affecting the sales of the company and consumption repetition of produced goods or services. Nevertheless, during the last decades companies have witnessed dramatic changes in the business environment, especially since 2008. Every year the growing number of publications shows the interest about the nature of client satisfaction. This article has following two objectives. Firstly, to analyze the evolution of articles published by Russian and no-Russian authors, and, secondly, to determine the differences in approaches of their “client satisfaction” areas of research. Two hypotheses are raised. The first is that the evolution of publications on client satisfaction by Russian and non-Russian authors is different, and the second is that areas of research on client satisfaction done by both origin of authors are also different. These hypotheses are analyzed by means of a literature review. This review has been done over 1685 articles on client satisfaction in the Scopus and eLIBRARY databases and further, 200 articles have been deeper analyzed. The results show a growing trend in publication in both Russian and no-Russian bases, but, comparatively, we find a difference in publications amount according to scientific directions within social and economy field. The conclusion is that the formulated hypotheses have been confirmed. In this paper we suggest avenues for the future research that can advance our understanding of the client satisfaction effects on economy development of different types of companies in diverse spheres of activities in different countries.

Keywords: Client satisfaction, literature review, Scopus publication, Russian authors

JEL Classification: Q50, Q56, L83.

1. INTRODUCTION

A variety of researches are devoted to investigation on the essence of satisfaction by giving to it a great significance. The initial researches over client satisfaction (CS) are done in medicine fields (Forgy and Black, 1954). It became increasingly important in the healthcare setting to treat patients as consumers and measure CS with medical services rendered (Krause and

Howard, 1976; Stein and Stone, 1978). CS should be considered an important output of a country's healthcare system, basically reflecting the stage of its development (Koenig-Lewis and Palmer, 2014; Markland and Tobin, 2010). Later, the investigation area moved to the economy, especially to enterprise's profit. Boulding et al. (1993) indicate transaction and CS cumulative conceptions that describe CS as accumulation of every day product's or service's experience. Anderson et al., (1994) explain that CS can be defined as overall evaluation based on the total purchase and consumption experience with a good or service over time. However within another conception, CS is described as a function of pre purchase expectations and post purchase perceived performance of the respective product or service (Oliver, 1980). There are also theories about the psychological features of satisfaction, that link satisfaction with psychological effect on client (Gary et al., 2010; Koenig-Lewis and Palmer, 2014). Other authors analyze CS as the way a person evaluates his or her life and how feels about where it is going in the future, and describe how to measure and manage this personal satisfaction (Czepiel and Rosenberg, 1977). While, Kirillova and Udalova (2013) explain that satisfaction expresses emotional and subjective state of the consumer linked with their needs. Additionally, the degree of satisfaction is the compliance between the client's expectations and their assessment of the received services (Romanzova and Chendon, 2008).

It is important to underline that CS has long been a subject of research in a variety of disciplines and economic sectors. For example, the major factor for bank profit increase is CS (Shachovskaya and Arakelova, 2014). Karanovich (2013) studies the mechanism of management of hotel's innovative activity through CS. Rudchenko (2014) illustrates how to measure hotel's service quality to satisfy clients in the greatest way. Aga and Okan (2007) empirically investigate CS in professional accounting firms in North Cyprus.

English language publications on CS dominate over other language (95%) in Scopus. However, a block of literature in other than English languages either exists and it is an important gap that must be taken under consideration. It is a reason why in this research we take the articles from Russian authors in Russian language to see the difference in approaches and definitions with the publication on client satisfaction, but in English language.

Hence, we raise two hypotheses. The first hypothesis is that the evolution of publications on client satisfaction by Russian and no-Russian authors is different, and the second hypothesis is that areas of research on client satisfaction done by both origins of authors are also different. Thus, the main object of this research is corroborating these hypotheses. CS and its evolution

under Russian author's investigation and its comparison with the results of no-Russian authors are examined.

We pointed these gaps for following reasons: firstly, Scopus base with 1405 articles on CS include only 5 of Russian authors; secondly, in Scopus the biggest part of observations is dedicated to USA or Europe. So, it will be useful to compare scientific results within approaches proposed in different countries to indicate its positive and negative sides and apply results for economy improving in whole. Thirdly, accumulation of investigation results of Russian and non-Russian authors can give a positive effect by enriching the common knowledge in world scientific research base. Additionally, following by posed objective we can identify not exploited niches that may arise as future lines of research.

We describe the methodology used in the following section on the base of systematic literature review. While the fourth section results are presented and discussed. Conclusions of the paper are included in the last section.

2. METHODOLOGY

The methodology used to corroborate the hypothesis if Russian and no-Russian publications on client satisfaction evolution has been different, and if these publications have focused on areas of research is a systematic literature review.

Recent years there has been little done to review the status of the literature on CS. Researchers mostly centered on case studies while in our analysis we focused on CS literature review, because it is quasi-scientific investigations, although do not involve strict laboratory experiments. Denyer and Neely (2004) declare that literature review involves documenting all the procedures undertaken and systematic reviews should contain a section on the methodology used and providing a precise description of how the study was conducted.

In this study, we apply for the Scopus and eLIBRARY data bases (DB). We take Scopus because it is the world's largest single bibliographic DB that indexes more than 21,000 titles of scientific international publishers. It provides full texts of articles linked with CS. It offers the possibility to search simultaneously for keywords, article title, abstract and keywords and it breaks articles into different research sections of Social Sciences and Humanities. While eLIBRARY established in 1999 by the initiative of Russian Foundation to provide electronic access to the leading Russian scientific publications. It collects only scientific publications under different directions and it is the leading digital library of scientific periodicals in Russian language in the world. In eLIBRARY almost 20 thousand journals are available, as well as

descriptions of 1,5 million foreign and Russian theses. eLIBRARY also classify articles into 250 themes, features detailed abstracts, and search by author, title and keywords also are possible.

The first publication on CS in eLIBRARY DB dated by 2002, so we took it like the starting point of research. However, the first publication on CS in Scopus DB is presented in 1954. The final year is 2014 as the last valid period of collecting on line information (28 February 2016). We must mention that the data and information could change because of the access time to Scopus or eLIBRARY. As keywords for our research we take only “CS” to range papers (1405 items in Scopus) and to limit our investigation. For instance, the word “satisfaction” is very general and many areas dealing with it. Thus, the meaning of “satisfaction” in this paper we narrow having in mind what people need and want to make their life better participating in some social and economy activity.

Keywords used to search articles on CS have been “client satisfaction”. When we put our keywords into research we looked it in the title, abstract or keywords of articles. After performed the search, the papers were manually reviewed to verify the link with CS and to avoid duplication. The first result was 1405 Scopus articles and 240 eLIBRARY articles that we used to analyze trend and evolution. For corroborating the second hypothesis further we narrowed the research up to the 100 most cited articles from each base to analyze specific research areas.

3. Data, results and discussion

In order to identify the papers, we selected only articles from journals, no conference papers, no reviews etc., because the inclusion of other type publications would create the duplication.

In this part, we analyzed the evolution of papers on CS in both bases via social and economy fields on client satisfaction topic. Then, we put the 200 most cited articles from each database according to the scientific directions.

3.1. Article’s evolution on CS in social and economic areas within Russian and no-Russian authors

During 12 years period (2002-2014), we identified 1405 articles in Scopus (including 5 of Russian authors) and 240 in eLibrary. It is important that only 4,9% of publications made by authors from other than English speaking countries. English publications are headliners and USA the most active country (655 publications). However, even writing in English, the authors

can belong to different countries without being English native speakers. For instance, during 12 years period of investigation, there are 5 articles on CS by Russian authors. Within them, 4 are written in English (Demchenko et al, 2014; Kortunov et al, 2014; Misina and Musikhin, 2012; Struyk et al, 2006) and 1 in Russian (Molodchik and Akatov, 2013). These 5 Russian articles were published quite recently. This can be explained because Russian authors firstly had no much interest to international publications due to the language barriers. Thus, to distinguish Russian author's particularities and used approaches over CS we must analyze publications in Russian that creates one of distinguished gap within this paper. The shortage of Russian publications in Scopus demonstrates the weak capacity of Russian authors being published in international journals or the difficulty to write in other than Russian language. Thus, to deeper the search we selected in eLIBRARY articles in journals recommended by the Higher Attestation Commission of the Russian Federation Ministry of education and science, to make our comparison relevant to Scopus articles on CS.

On the basis of the obtained results it is evident that the popularity of CS theme increases in both scientific DBs during 12 investigated years (figure 1): 79 publications in 2002 against 173 in 2014 (Scopus DB), while 2 in 2002 against 46 (including 2 Russian articles in Scopus) in 2014 (eLIBRARY DB). That allows us to confirm the first hypothesis.

Here Figure 1

Comparing eLIBRARY and Scopus there is a big gap between DBs publication's activities since 2002. In this start year in eLIBRARY there are 2 articles against 79 of Scopus and this stabile tendency continued up to 2014 (46 in eLIBRARY against 173 in Scopus). The results (Figure1) show that Russian author's activity is significantly less than no-Russian authors. eLIBRARY starts with 2 articles in 2002 and in 2006 there are 15, almost doubled number of articles in 2010 (27) with a peak in 2014 (46). However, despite the increase of publications in eLIBRARY, it is still in the weak position in comparison with Scopus. Thus, it is evident that the English language publications win positions in the scientific world against all other languages (Egbert et al., 2016) because almost all international and indexed national journals publish in English and this is the main language of all international scientific conferences. Scopus presents more publications per year than eLIBRARY (117 average level against 20). Scopus publications on CS have 2 significant declines: 2008 (117 against 133) and 2013 (155 against 181). It is important to note, almost at the same period there are either declines in eLIBRARY on CS: 2007 (12 against 15) and 2011 (23 against 27). The only peak periods of Russian authors publication on CS in eLIBRARY and Scopus are 2012 and 2014. These

decrease points could be explained by the initial process of world economic crises (2008 and 2013), that leads to a recession in Europe and touched each country economy spheres. So, it worthy to note that the obtained results of this investigation could help to navigate under economic crises conditions. The first article on CS in Scopus dated 1954 and it is made by American authors, so a quite long time Russian authors did not present any publication on CS (up to 2002). This fact should also be the line for the further investigation. There has been a different tend of publication on client satisfaction by Russian and not Russian authors.

3.2. The directions analysis of CS research

To check the second hypothesis posed in our article, we categorized selected 200 most cited articles (100 of each database) according to 10 presented in Scopus directions, because in eLIBRARY there aren't research directions (Table 1).

Here Table 1

We found a great coincidence in the publication's activity on CS in some specific areas (Table 1) comparing Russian and no-Russian authors. Business management accounting is the most popular direction: Scopus 19%, eLIBRARY 27%. Decision Sciences direction covers the same level of interest within both DBs (7% and 6%). However, in the study, there are more differences than coincidences. Firstly, the biggest part of CS articles in Scopus (37%) falls into the psychology and medicine areas, while articles of eLIBRARY mostly in economy area (>50%). Secondly, psychology, medicine, health professions and nursing is 39% of CS articles in Scopus DB, while only 5% in eLIBRARY (any article dedicated to CS in nursing and health profession). Possibly this situation caused that medicine publication in eLIBRARY don't enter in economy and social area. Thus, only 2% of investigated CS papers in eLIBRARY linked with medicine, and 3% with psychology. Thirdly, Scopus publications are more cited than eLibrary ones. In Scopus, biggest citation period is 2002-2009, while in eLIBRARY is 2013-2014. Within our investigation we faced a lack "citation" in eLIBRARY (Table 1). It could be happened because of the novelty of CS as an investigation theme within Russia authors. So, taking into account the previous evidence, we can confirm the second hypothesis. Scopus non-Russian authors focused their studies on client satisfaction in more different areas than Russian authors that deeper studied this topic in economic area.

4. CONCLUSION

The main aim of this paper is to corroborate the two hypotheses raised. It is the first time on the base of a literature review, CS from international scientific DB and Russian scientific DB is

examined, compared by publication's evolution and categorized under different science directions during 12 years period (2002- 2014). The main contribution of this paper is to show the different interest's level on CS theme within Russian and no-Russian authors. Publications on CS in Scopus presented since 1954 mostly by USA authors, describing investigated cases in Europe and USA. While eLIBRARY started only in 2002 with total 240 publications up to 2014. However, within 1405 discovered in Scopus publications on CS there are 5 by Russian authors (including one in Russian language). Additional, it was indicated and explained in the paper that 2007-2008 and 2012-2013 are the peak periods in both DB. Nevertheless, the gap in publication's number between two scientific DBs is stable during 12 years of investigation. The results of this analysis have provided quite strong evidence that we can confirm the first hypothesis because Russian and no-Russian authors' publications on client satisfaction present a different trend.

Within the research we also synthesized and structured the CS publications into ten different directions to provide a holistic picture of our current knowledge to test the second hypothesis. The biggest part of CS articles in Scopus cover CS in psychological and medicine way (37%), while Russian articles prefer describe CS in economic categories like profit, income etc. (50%). Thus, eLIBRARY journals in psychology and medicine areas have usually economical reasoning. While, Business, Management and Accounting direction is in the same popularity within authors of both DBs. The received theoretical result could also be proved by the present situation in health care system of Russia. The CS in medicine area is strictly linked with the financial and economic elements, because services quality level is highly depend on the price and most services are commercial (Misulin, 2009). That could be a reason, why included in eLIBRARY researches on CS in medicine area represent economic descriptions and financial elements. With this, we are able to confirm the second hypothesis posed in this work, because not all areas or client satisfaction research have not been studied in the same extend by Russian and no-Russian authors.

As a limitation, we posed the period of our investigation only for 2002-2014, used "client satisfaction" as keyword, and selection of 100 most cited articles from Scopus and eLIBRARY. As avenues for the future research we advance to develop CS investigation over countries' particularities. Additionally, it can be useful to compare different approaches, methods of research and evaluation models of CS within different authors' economy sectors analyzing a longer period of time.

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210. Zverkova, T. (2012) “Client orientation as an intention of banking improvement”, *Vestnik OGU*, Vol. 13, pp. 152-158. Available at: http://elibrary.ru/download/elibrary_19025189_82605569.pdf [Accessed: October 13, 2016]

Table 1. Articles areas on CS research (2002-2014)

Areas from Scopus	Number	Scopus	Citations	Number	eLIBRARY and Russian articles in Scopus (5 articles)	Citations
Psychology	20	Sin and Lyubomirsky (2009)	310	3	Elizarov and Boldinova (2013)	0
		Bakker et al. (2008)	308		Ovchinnikov and Neverov (2013)	0
		Kristensen et al. (2005)	260		Zorina and Kortunov (2014)	0
		Figley (2002)	204			
		Sirois and Gick (2002)	148			
		Steger and Frazier (2005)	131			
		Cook and Doyle (2002)	129			
		Kern and Frone (2007)	104			
		Jimmieson et al. (2004)	99			
		Waller and Gilbody (2009)	96			
		Lambert and Shimokawa (2013)	94			
		Okiishi et al. (2006)	91			
		Garman et al.(2002)	87			
		Frisch et al. (2005)	85			
		Cosden et al. (2003)	85			
		Constantine (2002)	84			
		Constantine (2007)	81			
		Dumbrill (2006)	81			
		Howlin et al. (2005)	81			
		Lappalainen et al.(2007)	73			
Business, Management and Accounting	19	Susarla et al.(2003)	189	27	Nufferova (2004)	7
		Caceres and Paparoidamis (2007)	150		Cherbakov and Danilina (2014)	3
		Rai et al. (2009)	100		Bachmachnikova and Savina (2013)	1
		Portela et al. (2004)	99		Baeva and Zacharov (2006)	0

Chapter 3. Paper II.

		Mirchandani (2004)	91		Behecti (2013)	0
		Spiteri and Dion 2004)	80		Beliaev and Matveeva (2014)	0
		Van Birgelen et al.(2006)	73		Berg and Strezkaia (2014)	0
		Brauers et al. (2008)	71		Gareeva (2013)	0
		Yasamis et al.(2002)	69		Garibian (2013)	0
		Gainey and Klass (2003)	65		Gubanova (2014)	0
		Toor and Ogunlana (2010)	61		Iordache et al. (2009)	0
		Kim et al. (2006)	61		Kachalov (2012)	0
		Soriano (2002)	61		Karanovich (2013)	0
		Sexton and Barrett (2003)	60		Korepanov (2012)	0
		Cater and Zabkar (2009)	54		Krupskiy (2013)	0
		Millan and Esteban (2004)	47		Litvincheva (2010)	0
		Chia et al. (2009)	45		Mayorova (2012)	0
		Bennett and Barkensjo (2005)	45		Monachov et al. (2006)	0
		Garland et al. (2007)	45		Pasechnikov and Safonova (2014)	0
					Perepelkin (2013)	0
					Rijov and Kukuchin (2007)	0
					Romanzova and Chendon (2008)	0
					Rudenko (2010)	0
					Struyk and Alexandrova (2006)	0
					Tchamitlokova (2013)	0
					Volkov (2013)	0
					Ziadin and Molladjanov (2013)	0
Medicine	17	Resnick et al. (2004)	132	2	Archipova (2013)	0
		Adams and Drake 2006)	108		Kurilkin (2013)	0
		Essock et al. (2006)	96			
		Skeem et al. (2007)	87			
		Voruganti and Awad 2002)	76			

Chapter 3. Paper II.

		Festinger et al. (2005)	72			
		Smith and Marsh (2002)	67			
		Montagu (2002)	66			
		Woodward et al.(2002)	64			
		Martínez-Iñigo et al. (2007)	63			
		Cabral and Smith (2011)	60			
		Harrison and Westwood (2009)	59			
		Baumgarten et al. (2002)	58			
		Sundell and Vinnerljung (2004)	57			
		Gettman and Gelfand (2007)	53			
		Kraus et al.(2005)	51			
		McEvoy et al. (2009)	50			
Decision Sciences	8	Buckinx and Van Den Poel (2005)	111	8	Astichina (2014)	0
		Erasala et al.(2003)	51		Cheech (2013)	0
		Jiang et al.(2010)	48		Goncharova and Goncharov (2012)	0
		Gallivan (2003)	48		Iachenko (2014)	0
		Frutos and Borenstein (2004)	45		Kechian and Rojkova (2008)	0
		Addison (2003)	43		Komarov and Popov (2014)	0
		Kim et al. (2009)	34		Kraskovsky (2010)	0
		Nasri and Charfeddine (2012)	29		Nesmianova (2012)	0
Multidisciplinary etc.	8	Faryabi et al.(2012)	4	24	Efremova (2002)	0
		Jadoo et al. (2012)	4		Raficov (2009)	4
		Yaghoubi et al. (2011)	4		Taradina (2011)	3
		Misina and Musikhin (2012)	3		Shironina and Kilosova (2013)	3
		Hashemzadeh et al. (2011)	3		Danilov et al. (2013)	2
		Rezaei et al (2011)	2		Potemkin et al. (2009)	2
		Tyulova et al.(2012)	2		Beliaev and Matveeva (2014)	0
		Chirico and Presti (2011)	1		Bor (2013)	0

Chapter 3. Paper II.

					Chelkonogov (2010)	0
					Demurin (2014)	0
					Derendyaeva and Mukchina (2014)	0
					Gordeiko (2014)	0
					Ilchenko (2013)	0
					Jevtun et al. (2013)	0
					Kachirin (2014)	0
					Kachurin (2013)	0
					Kortunov et al. (2014).	0
					Neretina and Lachina (2010)	0
					Panteleev (2014)	0
					Pavlenko (2014)	0
					Ponomaryov and Novosyolova (2009)	0
					Rudchenko (2014)	0
					Sanin and Sanina (2014)	0
					Zverkova (2012)	0
Health Professions	7	Mueser et al.(2005)	50	0		
		Lawthers et al. (2003)	49			
		Pronyk et al. (2002)	44			
		Auslander and Jeste (2002)	44			
		Morse et al. (2006)	43			
		Segal and Silverman (2002)	43			
		Pring (2004)	39			
Computer Science	7	Lee et al. (2012)	28	6	Lomakin et al. (2013)	10
		Reychav and Weisberg (2009)	23		Molodchik and Akatov (2013)	6
		Davis (2008)	22		Naumenko and Naumenko (2009)	4

Chapter 3. Paper II.

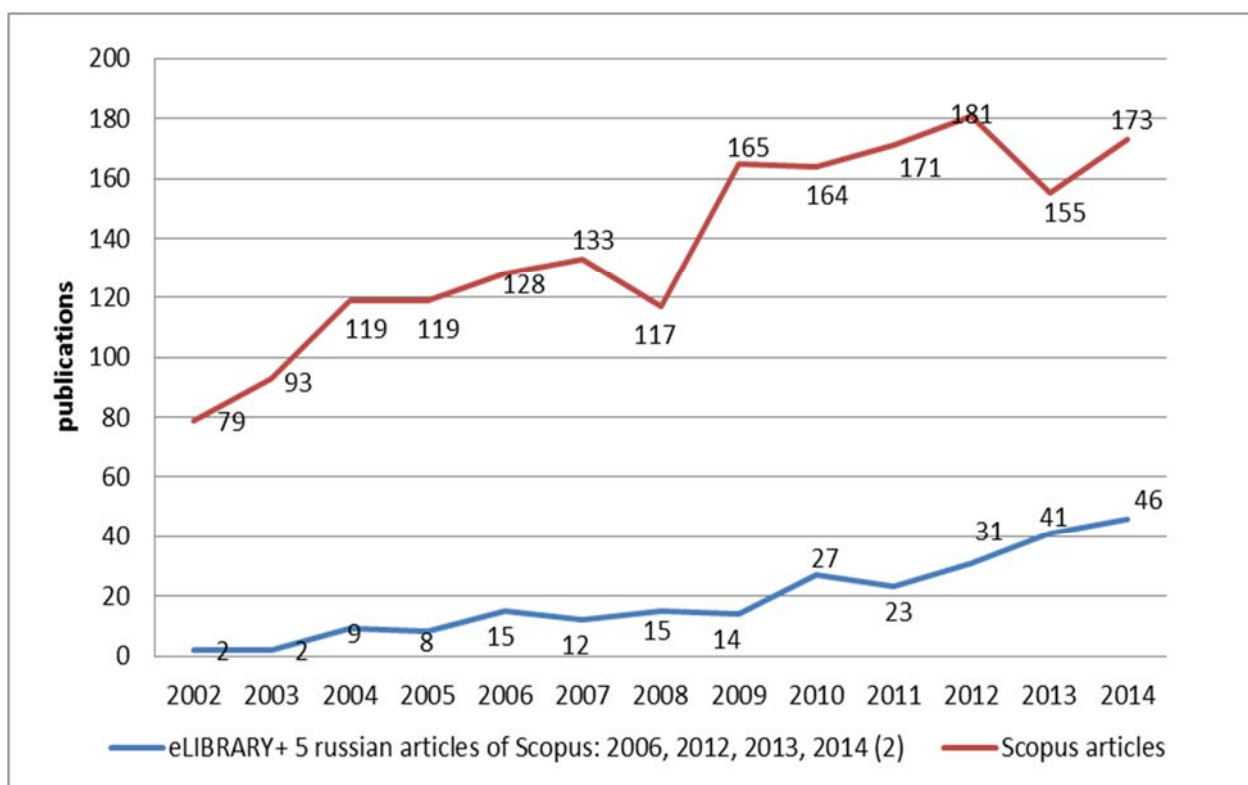
		Park et al. (2010)	17		Kandrachina and Grebnev (2007)	0
		Rai et al. (2012)	12		Korostochivez (2010)	0
		Chevalier and Bonnardel (2007)	12		Vokina and Volkov (2010)	0
		Leither et al. (2013)	10			
Economics, Econometrics and Finance	6	Roter et al. (2007)	46	21	Mindlin (2013)	22
		Abdel-Tawab and Roter (2002)	44		Bachmachnikova and Moriakova (2008)	11
		Bennett and Robson (2005)	37		Poliakova et al. (2011)	8
		Sanchez et al. (2007)	35		Andreychenko and Poliakova (2012)	3
		Bennett and Robson (2004)	23		Nikitinskiy (2004)	3
		Ismail at al. (2006)	21		Strebakova (2011)	3
					Argachokov (2009)	0
					Babenkova (2010)	0
					Beliaevskaia (2013)	0
					Shuklina (2014)	0
					Idrisova and Gasabenkova (2014)	0
					Kapustina and Babenkova (2010)	0
					Latichova et al. (2012)	0
					Liandau (2014)	0
					Molochov and Porubikovskaia (2013)	0
					Nikonova(2014)	0
					Nosikiva (2010)	0
					Novoselova (2011)	0
					Polinchev and Romanchugov (2012)	0
					Rijakov et al. (2004)	0
					Samsonova (2014)	0
Nursing	5	Hunter and Segrott (2008)	44	0		
		Stephenson et al. (2004)	32			
		Laudet et al. (2009)	31			

Chapter 3. Paper II.

		Sanchez et al.(2006)	30			
		Varatharajan et al. (2004)	27			
Art and Humanities	3	Yaruss et al. (2002)	41	9	Bisrov (2008)	0
		Yaruss et al. (2006)	31		Demchenko et al. (2014)	0
		Sojkin et al. (2012)	21		Diakonova and Zavialova (2012)	0
					Kirillova and Udalova (2013)	0
					Koschin (2010)	0
					Kuklina and Gubin (2014)	0
					Oblojin (2013)	0
					Ovchinnikov (2009)	0
					Surov (2007)	0
TOTAL	100		TOTAL	100		

Source: compiled by authors based on Scopus and eLIBRARY

Figure 1. CS articles evolution in social and economic areas (2002-2014)



Note: eLIBRARY data includes 5 Russian articles presented in Scopus DB

Source: compiled by authors based on Scopus and eLIBRARY.

CHAPTER 4

PARTICULARITIES OF CUSTOMER SATISFACTION IN TOURISM

4. Introduction

The second chapter of this thesis is also based on the systematic literature review methodology but now the focus on customer satisfaction is concentrated in tourism areas. The aim of this chapter is to see whether there are more commonalities or differences analyzing customer satisfaction in tourism areas in comparison with other social and economic sectors. Additionally, this chapter is also related to the particularities of determinants and consequences of customer satisfaction in tourism.

Thus, the paper III entitled “A bibliometric analysis of the customer satisfaction in tourism in high-impact Scopus journals” presents the investigation limited to the field of tourism in order to find and extract the main particularities of customer satisfaction in the field of tourism using a database of 338 scientific Scopus papers during 26 years for the period 1990 to 2015.

The paper IV entitled “Determinants and consequences of customer satisfaction in tourism: a systematic literature review” is also based on the same methodology and provided important insights of the most common determinants and consequences that have been analyzed jointly with the customer satisfaction in tourism.

Therefore, it can be argued that these two chapters provide an adequate framework for the rest of the dissertation.

4.1. Literature review of customer satisfaction in different tourism sectors

As it was seen and revised in the previous chapter, the customer satisfaction is a popular theme of research in different social and economic sectors. Tourism industry is not an exception, and customer satisfaction is recognized as one of the key judgments that consumers make with regard to a tourism service (Rathnayake, 2015). Thus customer satisfaction plays a critical role in the

success of many tourist sectors (Campo & Yagüe, 2009; Campo-Martínez & Garau-Vadell, 2010; Chang, 2008; Cladera, 2009; Katircioğlu, 2009; Lee & Chang, 2008; Sahli & Nowak, 2007). Figure 4.1 presents a summary of the different sectors that have been investigated in the tourism industry.

Table 4.1. Tourism sectors where customer satisfaction has been investigated

Sectors	Authors
Agro tourism	Chatzigeorgiou et al., 2009
Air transports	Ginieis et al., 2012
Alternative tourism	Deaden & Harron, 1994
Cruise tourism	Hwang & Han, 2014; Zhang et al., 2015
Customers' satisfaction attributes	Ali & Amin, 2014; Motlagh et al., 2013
Examination of food tourist's behavior	Kim et al., 2011
Guiding activity	Mackenzie & Kerr, 2014
Hospitality enterprises	Barsky, 1992; Choi & Chu, 2001
Mass adventure tourism	Buckley et al., 2014
Purchase behavior relationship	Lanfranchi et al., 2015
Rural tourism	Loureiro, 2010; Leingpibul et al., 2009
Service quality in tourism	Gallarza et al., 2013; Parasuraman et al., 1985
Sport tourism	Martin & O'Neill, 2010
Tourism companies	Moliner-Velazquez et al., 2014
Source: Compiled by the authors	

Customer satisfaction in tourism is also determined by subjective or individual components (e.g., customer needs, emotions, expectations, behaviour, satisfaction, loyalty) and objective factors or components created by tourist products (e.g. product and service features, service quality, environment, repeat visiting, recommendation, etc.). The subjacent theoretical models that explain the list of antecedences and consequences of customer satisfaction in tourism are still controversial and subject to an appassionato debate. Despite of large number of investigation over customer satisfaction in different tourist sectors and related areas, there are still many discussions over the particularities and the essence of satisfaction in tourism, and even the “satisfaction” concept itself is not uniquely determined and a consensus regarding its definition does not exist (Giese & Cote, 2000). This situation occurred because the tourist satisfaction system is cognitive and affective (Hartman, 1973), and the tourist product is “complex” by definition (Smith, 1998). Thus, there are many controversial points over what is the main element of tourism satisfaction in tourism.

Finally, according to Tutuncu and Kozak, (2007), the list of the attributes that influence the satisfaction or dissatisfaction of tourists during their vacation can be vast and these attributes

Particularities of customer satisfaction in tourism

present a large field for investigation and discussion, because they are “pushed” by satisfaction’s antecedents and “pulled” by the received consequences of being satisfied by tourist products. Additionally, the satisfaction is a latent variable (Anderson, 1994) that cannot be directly observed, and it is necessary to consider what are the antecedents as well as the consequences that are related to the tourist satisfaction in order to gain a better understanding of the particularities and peculiarities of the customer satisfaction in this specific field. The aim of this chapter is to deepen in this unclear relationship focusing the attention in hospitality.

4.2. Literature review of customer satisfaction determinants and consequences in hospitality

Bowen & Clarke (2002) contend that the field of consumer and tourist satisfaction is not really under research, but that three different constructs like satisfaction, quality and value are usually confused. Additionally, determinants and consequences of customer satisfaction in tourism become a major area of attention to practitioners and academic researchers (Abubakar & Mavondo, 2014, Ali, 2016, Bowen et al., 2002, Emir & Saraçlı, 2011). Campo and Yagüe (2009) indicate that the effect of the antecedents and the consequences on customer satisfaction is an issue that is still under the debate in the academic literature (Figure 4.1).

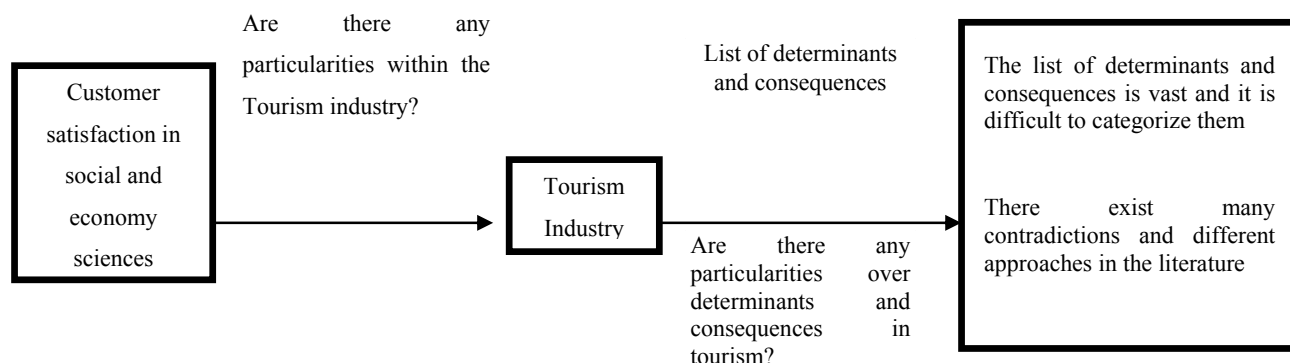


Figure 4.1. The research approach for the systematic literature review

This chapter shows that the accurate identification of the causal relationship between antecedences, consequences and customer satisfaction in the tourism area has proven to be a great challenge for many researchers and need to be more investigated for the following reasons: firstly, customer satisfaction determinants and consequences in tourism are not **systematically** investigated; and secondly, there still does not appear to be a **consensus** regarding the list of CS determinants and consequences in tourism.

This chapter based once again on the systematic literature review will provide some starting points by analysing the previous studies over the customer satisfaction in tourism regarding the potential antecedents and consequences.

4.3. Academic Outputs

This section concludes with the results of two academic papers that have been presented in some seminars and are currently submitted to be published. The following papers are presented in the following sections: Paper III entitled “A bibliometric analysis of the customer satisfaction in tourism in high-impact Scopus journals”; and Paper IV entitled “Determinants and consequences of customer satisfaction in tourism: a systematic literature review”.

PAPER III

A bibliometric analysis of the customer satisfaction in tourism in high-impact Scopus journals

Abstract: The main goal of this research is on the base of obtained systematic literature review to examine the customer satisfaction in 338 scientific Scopus papers limited by tourism area to assimilate and to distinguish particularities. This is carried out through during 25 years (1990-2015). All journals are grouped in categories that help to make analyze more detailed of selected articles. The findings demonstrate that at the present moment there aren't researches addressed to the profound investigation over customer satisfaction in tourism. Scientific papers describe only partial determinants and consequences linked with the body of its research and majority of cases dedicated to the quality investigation. The results reveal that literature on this topic has been increasing and presents an important interest. The obtained results filled the gap of investigation in tourism sector. The findings might help the travel industry refine the quality of tourist product and contribute to the literature of customer satisfaction attributes.

Keywords: customer satisfaction, tourism, determinants, literature review

1. INTRODUCTION

Customer satisfaction (CS) is popular topic as in managing enterprises' practice as in academic research. One of the early publications on CS dated 1954. It is a research by Forgy and Black (1954) dedicated to clients counseled by two methods in psychology direction. Later, in economy direction, Cardozo (1965) presents in his study research over customer effort, expectations and satisfaction. The following turn in CS research is investigation under different economy areas. For example, satisfaction in banking sector is studied via major factors influencing quality of services of bank for the maximum CS (Chachovskaia & Arakelova, 2014). Aga and Okan (2007) present an empirical investigation of service quality and CS in professional accounting firms in North Cyprus. Anderson, Fornell and Lehmann (1994) link CS, market share, and profitability in Sweden. At the same time, Karanovich (2013) studies the mechanism of management of innovative activity of the small hotel organizations through CS and Rudchenko (2014) illustrates how to measure quality of the services rendered in hotel to satisfy clients in the greatest way.

So, CS is a popular theme of research in different sectors of economy. The amount of research differs according to the sector of investigation. For instance, CS in tourism has many interrelations with other sectors of economy like transport, IT, etc. However, there are still many discussions over the particularities and the essence of satisfaction in tourism, either there isn't a uniform list of determinants of CS in tourism.

Despite many attempts to explain "CS in tourism" and even "satisfaction" itself, there still does not appear to exist a consensus regarding its definition (Giese & Cote, 2000). The most widely accepted conceptualization of satisfaction is the expectancy disconfirmation theory, that according with the model compares how standards influence the customer's perception of product performance (Barsky, 1992; McQuitty et al., 2000). Later this theory was developed by Oliver (1997), who explains that satisfaction can be defined as 'a judgement that a product, or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment, including levels of under or over fulfillment of product. While Zeithmal and Bitner, (2003) describe satisfaction as the consumer fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment. Further Giese and Cote (2000) indicate that despite many attempts to explain "CS", there still does not appear to be a consensus regarding its uniform definition. Thus, more generally CS is a possibility of creating value for customers, anticipating and managing their expectation, and demonstrating the ability and responsibility to satisfy their needs.

It is important to highlight that CS definition can be specified according to economy sector. In tourism context, satisfaction is primarily referred to as a function of pre-travel expectations and post-travel experiences. When experiences compared to expectations result in feelings of gratification, the tourist is satisfied. However, when they result in feelings of displeasure, the tourist is dissatisfied (Chen & Chen, 2010). CS is recognized as one of the key judgements that consumers make with regard to a tourism service (Rathnayake, 2015). It is the reason why different authors underline particular features in definition of CS in tourism in different way. The ample analysis of studies on CS in tourism segment demonstrates the lack of studies. Thus client or CS plays a critical role in the success in tourism sector (Campo & Yagüe, 2009; Campo-Martínez & Garau-Vadell, 2010; Chang, 2008; Cladera, 2009; Katircioğlu, 2009; Lee & Chang, 2008; Sahli & Nowak, 2007). On the one hand, there are also many specification in studies on CS according to tourism directions, for instance: agro tourism (Chatzigeorgiou et al., 2009), rural tourism (Loureiro, 2010; Leingpibul et al., 2009); sport tourism (Martin & O'Neill, 2010); alternative tourism (Deaden & Harron, 1994); cruise tourism (Hwang & Han, 2014; Zhang et al., 2015); air

transports (Ginieis et al., 2012); hospitality enterprises (Barsky, 1992; Choi & Chu, 2001; Deng et al., 2013; Fah & Kandasamy, 2011; Motlagh et al., 2013; Zhou et al., 2014). On the other hand, it is also possible to distinguish in amount of studies different economy elements related with CS in tourism, for instance: relationship between tourism companies (Moliner-Velazquez et al., 2014); guiding activity (Mackenzie & Kerr, 2014); service quality (Chen et al., 2011; Gallarza et al., 2013; Parasuraman et al., 1985; Sureshchandar et al., 2002); purchase behavior relationship (Lanfranchi et al., 2015); an examination of food tourist's behavior (Kim et al., 2011b); and also researchers investigate customers' satisfaction attributes (Ali & Amin, 2014; Choi & Chu, 2001; Motlagh et al., 2013).

Regarding all these scientific approaches and differences in definition of CS in tourism, there are many practical reasons for studying CS in tourism. Firstly, in today's global marketplace, a growing number of tourism and travel enterprises strive to increase CS with their product and service offerings by relying on the premises that CS is one of the most important antecedents of companies' financial performance (Salman et al., 2013). In some studies it is underlined the necessity for the tourism manager to determine what service actions bring about CS (Lu et al., 2014; Lukanova, 2010). Secondly, the concept of CS is of utmost importance because of its influence on repeat purchases and word-of-mouth publicity (Olge, 2009).

Thus, it is an evident the necessity of theme development over “CS in tourism”. Within this light the following research question raised: are there any differences or particularities in CS in tourism other from other sectors of economy?

In order to reach the objectives of research, after the introduction, a theoretical framework of CS is presented secondly. Thirdly, the research methodology used for this study is described. Fourthly, the discussion and results are presented in the last section that concludes the research findings.

2. THEORETICAL FRAMEWORK ON CS IN TOURISM

In the tourism context, the concept of tourist satisfaction is particularly relevant as well as difficult to deal with as the tourist product is “complex” by definition (Smith, 1998). The importance of the topic of tourist satisfaction is testified by many academic contributions, whose literary production started in the 1960s (Xia et al., 2009), and by the increasing attention that practitioners have given to this research issue. Tourism can depend on a series of elements. Numerous scholars questioned on what tourist satisfaction depends and influences on, hence, challenged themselves to the research of these elements. The literature concerning this subject is limited due to the several aspects defining this issue and the consequent lack of a holistic perspective. This holistic vision

should include the cognitive, affective and constructs of tourist satisfaction systemic (Hartman, 1973).

Some works concentrate their attention on the individual components of customer influencing the satisfaction: emotions, expectations etc. (Bigné, 2008; Bowie & Chang, 2005; Van Dijk & Kirk, 2008), while others focus on the elements that are created by tourist product itself: service quality, environment (Baker & Crompton, 2000; Burke et al., 2013; Chen et al., 2010d; Chen et al., 2011; Fraering & Minor, 2013; Quintana-Déniz et al., 2010). According to Tutuncu and Kozak, (2007) many attributes influence the satisfaction or dissatisfaction of tourists during their vacation. These attributes refer to the variables that influence the satisfaction or dissatisfaction of tourists during their consumption of tourist product. So, with reference to the tourism sector, a review of the literature on customer satisfaction reveals that people travel because they are “pushed” by satisfaction’s antecedents and “pulled” by the received consequences of being satisfied by touristic product. The satisfaction, in general, is a latent variable (Anderson, 1994) that, in order to be defined needs to consider what are the antecedents determining it as well as the consequences that are the expression of tourist satisfaction.

Within these studies, there is a large body of marketing literature studies of CS (Anderson et al., 1994; Baumann et al., 2012; Boes & Rainer, 2010), while the literature is just beginning to understand CS in tourism (Asgarpour et al., 2015; Martínez, 2015; Moliner-Velazquez et al., 2014; Quintana-Déniz et al., 2007; Sabiote et al., 2012; Salman et al., 2013; Velazquez et al., 2011). For example, Moliner-Velazquez et al. (2014) in their work identify the elements that creating value for companies and are essential for managing CS and retention by focusing on business-to-end consumer relationships in the tourism industry. These authors explain that elements such as trust and preferential treatment are important aspects in the creation of customer value and satisfaction. While Asgarpour et al. (2015) discuss the role of CS to highlight its efficiency and inefficiency on customer loyalty in order to gain customer loyalty in long-run in tourism area. Bradley and Sparks (2012) focus on the construct of consumer value, as pivotal in determining CS and loyalty in tourism.

If tourism literature mostly focused its attention on tourism satisfaction’s antecedents, to our mind it is due to the fact that within these studies the CS in tourism defined in different ways. For example, CS is the visitor’s state of emotion after they experience their tour (Baker & Crompton, 2000; Sanchez et al., 2006). Simultaneously, CS is defined by customer’s post-purchase assessment of service delivered and comparison of customer’s expectation and the actual service experience (Hui et al., 2007; Yu & Goulden, 2006).

So, this research aims to understand past and current researches on literature review over CS in tourism and creates some directions for future studies in the tourism industry. We faced contradictions that clearly demonstrate the lack of literature review on CS in tourism. The literature concerning this subject is limited due to the several aspects defining this issue and the consequent lack of a holistic perspective. Numerous studies represent literature review as a part of investigation on different tourism's objects: hospitality (Burke et al. 2013; Chen & Lin, 2012; Chitty et al., 2007; Deng et al., 2013; Emir & Saraçlı, 2011), transports (Ginieis et al., 2012; Hwang & Han, 2014; Zhang et al., 2015), restaurants (Del Chiappa et al., 2016; Kim et al., 2011a; McQuitty et al., 2000), travel enterprises (Fowler et al., 2012; Johns et al., 2004; Millán & Esteban, 2010; Mmopelwa et al., 2007; Moliner-Velazquez et al., 2014) etc.

Thus, over CS in tourism there are many controversial points, such as its definition and the list of antecedents that are still under debate. The objective of this paper is to distinguish and examine customer determinants in tourism industry, understanding the formation of CS like a crucial important element in tourism industry.

3. METHODOLOGY

For targeting the objective of this paper, we apply the systematic literature review of articles. In the field of tourism, the systematic literature review method is used quite frequently in describing satisfaction's models (Baumann et al., 2012; Buckley et al., 2014; Cadotte et al., 1987). Nevertheless, in this paper we not only use systematic literature review linked with satisfaction approaches, but also, we analyze articles on "CS in tourism".

Cook et al. (1997) describe systematic literature review as a substantial search of articles that may be potentially relevant and the use of explicit, with replicable criteria in selecting articles for review. Denyer and Neely (2004) declare that systematic literature review involves documenting all the procedures undertaken and systematic reviews should contain a section on the methodology used and providing a precise description of how the study was conducted. Systematic literature review is quasi-scientific investigations, although do not involve strict laboratory experiments. It originated in the 1990s and it was initially used in the field of medicine, although more recently it has also been adopted in physical sciences such as systems engineering, and in social sciences such as marketing, tourism, and strategic innovation (Ginieis et al., 2012). So, systematic literature review is useful "for practitioners and managers" because it "helps to develop a reliable knowledge base".

To carry out the systematic literature review on “CS in tourism”, it is necessary to select the databases in which we search for articles within the period of research. We also have to select keywords to be used, and set out the methods to be applied. Later, we select the documents and order them depending on their citation level to identify those more cited. Finally, the information is gathered and analyzed.

3.1. Selecting the databases

Although different databases can be considered we chose Scopus because: it is the world's largest single bibliographic database that indexes more than 21,000 titles of scientific international publishers; it offers the possibility to search for keywords included in the article title, abstract and keywords; it provides links to the publishers' websites and full text of articles; it classifies all included papers according to the special section on Social Sciences and Humanities into subcategories; it permits us to compare the searching results according to keywords; and it presents some specific features on journals that identify those that deal exclusively with the subject of research.

It is important to highlight that we take only articles on the theme “CS in tourism” to carry out this research. So, we don't take into account the additional sources of publications such as trade publications, book series, reports, etc.

3.2. Identification of keywords and research period

As search criteria for our paper, we use the keywords that needed to appear in the title of the article, in the abstract, or in the keyword list. To avoid repetition of documents, for any keyword, the remaining keywords in the title, abstract and keyword list would be obviated.

The investigating period (1990-2015) in this paper is famed by the period of publications in Scopus database under used keywords. We start with 1990 because it is the year when the first two publications under keywords “CS in tourism” appeared in Scopus database (Smith, 1990; Haywood, 1990).

3.3. Language of publications

In this article, we adopt a transparent scientific process to minimize bias through extensive bibliographical searches of published studies in the English language. It is important to underline that the literature on CS in tourism in different languages other than English is not so extensive. This language wins positions in the scientific world against all other languages (Ufu & Hirataka, 2016). Also, we find that English language is the main language of publications within our research

theme: 100% publications on “client satisfaction in tourism” and 98% publications on “customer satisfaction in tourism” during the period 1990-2015. It is the reason why we limit the scope of the study by only English-speaking publications.

4. FINDINGS

We present the results of our research in the following subsections: results of journal’s analysis with publications on the analyzed topic, analysis of papers’ evolution.

4.1. Journal’s analysis with publications on CS

39 refereed academic journals in the field on CS in tourism were identified in Scopus database over the last 25 years for the analysis (Table 1 and 2). They were accessed up to 13 May 2016. Articles whose major concepts were not directly focused on tourism industry were excluded. There were selected journals with 2 or more articles on CS. Additionally, journals were sorted by their SNIP to compare their rating and popularity. SNIP (Source-Normalized Impact per Paper) is an impact indicator accounts for differences in citation characteristics and database coverage between properly defined subject fields. This allows us to compare the journal with competitors and gives information about journal’s evolution. Simultaneously in table 2 we present a publication’s amount for each journal with years of publications on CS by countries of authors. Each article can be written by different number of authors from different countries, so the number of articles isn’t the same as number of countries. As it can be seen there is an overall increasing number of papers over the last 5 years on CS in tourism.

The first publication on “CS in tourism” is published in *Tourism Management* in 1990 (Haywood, 1990), it means 36 years after the first publication on “CS in tourism” (Forgy & Black, 1954). Totally since 1990 up to 2015 this journal has 37 publications on the topic. The same journal in 2004 presents the first publication (Millan & Esteban, 2004), while totally it is published 3 articles (Buckley et al., 2014; Millan & Esteban, 2004; Mmopelwa et al., 2007). So, this journal demonstrates the highest activity in publications in tourism under both combinations of keywords and simultaneously has the highest SNIP (2,643). *Tourism Management* publishes about 15% of articles CS in tourism (Table 2). The second journal by SNIP (2,350) is *Annals of Leisure research* that follows by *Annals of Tourism Research* (SNIP 2,324). This journal started publications under “CS in tourism” in 1994 (Deaden & Harron, 1994) and, the second article is published by Buckley (2010).

In terms of number of articles published, *Tourism Management* takes the first place with 37 journals in 25 years. *Asia Pacific Journal of Tourism Research* published 21 articles (6,21% of

total articles, and 8,57% over articles published by these 39 journals). In third place, we found International Journal of Hospitality Management with 14 articles (4,14% on the total articles, 5,71% of articles published by the 39 journals). 12 of these journals published in 2015 at least one article on the analyzed topic. Totally, 22 articles were published in 2015, and that is more than the average during the analyzed period (13,5). So, we can consider becomes a subject of interest in the scientific literature.

It is important to highlight that Jamal et al. (2008) and McKercher et al. (2006) indicated that all journals amount it is better to group according any classification features or research objectives, because it helps to analyze more detailed the spheres of publication's activity and journal's dynamic. Yuan et al. (2014) also grouped journals in different categories according the journals sections and SNIPs and indicated that this approach is used earlier by Tseng and Tsay (2013). Following these authors, the distinguished scope of Scopus journals according research keywords is grouped into 3 categories that are manually labeled as: hospitality; tourism and economy-management in tourism. Finally, 338 found articles are grouped into 3 categories according to its title, keywords and research object. Thus, "hospitality" category consists of the articles linked with elements of customer satisfaction in hospitality segment, because hospitality is one of the most published themes in tourism research. The category "tourism" category represents research over specific touristic objects like tours, destinations, roots etc. While the third category "economy-management in tourism" aggregates papers dedicated to different economic elements investigated in tourism such as: profit, repeat purchase etc.

The most numerous journals' group of article's amount is "Economy-management in tourism" (15 journals), the less numerous group of journals is Hospitality. The highest SNIP in "Tourism" journals' category is Tourism Management (2,643, which is also the highest SNIP), then "International Journal of Business Research" is the journal with the highest SNIP in Economy-management in tourism" category (1,889) and in "Hospitality" category, is International Journal of Hospitality Management (1,670). It means more publications on "CS in tourism" are in the "tourism" journal's group", while the highest level of citations and references are in the journal's category "tourism".

USA keeps the leading position almost from the beginning of first publications up to the nowadays. 46 authors from US published articles on CS in tourism. In second place, we find UK and Australia with 23 each one. Tourism Management is the journal with publications on the analyzed topic of authors or more different countries (17), followed by Asia Pacific Journal Of Tourism Research and International Journal Of Hospitality Management with 10 different countries.

Totally there are publications from 41 countries (19 European countries, 12 Asian, 4 African, 3 American, and 3 Australian). If we analyze the number of authors and their origin countries by continents, we observe that 102 articles are written by authors from Europe, 98 by Asian authors. It indicates CS is more interesting research topic in Europe and Asia for researchers, than in other countries.

In Europe, UK is the country with more researchers (23) that published different articles (Table 2). In second place, we find Spain with 19. In America, in 46 times US authors published articles. In Asia, Taiwan is the first country (with 24), followed by China (14) and Turkey (13). The number of authors from Africa is the smallest. Nevertheless, in Egypt is very interested in publications on CS in tourism. This is probably due to the tourism importance in this country.

Table 1. Journals analysis on CS in tourism (1990-2015)

	Journal's title (alphabetical order)	SNIP	Articles	%	Years of publication	Countries of authors
1	Acta Oeconomica	0,757	3	0,89	2014(3)	Taiwan (2); China (1)
2	Actual Problems Of Economics	0,23	3	0,89	2013(2); 2014(1)	Poland (1); Romania (1); Serbia (1)
3	Airline Business	0,105	2	0,59	2004 -05 (1)	UK (1)
4	Amfiteatru Economic	0,497	4	1,18	1994(1); 2009(1); 2013-14 (1)	Romania (3)
5	Anatolia	0,542	3	0,89	2011(2);2014(1)	Turkey (2); Saudi Arabia(1)
6	Annals of Leisure research	2,350	2	0,59	2010 (1); 2015(1)	Australia (1); US (1);
7	Annals Of Tourism Research	2,324	4	1,18	1994(1);1997-98(1); 1999(1);2000(1); 2002(1)	Canada (1); United Arab Emirates (1); UK (1); US (3)
8	Asia Pacific Journal Of Tourism Research	0,610	21	6,21	2004(1); 2005(3); 2006(1); 2008(2); 2010(2); 2011(1); 2013(4); 2014(3); 2015(4)	Taiwan (7); South Korea (5); China (3); US (3); Australia (2); Hong Kong (2); Japan (1); Malaysia (1); Papua New Guinea (1); United Arab Emirates (1)
9	Asian Social Science	0,019	2	0,59	2012(2)	Iran (1); Malaysia (1)
10	Benchmarking	0,954	5	1,48	2006(1); 2008-09(1); 2012(1); 2015(1)	India (2); Austria (1); Chile (1); Egypt (1); Italy (1); Spain (1)
11	Current Issues In Tourism	0,871	3	0,89	2002(1); 2015(2)	China (1); Sweden (1)
12	International Journal Of Contemporary Hospitality Management	1,441	11	3,25	2005(3); 2007(1); 2008(2); 2009(1); 2014(2); 2015(2)	US (3);China (2); UK (2); Australia (1); Cyprus (1); Hong Kong (1); Malaysia (1); Spain (1); Turkey (1)
13	International Journal Of Hospitality Management	1,779	14	4,14	2003(3); 2004-05(1); 2007(1); 2010-11(1); 2012(2); 2013(1); 2014(2); 2015(1)	US (5); Australia (5); Spain (2); China (1); Italy (1); Portugal (1); South Africa (1); South Korea (1); UK (1)
14	International Journal of services technology and management	0,121	3	0,89	2008(2); 2010(1)	Netherlands (2); Taiwan (1)
15	International Journal Of Tourism Research	1,105	7	2,07	2009(1); 2011(1); 2012(2); 2013-15(1)	Taiwan (2); Australia (1); Egypt (1); Hong Kong (1); Serbia (1); Turkey (1); United Arab Emirates (1); UK (1); US (1)

Chapter 4. Paper III.

16	Journal Of Business Research	1,889	5	1,48	2002(1);2006-07(1); 2013(1); 2015(1)	US (2); Australia (1); Austria (1); Greece (1); Italy (1); Spain (1); Sweden (1); UK (1);
17	Journal of hospitality and tourism management	0,931	3	0,89	2010-11(1);2014(1)	US (2);China (1); Hong Kong (1); South Korea (1)
18	Journal Of Hospitality And Tourism Research	1,551	7	2,07	2000(2); 2001(1); 2004(1); 2008(2); 2009(1)	US (3); Australia (2); Hong Kong (1); Israel (1); Taiwan (1); UK (1)
19	Journal of Hospitality and Tourism Technology	1,355	4	1,18	2010(1);2011(2),2014(1)	Spain (2); Taiwan (1); US (1)
20	Journal Of Hospitality Marketing And Management	0,957	3	0,89	2013(2);2014(1)	US (3)
21	Journal Of Travel And Tourism Marketing	1,164	7	2,07	2006-08(1); 2010(1); 2012(1); 2014-15(1)	Portugal (2); Hong Kong (1); Japan (1); Mauritius (1); South Korea (1); Spain (1); UK (1)
22	Journal Of Travel Research	1,576	11	3,25	2002-04(1); 2006(1);2008(1); 2010(1); 2011(2); 2012(1); 2014(1)	Austria (3);US (2); Australia(1); China (1); Hong Kong (1); Italy (1); Spain (1); Switzerland (1); UK (1)
23	Journal Of Vacation Marketing	1,166	6	1,78	2006-07(1); 2009-10(1); 2011(2)	US (3); Denmark (1); Greece (1); Mauritius (1); Spain (1); Sweden (1); Taiwan (1); UK (1)
24	Managing Service Quality	2,272	3	0,89	2005(1);2008-09(1)	Australia (1); Turkey (1); US (1)
25	Marketing Intelligence And Planning	1,036	6	1,78	2005(1); 2007(1); 2009(1); 2010(3)	Australia (1); China (1); Greece (1); India (1); Sweden (1); UK (1); US (1)
26	Public Transport International	1,306	3	0,89	2004(3)	Italy (1); Switzerland (1)
27	Qualitative Market Research	0,953	3	0,89	2006(1);2010(1);2012(1)	UK (2); Greece (1)
28	Quality Access To Success	0,398	4	1,18	2013(1); 2014(2); 2015(1)	Romania (3); Italy (1)
29	Service Industries Journal	0,685	6	1,78	1996(1); 2000(1); 2003(2); 2004(1); 2013(1)	Spain (2); Denmark (1); New Zealand (1); Switzerland (1); Turkey (1); UK (1)
30	Tourism	0,669	6	1,78	2002-03(1); 2006-07(1); 2008(2)	US (2); Austria (1); Croatia (1); Poland (1)
31	Tourism Analysis	0,614	10	2,96	2003-04(1); 2006(1); 2008-10(1); 2012(1); 2014(2); 2015(1)	Turkey (3); Australia (2); Austria (1); Netherlands (1); Norway (1); United Arab Emirates (1); US (1)

Chapter 4. Paper III.

32	Tourism Economics	0,608	6	1,78	2000(1); 2002-03(1); 2007(1); 2010(2)	Norway (2); Spain (2); Taiwan (1); UK (1)
33	Tourism management	2,643	37	10,95	1995(1); 2004(1); 2005(2); 2006(1); 2007(6); 2010(1); 2011(5);2012(7); 2013(1); 2014(1); 2015(6)	US (8); Taiwan (7); Australia (3); China (3); Croatia (3); South Korea (3); Hong Kong (2); Spain (2); UK (2); Canada (1); Egypt (1); Israel (1); Italy (1); Serbia (1); Slovenia (1); Turkey (1); United Arab Emirates (1)
34	Tourism Review	0,369	3	0,89	2013(3)	Japan (1); Spain (1); Taiwain (1); US (1)
35	Tourismos	1,159	8	2,37	2007(1); 2009(1); 2011(2); 2012(3); 2015(1)	Egypt (2); Germany (2); Cyprus (1); Greece (1); Italy(1); Malaysia (1); Turkey (1); UK (1)
36	Worldwide Hospitality And Tourism Research	0,163	6	1,78	2010(6)	India (5); Rwanda (1); Spain (1)
	Journals with ≥ 2 articles on CS in tourism		245			USA most published country
	Journals with 1 article on CS in tourism		93			USA most published country
	TOTAL		338	100		

Source: Compiled by authors on the base of Scopus information

Table 2. Number of different authors by country and continent (1990-2015)

America		Europe		Africa		Asia		Australia	
US	46	UK	23	Egypt	5	Taiwan	24	Australia	23
Canadá	2	Spain	19	Mauritius	2	China	14	New Zealand	3
Chile	1	Austria	8	South Africa	1	Turkey	13	Papua New Guinea	1
		Italy	8	Rwanda	1	South Korea	11		
		Romania	7			Hong Kong	10		
		Greece	5			India	8		
		Croatia	4			Malaysia	6		
		Sweden	4			United Arab Emirates	5		
		Netherlands	3			Japan	3		
		Norway	3			Israel	2		
		Portugal	3			Saudi Arabia	1		
		Switzerland	3			Iran	1		
		Cyprus	2						
		Denmark	2						
		Germany	2						
		Poland	2						
		Serbia	2						
		Serbia	1						
TOTAL	49		102		9		98		27

Source: Compiled by authors on the base of Scopus information

It is important to highlight that in South America, only appeared Chile that is difficult to explain. It seems there is little interest in CS in tourism, despite the importance of this sector in countries such as Argentina, Brazil, Dominican Republic, etc. Perhaps, it is because our study is focused in English publications, and authors from these countries don't publish in this language.

4.2. Evolution of papers on customer satisfaction in tourism

Analyzing 338 identified articles dedicated to "CS in tourism" in 25 period of research (1990 to 2015) we observe the rapid increase of publication's number, especially since 2003 (Figure 1). In 1990 we have only 1 publication while in 2015 we find 43 publications. On the other hand, publication's activity isn't stable. All peak years are followed by economic regression: 2000; 2002; 2007 and 2012. It is important to highlight the rapid increase in 2003 because appeared many not specialized in tourism journals, dedicated to tourism items: Asian Textile Journal, Geographical Journal, Information Japan, Personnel Review, Sustainability

Switzerland etc. The peak years with the highest performance of publications are 2012 and 2015 that correspond with the results of journal's grouping in the previous section 4.1.

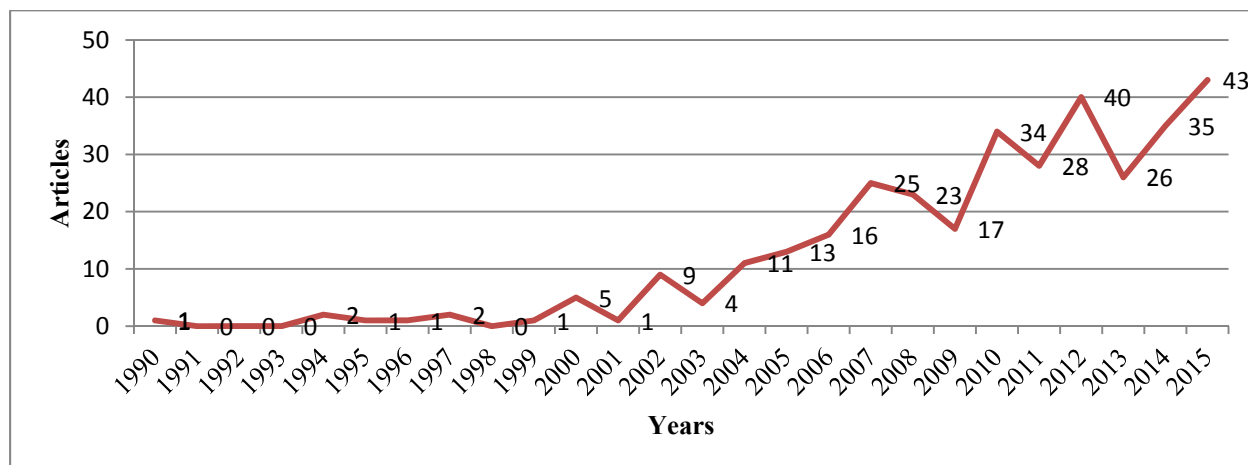


Figure 1. Articles on “CS in tourism” dynamics (1990-2015)

Source: Compiled by authors on the base of Scopus information

The most cited article is Alegre and Cladera (2006) with 107 references and under “CS in tourism” Duman and Mattila (2005) with 157 references. However, the most cited article (674) on “satisfaction in tourism” is article by Baker and Crompton (2000).

4. CONCLUSIONS

It is important to highlight that that tourism is a main object of our research. So, with respect of this object we develop an extensive review of the CS in tourism during the 1990-2015 period. The literature consists of 338 articles on CS in tourism from 39 journals published in 25 years period, since the first publication on this topic.

The interest for the CS in tourism sector has been raised since the 2010. In 2015, 22 articles were published, that is more than the average of publication on this topic during the analyzed period (13,5). Publications have been increasing over studied time. USA keeps the leading position almost from the beginning up to the nowadays, followed by UK and Australia. Tourism Management is the journal with more publications on the analyzed topic of authors or more 17 different countries, followed by Asia Pacific Journal of Tourism Research and International Journal of Hospitality Management with authors from 10 different countries. European authors are who have published the most in comparison with other continents. In total authors of articles on CS are from 41 different countries over the world. In South America and Africa there are less authors interested in publishing in the topic.

Nevertheless, CS has no systematic reviews of literature of this topic previously, so this paper makes an important contribution to the field of tourism. Probably, firstly authors concentrated in general definition of CS and only then they described antecedents in details. Quality is the most studied antecedent of CS in tourism. China is the most popular country in applying studies on consequences of CS in tourism, while Spain for antecedents.

Therefore, as feasible theoretical implications it could be proposed the future application of obtained results in investigation over determinants and consequences. Additionally the indicated in research particularities of CS in tourism provide managerial implications in different areas of tourism sector.

Our discussion of future research suggests in particular that more attention is needed with respect to issues over theoretical arguments on particularities of satisfaction in tourism with the explanation by tourism sectors, like hospitality, cruise and national parks

In our opinion, this article will provide an improved understanding of what influences satisfaction of customers in the enterprises of tourism sector. This review attempts to create an opportunity to help future researchers and practitioners to meet their requirements in the field of client or CS in tourism area.

However, in this paper we pose some limitations. The data used in this review are English written articles collected from 1990-2015 only from Scopus base, what exclude conference proceeding papers, master's dissertations, doctoral theses, etc.

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PAPER IV

Determinants and consequences of customer satisfaction in tourism: a systematic literature review

Abstract - The main purpose of this research, based on the systematic literature review, is to distinguish particularities regarding determinants and consequences of customer satisfaction (CS) in tourism.

Design/methodology/approach – This is carried out through the review of 495 papers published in 41 journals since 1988 up to 2016 (29 years), giving more emphasis to the most cited 100 articles.

Findings – The most popular CS determinants and consequences in tourism are obtained and discussed. The findings demonstrate that a uniform set of the main CS determinants and consequences in tourism doesn't exist. Nevertheless, it can be concluded that the mostly repeated and investigated determinant is quality, meanwhile recommendation and revisiting are the mostly discussed consequences. Additionally, some other determinants are becoming popular more recently, like, for example, the care for the environment or “the green policies”. Dynamically, it is also observed that the analysis of determinants and consequences started in different years, but the period of decline interest and the peak year are the same for the both constructs under analysis. We also found that the biggest part of all studies is dedicated to determinants analysis and just some of them mentioned the consequences.

Research limitations/implications- As a limitation, we only searched English articles in Scopus DB. As a research implication, based on the findings of this study it is concluded that obtained research must be supported by observation of tourism enterprises results.

Practical implications – The obtained results of this study have relevant practical implications for the hospitality industry. It can be used by hotel managers in order to develop a systematic action plan on these four key attributes that will improve the satisfaction of all tourist guests.

Originality/value - This study appears to be the first to examine literature review over CS determinants and consequences together in tourism sector according to a comprehensive approach.

Keywords: customer satisfaction, tourism, determinants, consequences, systematic literature review

JEL Classification: L83

1. Introduction

Customer satisfaction (CS) is a popular theme of research in different sectors of economy. Satisfaction can be defined as “a judgement that a product, or service feature, provides a pleasurable level of consumption-related fulfilment, including levels of under or over fulfilment of product” (Oliver 1997, p. 13). However, despite many attempts to explain “CS”, a uniform definition does not exist and can be influenced by the particularities of each economy sector. CS in tourism is described as the conformity between the tourist expectations and the characteristics of the host destination (Truong and Foster 2006, p. 843). Thus, CS in tourism is determined by subjective (e.g. customer needs, emotions) and objective factors (e.g. product and service features), while the list of antecedences and consequences of CS in tourism is still under the debate.

Thus, the aim of this paper is to present a systematic literature research on the topic of CS in tourism highlighting the role of the antecedents and consequences that have been analysed. This can be used as a general starting point for researchers who are new in the field or for those who want to become familiar not only with CS in tourism but also with two important constructs that are usually jointly investigated like the antecedents and consequences. Thus, in this paper we are going to investigate undiscovered areas of CS concerning its determinants and consequences; on the base of systematic literature review to construct the list of most typical and commonly used determinants and consequences mentioned in research of different authors and identify the particularities in tourism area. Bowen & Clarke (2002) contend that the field of consumer and tourist satisfaction is not really under researched, but that three different constructs like satisfaction, quality and value are usually confounded. Nevertheless, the authors are also benevolent with this confusion as they recognize that “researchers and practitioners are squandering their efforts - and perhaps even more so, too, if value is also part of a more holistic three-in-one tourist evaluation” (p. 307). There are some literature reviews in these three specific constructs but so far to our knowledge there is not any attempt that analyses jointly CS with antecedents and consequences, a gap that this paper intends to fill.

2. Theoretical framework on determinants and consequences of CS in tourism

During years of research on “CS in tourism”, determinants and consequences become a major area of attention to practitioners and academic researchers. Chatzigeorgiou et al. (2009) indicates that quality, CS, customer loyalty and repeat business are issues well recognized and

investigated by researchers. However, Campo and Yagüe (2009) indicate that the effect of the antecedents and the consequences on CS is an issue still under debate in the academic literature. Each author selects some antecedents and consequences according to particular research goal (Bradley and Sparks, 2012; Burke *et al.*, 2013; Campo and Yagüe, 2009; Chatzigeorgiou *et al.*, 2009). The accurate identification of the causal relationship between antecedences and consequences of CS in tourism has proven to be a great challenge for many researchers who pioneered the research in this area. For instance, Bigné *et al.* (2008) examine cognitive and affective antecedents and consequences of satisfaction on the base of 400 visitors to two types of leisure and tourism services (interactive museum, and theme park). Also Bradley *et al.* (2012) propose and test a model of the antecedents and consequences of change in consumer value. Dmitrović *et al.* (2009) indicated that the antecedents of customer satisfaction (quality, image, value, and costs and risks) provide insights into the processes underlying the creation of satisfaction, while the outcome constructs (complaint behaviour and loyalty) indicate the consequences of (dis)satisfaction. Thus, all controversial points over the antecedents and consequences of CS in tourism have not been researched under a systematic umbrella, opening a timing opportunity to analyse this pending issue.

3. Methodology

This paper applies systematic literature review (SRL) of articles over CS determinants and consequences in tourism. Tranfield *et al.* (2003) and Thorpe *et al.* (2005) have established the criteria for applying SLR to the field of business management and administration. SLR is useful “for practitioners and managers” because it “helps to develop a reliable knowledge base by accumulating knowledge from a range of studies” (Tranfield *et al.* 2003, p.14). So, we concentrated our research in the tourism field and to make it more intensive and reasonable. We put as much as possible combinations of keywords into our research list. The full procedure of the applied methodology with its steps is presented in the figure 1.

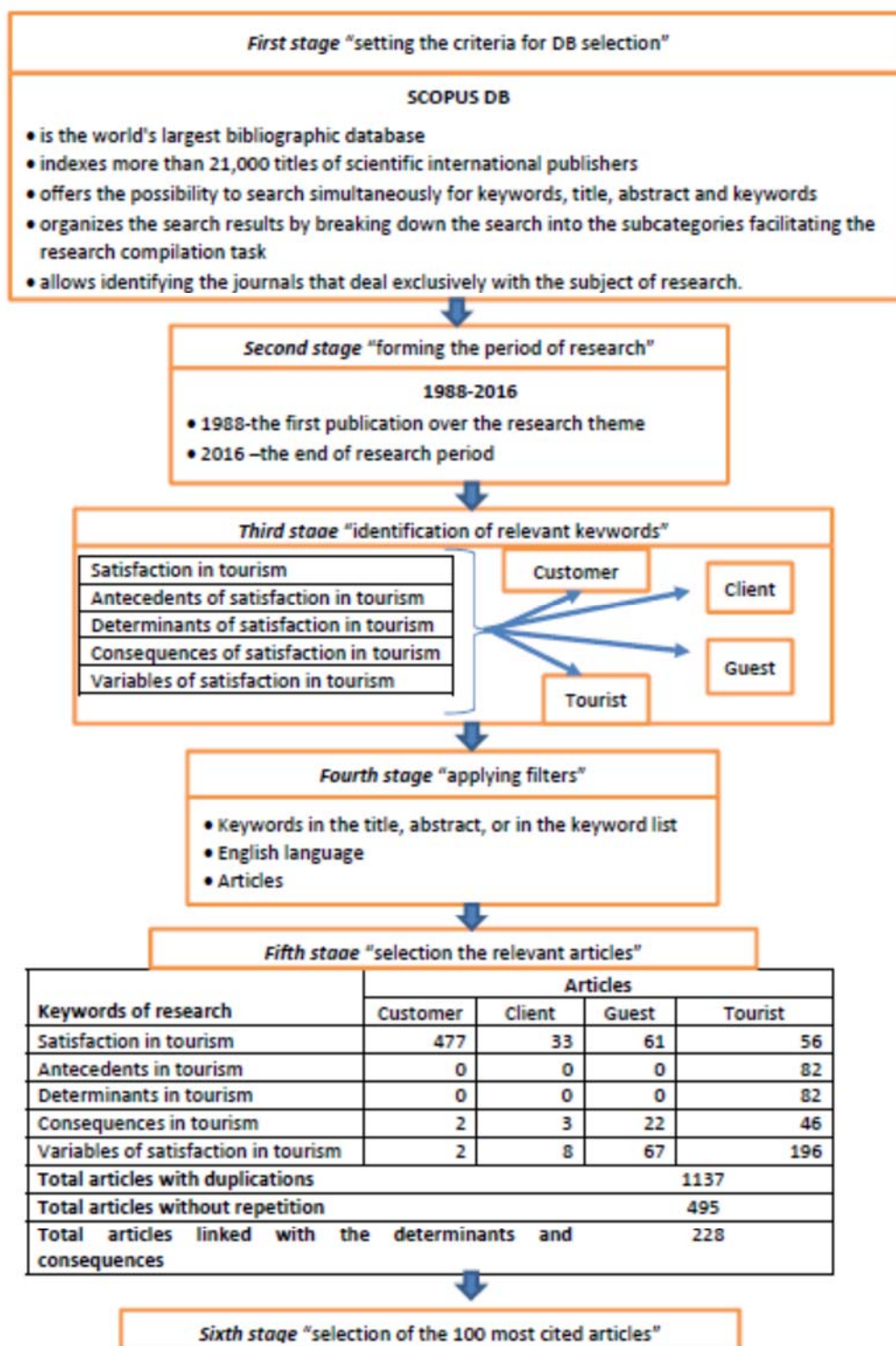


Figure 1. Literature review stages

Source: Compiled by authors on the base of Scopus

In order to provide a credible guarantee of study quality we started, in the first two stages, with DB selection and period of the study limitation where 1988 was the starting point of the analysis

on “CS in tourism” (Haywood and Muller, 1988) and limited until 2016. We used Scopus database because all of reasons included into the figure (world's largest bibliographic database, indexes more than 21,000 titles of scientific international publishers, etc.).

Further, in the third stage, we put criteria for the keywords selection and combined in the search customer, guest, client and tourist with antecedents, determinants, consequences and variables of satisfaction in tourism. It is important to underline that English written articles are only selected and no other publications' sources, like books, or book chapters, are used. In total avoiding all duplications we identified 495 articles (of 1137 that included duplications). Finally, we ended up by selecting 225 articles that are really related to the determinants and consequence of CS in tourism. As a last filter, we identified the 100 most cited articles in order to perform a more detailed analysis. In the next section, we present the results of our analysis and when necessary make explanation over obtained results.

4. FINDINGS

As it is said before there is not a uniform definition of CS in tourism or uniformity about the set of the antecedents or determinants of CS in tourism. Thus, to make our research more detailed, we selected 100 most cited articles according to the methodology proposed above. The results of the analysis of the 100 most cited articles presented are presented in table 1, where the aggregation result over what determinants and consequences in tourism are mostly mentioned in these articles can be observed.

It was found that it is widely used the conception origin by Bowen and Clarke (2002), in that the conceptual definitions for quality as the main CS determinant is based on expectations. Furthermore, Oh and Parks (1997), echoing work done by Bowen and Clarke (2002), conclude that “if tourists really do not distinguish between the two, then pursuing two different methodologies for the same contributions is neither efficient nor necessary” (p. 53).

It is important to highlight that the quality also is the edge point in many areas of tourism. This correlation has been widely studied in hospitality sector and many authors underline the positive relation between quality and CS. Also, in hospitality, core, tangible and intangible benefits (impression of hotel, food quality, helpfulness of employees) are main drives or determinants of CS (Gupta et al., 2006; Faullant et al., 2008). Choi and Chu (2001) analyse CS in Hong Kong hotels using a questionnaire that includes multiple dimensions like the staff service quality, room qualities, value, general amenities, facilities, business services and security. In the same sector, Radojevic et al. (2015) find that hotel star ratings are primarily determined by physical

aspects of the premises and the service quality, and that the classification provides an adequate signal of CS. Quality is also the main determinant in cruise trips (Douglas and Connor, 2003), and food quality is the key performance driver for cruise brand prestige (Swanson and Kelley, 2001). So, quality is under management's control and it is possible to measure it (Baker and Crompton, 2000). However, Baker & Clarke (2002) contend that there is also an ample spectrum of theoretical models that defines this construct both for quality and for satisfaction. The authors conclude that "these are sufficiently different from satisfaction to avoid unwitting confusion" (p. 298).

The tourist's perception of quality significantly influences on CS, and that this effect is greater than the one produced by perceived price (Campo and Yagüe, 2009). Dmitrović et al. (2009) find a similar result showing that quality affects directly CS, but they also find that the effect is mediated by the perceived value. Chen et al. (2011) highlight that national park managers also have to satisfy tourists by providing a superior service quality.

It is not unsurprising that many papers find that value is also an important determinant of CS as well as significantly affects tourist loyalty (Yang et al., 2011 (Table 1)). Duman and Mattila (2005) expand perceived value as CS determinant in the context of a cruise vacation. Loureiro and Gonzalez (2008) find empirical evidence of the influence that trust have on consumer loyalty and CS in rural lodging. Radojevic et al. (2015) underline that CS in hotels is the result of a customer's perception, and it is determined by the perceived service quality, price and customer acquisition cost. Lu et al. (2014) explain how the guests often describe "being satisfied" in hotels as the process where the value of service received is equal to or greater than the price they pay.

As said above, expectations are usually invoked as a key component of the theories that sustain the construct definitions of satisfaction and quality. Thus, tourists are satisfied and leave the destination with a fond memory when products and services match the expectations (Lu et al., 2014). Satisfaction with a holiday destination is the "extent of overall pleasure or contentment felt by the visitor, resulting in the ability of the trip experience to fulfil the visitor's desires, expectations and needs in relation to the trip" (Chen and Tsai, 2007, p. 1116). Loureiro and Kastenholtz (2011) claim that CS is associated with expectations, while consumer delight is associated with overcoming expectations leading to feelings of happiness, euphoria, victory, intense satisfaction, or optimism. Coghlan (2012) defines CS as an emotional state of mind after exposure to the performance offered by the tourism provider.

Bowie and Chang (2005) suggest that expectations are strongly related to past travel experience and customer delight. That delight is more desirable when CS has a strong influence on behavioural intentions (Lane, 2007). Satisfaction is the tourist's emotional state after a trip's experience (Baker and Crompton, 2000). Gountas and Gountas (2007) explain how emotional reaction to a service context influences on CS. Chatzigeorgiou et al. (2009) conclude that customer's emotions are a key determinant to CS and repeated visits. In other words, satisfaction is defined as a tourist's affective state resulting from an overall appraisal of psychological preference and pleasure towards the tourist destination (Huang et al., 2006).

Different factors, like, for example, geographical features of the city, also affect the satisfaction level of tourists (Emir and Saraçlı, 2011). Similarly, Gu and Ryan (2008) conclude that the main determinants of hotel guests' satisfaction are the external environment, the reputation, and the cleanliness of the rooms. So, it is important to take into account, that analysing CS determinants, the environment also plays an edgy point in tourism. The higher the personal interaction with environment or atmosphere in tourism is, the more satisfaction is experienced (Fah and Kandasamy, 2011; Hsi-Jui Wu, 2007). Chen et al. (2011), show that the higher the physical environment is, as perceived by the tourists, the satisfaction of tourists is higher. The environment does not only determine the destination image, but it is also a key determinant on satisfaction and repeat visits (Beerli and Martin, 2004). So, it's necessary to invest in the physical environment via various managerial actions that increase CS (Beerli and Martin, 2004). The familiar environmental ambience and compatible environmental values are some of the key determinants that will enhance tourists' satisfaction (Okello and Yerian, 2009). The importance of environment in tourism is greater because of the considerable quantities of water and energy consumed by companies, and because of the environmental degradation that industry causes with unmanaged growth and development (Martinez, 2015). According to Mathieson and Wall (2006), "tourism is both an economic and a social phenomenon that is an agent of change in these areas as well as for the environment" (p.7).

At the same time, the tourists' loyalty is a key consequences CS (Vogt, 2011) as it is difficult to imagine unsatisfied tourists who revisit a destination (Oppermann, 2000). There are numerous literature contributions that find a positive relationship between loyalty and CS in tourism. Some studies confirm that a hotel can survive if it has a good reputation and many loyalty customers in the market (Lee et al., 2010). Nevertheless, there are customers who revisit the holidays' destination, although others prefer to visit new destinations in spite of being satisfied (Fyall et al., 2003). Faullant et al. (2008) demonstrate that the relationship between CS

and loyalty does not seem to be linear, and that the causal relationship between these two constructs is not always clear.

As it has been observed previously, nowadays, there isn't the unique list among researches where all CS determinants are mentioned. It is important to note that the same unclear situation also be found in the field of CS consequences in tourism. Investigating the strategy variables, Capon et al. (1990) find a positive relationship between quality, satisfaction and economic returns. Buzzell and Gale (1987) find a significant relationship between relative satisfaction and return on investment (ROI) and the CS impact is reflected in the return on equity (ROE) which is a proxy of firm's profitability (Sun and Kim, 2012).

But, not only economic returns of the companies can be affected by client satisfaction in tourism, as for example Sahli and Nowak (2007) also demonstrate tourism influence (via CS) on economic development of any country. Balaguer and Cantavella-Jorda (2002) describe tourism as a long-run economic growth factor in Spain, by analysing tourism expansion and the overall importance for the economy through tourism enterprises profitability, which is highly determined by CS. Chen and Kim (2006) argue that CS affects tourism development via the corporate profitability more than the stock market performance.

On the base of a CS model, Oliver (1997) explains how CS increases profitability. Dmitrović et al. (2009) present a conceptual model of CS that also includes as consequences of CS, quality, image, risk and profitability. Mayr and Zins (2012) contend that companies should consider the profitability dimensions while monitoring CS. So, satisfied customers is a priority because profitability depends to a large extent on them (Choi and Chu, 2001; Eid, 2015).

Additionally, CS plays also a critical role in maintaining long-term customer–business relationships through creating a recommendation system between clients (Hsi-Jui Wu, 2007). Thus, the intention to recommend is an important CS consequence (Lu et al., 2014). Recommendation may support the tourism industry by building a positive image and a favourable attitude towards the tourism product (Stăncioiu, 2000). A positive recommendation does not only mean “building” a favourable climate to the industry as a whole, but also to the tourism enterprises (Bucur-Sabo, 2006). For instance, the personal recommendations of friends and online reviews are the most important factors influencing the accommodations' booking (Dickinger and Mazanec, 2008). The potential tourist perceives the reality about tourist products in a better way from the perspective of other tourists' preferences who recommend some tourist products, than from other official sources, because satisfied tourists are more

inclined to recommend destinations to the friends and relatives (Baud- Beeho and Prentice, 1997; Bovy and Lawson, 1977).

Simultaneously, revisit intention is nowadays one of the most important research tourism' topic, because it remains unclear why people undertake repeat visits and what kind of satisfaction characteristics holds repeat visitors (Bigne et al., 2008). As said before, the causal relationship between CS and loyalty or revisits is still unclear, but Eraqui (2006) finds a direct relationship of CS on repeated visits and profitability. Chen et al. (2011) also find that satisfaction has a direct influence on revisit intention in Kinmen National Park. Shani et al. (2007), analysing religious tourism, find the importance of CS on the tourists' revisit intention. Chatzigeorgiou et al. (2009) describe the relationship between CS and future behavioural intentions in agro tourism via repeat visits. Hence, the literature finds that revisiting is one of the important CS consequences.

Finally, analysing the geographical area of the study, it can be said that there are still areas which are under researched, and Spain jointly with the Anglo-Saxon countries are well represented (Table 1). Nevertheless, other regions are also represented in the last part of the period under analysis: China (Gu, 2008), Croatia (Marković and Janković, 2013) and Iran (Motlagh et al. 2013), among others.

Table 1. CS determinants and consequences in tourism (1988-2016)

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Abubakar and Mavondo	2014	analyse various aspects of the service scape with a view to isolate the factors that contribute to CS and recommendation of a tourist destination.	5		emotions	
Agyeiwaah et al.	2016	adopt the Tourism Satisfaction Index Model in attractions and hotels	2			loyalty
Alegre and Cladera	2009	distinguish determinants of tourist intentions to revisit a destination	116		previous visit	return
Ali	2016	analyse the relationships between hotel website quality, perceived flow, customer satisfaction and purchase intentions	3		quality	
Bhanugopan	2004	identify any quality customer service gaps in the hospitality industry	2	Papua New Guinea	personalized service, empathy	
Bigné et al.	2008	examine cognitive and affective antecedents and consequences of CS in interactive museum, theme park	115		pre-purchase expectations, emotions	loyalty
Bradley and Sparks	2012	analyse why do travel and tourism consumers appraise products as more or less favorable, and what makes them change their appraisals over time	28			loyalty repurchase intension
Brunner-Sperdin et al.	2012	measure satisfaction with emotional experiences traditional service quality and satisfaction	35		emotional experience, service quality	
Buckley et al	2014	analyse the particularities of Chinese tourists satisfaction	6	China	safety	
Bulchand-Gidumal	2011	analyze whether offering free Wi-Fi improves hotels' online ratings, which are considered a measure of customer satisfaction	18		room service quality, quality of the Wi-Fi	
Campo-Martínez and Garau-Vadell	2010	discover how to improve CS levels for tourism destinations, especially for resorts	7	Balearic Islands	perceived quality	repeat visit

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Castaeda et al.	2007	analyse the effect that CS with the information obtained through the Internet may influence CS	31		previous experience,	
Chang	2008	investigate the relationships between aspects of consumption behavior- emotion and CS	17		quality, emotions	
Chang et al.	2011	explore tourist destination brand contact experiences	6		quality, staff service	
Chen and Myagmarsuren	2010	propose the destination brand equity model by incorporating various antecedents	15	Mongolia	perceived quality	loyalty
Chen et al.	2011	analyse CS with tourists' perceptions, service performance and destination competitiveness.	17	Taiwan	pre-visit perceptions, post visit	recommend, revisit increase competitiveness
Chitty et al.	2007	determine which factors account for CS with a service and customer loyalty	35		experience	loyalty
Coghlan	2012	analyse of visitor satisfaction and its relation to tourism attributes	42	Australia	comfort, quality, staff service, cost	
Crotts et al.	2009	measure of CS	59		recommendation, experience	recommendation
Cugini et al.	2007	the relationship between CS levels and the costs that the company has	17			higher, more stable revenues
Debata et al.	2015	identify the dimensions of service quality as well as of service loyalty in the context of medical tourism	3		quality	loyalty
Dmitrović et al.	2009	conceptualize a model of tourist satisfaction at the destination level	2		quality, image, value	loyalty
Dolnicar et al	2013	analyse the strength of association between satisfaction and behavioral intention	14		behavioral intention	
Dortyol et al.	2003	identify tourists' perceptions of services provided by hotels	17	Antalya/ Turkey	quality, price, staff friendliness	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Duman and Mattila	2005	examine the role of CS in the affect-value relationship	181		perceived value, value perceptions, behavioral intentions	
Eid	2015	examine the interrelationships between customer perceived value, CS, customer loyalty and customer retention	9		perceived value, customer retention	loyalty
Eraqi	2006	evaluate the customer's views related to tourism quality	29	Egypt	quality	
Faullant et al.	2008	explain how emotions influence satisfaction	67		emotion	
Fuchs and Weiermair	2004	explain how existing benchmarking approach is extended conceptually by linking to CS measures	114		self-stated importance and derived importance assessments	
Gallarza et al.	2013	build four self-oriented value scales for a hospitality experience and test them overall perceived value, CS, and customer loyalty	5	Sardinia (Italy)	efficiency, quality, value	loyalty
García-Crespo et al.	2010	present a semantic hotel recommendation expert system, based on the consumer's experience about recommendation	49		experience, recommendation	
Geissler and Rucks	2011	identify significant factors influencing customer evaluation and satisfaction with the overall theme park experience	7		park experience and value, park food quality, value, and variety, park cleanliness and atmosphere, cost of the park visit, customer expectations, experience	
González et al.	2006	develop a model to depict how service quality perceptions and CS influence behavioral intentions SPA resorts	121		service quality, behaviour	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Gountas and Gountas	2007	explores how personality orientations and emotions influence consumer's service perceptions in the airline industry	71		emotions, behaviour, experience	
Grisse mann and Stokburger-Sauer	2012	develop a conceptual model of customer co-creation of tourism services and empirically tests this model in a travel agency context	76			loyalty
Guiry and Scott	2013	compare experienced and potential US medical tourists' foreign health service-quality expectations	9		expectation, experience, quality	
Han and Hyun	2015	develop a model explaining international medical travelers' intention formation by considering the impact of quality, satisfaction, trust, and price reasonableness	22		perceived quality, trust of the staff	
Heo et al.	2003	analyse guests' satisfaction with hotel efforts at customer-focused adaptations	18	Japanese and Korean travelers to United States	providing menus, magazines and hotel directories in the guest's native language	
Heung	2000	measure the satisfaction levels of Chinese travelers in relation to the hotel services in Hong Kong	9	Hong Kong	quietness of the room, availability of food and beverage variety, recreation facilities, availability of frequent travelers' program, service quality and value	
Ho and Lee	2015	propose a model investigating the effectiveness of travel blogs as a relationship marketing tool	2	Taiwan	quality, trust	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Hultman et al.	2015	explore the interrelationships among destination personality, tourist satisfaction, and tourist-destination identification, and the extent to which they are important in influencing positive word-of-mouth and revisit intentions	11	Taiwan	destination personality, positive word-of-mouth, revisit intentions	positive word-of-mouth, revisit intentions
Junek et al.	2006	examine the importance of the all-female element to women travellers and the possible benefits that can be gained from this type of travel	5	Australian all-female travel company	previous visits, accomodation	
Juwaheer	2007	report findings with respect to the possibility of classifying international tourists on the basis of their quality expectations in hotels	9	hotels of Mauritius	quality, expectation	
Kang et al.	2004	analyze the effect of service quality on customer satisfaction and customer behavioral intentions at hotels and ryokan	17	Japanese inns	quality, creativeness, unexpected services, encounter performance	
Khare and Khare	2006	study the experience of Indian customers satisfaction with using online travel websites	14	India	service quality, trust , security, relevant destination information	
Kim et al.	2011	provide an integrated approach to understand the effect of food tourists' behavior based on perceived value and satisfaction	42		preceived value	revisit intention
Koc	2006	explore the influence of an all-inclusive pricing system on Total Quality Management and Business Excellence in the Turkish tourism market and CS perspectives	14	Tyrkia	service quality	
Kuo	2007	emphasis critical factors of service attitude affecting the satisfaction of international tourists	25		service quality, employee attitude	
Lakshmi and Ganesan,	2010	study customer delight in tourism as influenced by destination image and perceived value	3	Tirupati Thirumala Balaji Devasthanam	self-service technology channels, destination image	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Lee et al.	2010	evaluate factors in FIT guest's perception of five-star hotel location, and assess the differences among CS levels and how those differences impacted CS with their choice of hotel	4	Korea	safety, access to transportation portals, connection to area attractions	
Lin	2007	provide a model of CS from a comprehensive perspective and tries to use the nonlinear fuzzy neural network model to verify the assumptions of the study	33	Taipei and Kaohsiung cities	functional quality, service quality	
Lin et al.	2011	analyze island accommodation management in fuzzy linguistic preference	6		quality	
Loureiro	2010	apply the concept of customer delight and the construct the model of rural tourism	24	Portugal	quality, accomodation	
Loureiro and Kastenholz	2011	enriche the model of delight and satisfaction with a suggested causal relationship between disconfirmation and new variables	62	Portugal		loyalty
Loureiro and Gonzalez	2008	explore the model with PLS technique, giving relevance to the interrelationships among image, quality, satisfaction, and trust	62	Spain, Portugal	perceived quality, trust	loyalty
Lu et al.	2014	determine whether luxury hotel managers and customers have the same understanding of service quality and satisfaction	33		service quality, preceived value, expectation	recommendation
Magnini et al.	2011	illustrate that determinants of customer delight in tourism venues can be identified through travel blog analysis	56		emotion, service quality	repurchase intention and positive word of mouth
Mason and Paggiaro	2012	analyse the importance of festival scapes in determining emotions, satisfaction and future behavior of participants at food and wine events	44		emotions, behaviour, experience	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Matzler et al.	2006	analyse CS with alpine ski resorts, hypothesize that personal, situational, and product factors moderate the relationship between attribute performance of satisfaction	38		environment, service quality	
Mohamed	2007	analyse the influence of CS on corporative image	3	Egypt	service quality	corporative image
Moliner et al	2013	study the formation of a consumer's attitude towards a supplier, given the identification of the key indicators of perceived relationship quality and other attributes.	112	Spain	perceived relationship quality	
Moliner et al.	2008	analyse how the post-purchase perceived value of a tourism package influences the relationship quality with a travel agency	8		perceived value, quality.	
Moon et al.	2015	investigate the relationships among the variables of airport physical environments, customer emotion, and satisfaction	2		emotions, physical environments	
Mouakket and Al-Hawari	2012	present findings about the antecedents of e-loyalty intention towards online reservation	18	United Arab Emirates	e-service quality, hedonic and utilitarian values	loyalty
Moutinho et al.	2012	generate a conceptual model to determine the overall service quality of a destination and its effect on perceived value, customer satisfaction and behavioural intention	16		service quality of a destination, perceived value	
Nadiri and Hussain	2007	diagnosize the applicability of the perceived service quality measurement scale	33	Northern Cyprus	perceived service quality	
Narayan et al.	2007	develop and validate scales to measure and benchmark service quality in tourism industry	31		food, logistics, security, value	
O'Neill et al.	2010	analyse the quality product/service provision in satisfying nature based tourists	21	state of Alabama		re-visitation and recommendation intention

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Pantouvakis	2013	investigate the moderating effects of Hofstede's taxonomy of nationalities on the interpersonal and environmental service dimensions that influence satisfaction	8	Crete		loyalty
Pizam and Ellis	1999	mesuare the CS in hospitality	29		quality	
Puciato	2016	identify the principal factors determining the location of hotels belonging to a chain	2	South-Western Poland	value, economic development, degrees of internationalization and urbanization	
Půlpánová and Simová	2012	present findings of the research focused on customer satisfaction in tourism, particularly satisfaction with the services provided by travel agencies	3		personnel, transportation, price, information and communication	
Quintal and Polczynski,	2010	examine how university students' satisfaction with perceived attractiveness, quality, value, and low risk impact on their revisit intentions (RVI) to a holiday destination	17		quality	loyalty
Radojevic et al.	2015	provide insight into the hotel characteristics that have a significant association with CS	14	47 capital cities in Europe	hotel star rating	
Richard and Zhang	2012	examine the impact and interrelationship of corporate image, satisfaction, and commitment on customer loyalty in the travel industry	23		emotions	loyalty
Ryglóvá et al.	2011	show possible approaches towards managing the quality of services in tourism	2	Czech Republic	quality	
Sabiote et al.	2012	analyse the influence of culture on the relationship between each of the dimensions of e-service quality and satisfaction with a web site involving purchase of a tourism service	17	British and 150 Spanish tourists	service quality	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Sigurðardóttir and Helgadóttir	2015	investigate CS and visitor attitudes to several aspects of service quality in equestrian (horse riding) tourism	4		quality	
Smith and Costello	1990	provide a practical method for assessing satisfaction at a culinary event	55		quality of service, quality of food	
Sparks et al.	2007	analyse the conduct of owners of timeshare holiday products to assess the dimensions of customer value in timeshares	16			loyalty
Su et al.	2015	provide and test an integrated model that examines two relationship quality constructs (overall customer satisfaction, customer-company identification) as mediating variables	8	China	quality	repurchase intentions
Sun and Kim,	2013	empirically examine the relationship between the CS index (CSI) and the companies' financial performance in the hospitality and tourism industry (and airlines)	22			companies' financial performance
Tanford et al.	2012	investigate factors that motivate attendance and produce loyalty to the wine tasting event	5	Las Vegas		revisit intention, recommendation, willingness-to-pay
Tiru et al.	2010	elaborate a mobile positioning-based methodology to measure the 'destination loyalty' of foreign tourists to a place	8	Estonia		repeated visits
Tsai	2013	integrate the brand love and CS paradigms with a focus on international tourist hotel brands	6			loyalty
Tsiotsou	2007	segment ski resorts customers according to their frequency of visits in order to identify homogeneous groups	28		experience	
Vajcnerová et al.	2012	create a model for evaluating the quality of a destination on the basis of analysing the importance of individual factors (variables) concerning the quality of a destination.	4		service quality	

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Velázquez et al.	2011	aims at studying loyalty formation in its two approaches (attitudinal and behavioral) from a dual purpose	29		service quality, value and customer commitment	
Vladimirov	2012	analyse the e-tourism development in Bulgaria, and particularly customer satisfaction with the quality of the tourism companies' websites	3	Bulgaria	website quality	
Wang et al.	2005	put forward a creative model of Tourism Attraction CS Index	8	Trunk Hill Park	variablties in general	
Wang et al.	2008	investigate whether senior-friendly facilities in a hotel affect the satisfaction levels of senior tourists	4	China tourist UK	quality, expectation	
Weiermair	2000	develop a comprehensive cultural construct to explain and forecast tourists' behaviour and quality judgements.	15		tourists' expectations and their perceptions of received service quality	
Wen	2012	empirically tests a structural model of factors affecting consumers' online purchase intentions for travel products	18		value, quality	
Whipple, and Thach	1988	modify version of the expectation/performance paradigm was applied in a specific group tour situation to measure the relative importance of tourism services and attractions to satisfaction with a weekend motorcoach tour	63	Nigara falls	expectation, service, attraction of environment	
Williams and Soutar	2009	apply an existing marketing framework and empirically examin the relationships between value, satisfaction, and behavioural intentions in an adventure tourism context.	171	Australia	emotions, behavioural intentions	
Yang et al.	2011	identify attributes of potential improvement of service qalty in hospitality	21		quality	
Yim King Wan and Man Cheng	2011	investigate the service quality of Macao's World Heritage site as perceived by visitors involving both tourists and local residents	7	Macao	service quality	repeated visitors

Chapter 4. Paper IV.

Authors	Year	Object	Cites	Country of study	Determinants	Consequences
Yuksel	2001	provide destination managers and marketers with an analytic insight into how repeat and first-time visitors develop their satisfaction and return intention judgments	58		quality of food, quality of accommodation, hospitality and safety	repeated visitors
Zhao et al.	2010	integrate the face value and validity period of coupons into a model that determines customer satisfaction and repurchase intention in online tourism and hospitality service recovery	5			repurchase intention, financial returns

Source: Compiled by authors on the base of Scopus

Until 1988 the research does not analyse CS determinants or consequences in tourism (Haywood and Muller, 1988). This first article presents a model that reveals the relationship between expectations, experiences and satisfaction/dissatisfaction levels. While, the most cited article (Duman and Mattila, 2005) uses perceived value and trust as the main determinants in the context of cruise services. From the table 1 it is observed that at the beginning of the period, papers aim mainly dedicated to analyse CS in tourism, and only some articles develop the theme of the consequences. Table 1 also shows that the most prolific year is 2015, Spain is the most popular geographical area of study in EU, while within other countries China and Thailand are very popular either. Hotels are the most researched field. Regarding the determinants, it can be seen that quality, as one of parts of the aforementioned holistic-trio is still the most investigated determinant, while environment and destination image are usually studied in an isolated way without combining with other determinants. While within consequences of CS in tourism, the repurchase intention and revisiting are the mostly mentioned within observed studies. Thus, the causal relationship is still a topic that deserves further attention and research. Nevertheless, it is clear that this topic is vital to destination marketers and managers.

5. CONCLUSIONS

CS determinants and consequences in tourism are not systematically investigated, so this paper aims to fill this gap in the literature shedding some light in this topic, classifying the type of antecedent and consequences of CS in tourism for the first time. Nevertheless, there are still many outstanding questions that need to be addressed in the future. Bowen and Clarke (2002) are the first authors advocating a clear separation between the holistic trio formed by CS, quality and value. However, this distinction is not as straightforward in tourism as in other industries by the intrinsic nature of the industry itself. There are many subsectors that are imbricated in the forming process of CS of a particular tourist experience, and some results from one sub-sector cannot be immediately applied to others.

Despite many attempts, there still does not appear to be a consensus regarding the list of CS determinants and consequences in tourism and only a limited number of studies combine together CS determinants and consequences in the investigation. Thus, the main contribution of this paper is to present for the first time a tentative list of these CS antecedents and consequences, which is based on the systematic literature review model. The model accounts for 495 articles and 41 journals from Scopus within period from 1988 to 2016.

In view of the results, it can be concluded that CS determinants literature has been more popular in the past, as analysis the 100 most cited papers of the list, there are 13 articles present simultaneously both construct in the research, and that the trend shows that this issue would be more a common practice in the near future.

The elements of CS consequences in tourism appear more recently than the topic on determinants. It is also observed that Tourism Management is the leading journal in the topic, and the hotel industry is the most studied sub-sector in the field. The future of this research area is guaranteed observing the dynamic trend with a peak in the year 2016.

On one hand, quality is the most popular CS determinant that has been investigated both in a separate way and in combination with other determinants, while environment and destination image are usually studied as unique constructs that determine CS. On the other hand, loyalty, proxied by recommendation and revisit, is the most popular topic on CS consequences. The relationship between CS and both constructs, customer retention and firm profitability, is well established in the literature, and provides a solid justification as to why CS is a focal point in the decision making of any enterprise. To our surprise, China is the most popular geographical area that has been researched in the novel field of CS consequences, in contrast with Spain that has been extensively studied on CS determinants.

Our discussion for the future research suggests that more attention is needed to the specificity of CS particularities by refining scales and methods in each sub-sector and each segment that can be of interest for researchers. This article provides some starting point to practitioners and researchers when they need to investigate CS and the potential antecedents and consequences. However, it is not exempt from limitations, as only English written articles collected from Scopus database for the period 1988-2015 are investigated. A further extension including some other formats like books, book chapters or conference proceeding, as well as other languages can be interesting areas for future research.

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CHAPTER 5

GUESTS' SATISFACTION. A SEGMENTATION ANALYSIS

5. Introduction

This chapter presents the empirical part of this dissertation in which a questionnaire was designed to analyse the guests' satisfaction of three hotels of distinct star category located in the Saint Petersburg, Russia. The segmentation analysis is based on the sociodemographic variables gender and age according to two different strategies: (1) the analysis is made for the whole sample of surveyed guests; and (2) the analysis is individualized for two hotels of the sample corresponding to the lower categories of three and four stars. The methodology applied in this chapter is based on the development of a fuzzy hybrid method that obtains a synthetic satisfaction indicator for the segments under analysis.

Hotels and accommodations of the cities have a basic role in attracting tourists and people travelling to the city. Since business and leisure trips are expected to increase in the near future in Saint Petersburg, it can be said that this study is timely as the hotels should respond to the needs of a wide variety of tourist segments who are ready to visit this iconic city.

After a careful revision made by 02 February 2017 in Scopus, it can be concluded that this research is the first study analysing guests' satisfaction and market segmentation in Russia. Saint-Petersburg can be considered a paradigmatic Russian city because of the border location and the former importance and vestige.

After this brief introduction, the second section presents some of the main findings obtained in the previous chapters regarding the role of age and gender in the analysis of customer satisfaction. The third section presents some basic information about the

questionnaire. Finally, the fourth section introduces the final papers contained in the dissertation: Paper V and Paper VI.

5.1. Literature review of customer satisfaction in hospitality regarding age and gender

The literature review over the guests' satisfaction, gender and age are the main objects of investigation that are described with detail in the academic outputs of this chapter. This section presents succinctly some basic findings obtained in the previous chapter regarding the research object.

Gunduz and Hatemi-J, (2005) underlined that tourism is an important driver of economic development for any country, because it creates direct and indirect impacts on the local economy (Grado et al., 1998). Hotels and accommodations are the major elements for attracting tourists (Williams, 1998), so they must satisfy all categories of guests (Seyyedian & Shahroudi, 2012). This is the reason that the scientific literature presents a large amount of research investigating the key elements of customer satisfaction in hospitality. Despite that the topic has already been investigated by different authors (Fah & Kandasamy, 2011; Gonzalez et al., 2007), McKercher et al. (2006) and Radojevic et al. (2015) contend that there is still a lack of research over customer satisfaction in hospitality because it is very difficult to measure the satisfaction level when the guest preferences vary according to the hotel star level and supply service quality.

On the base of the previous literature review presented in previous chapters, it was discussed that the customer satisfaction is a business philosophy that highlights the importance of creating value for customers, anticipating and managing their expectations, and demonstrating the ability and responsibility to satisfy their needs (Dominici & Guzzo, 2010).

Hotel guests' satisfaction is becoming progressively important because of the highly positive correlation that exists between this construct and the probability of the return to the same hotel (Choi & Chu, 2001). Moreover, Oh and Parks (1997) find that most of the studies undertaken by hospitality researchers focus on identifying the sources of customer satisfaction and discovering effective ways to determine customer wants and needs. However, Punj and Steward (1983) underline that for more deep investigation of the satisfaction essence, it is necessary to make market segmentation, so the studies could be

relevant to different segments of customers. At the same moment, according to Homburg and Giering (2001), the scientific researches on customer satisfaction in hospitality based on market segmentation are still scarce. However, there are some exceptions: Oh et al. (2002) analyse how men and women differ in product evaluation and service consumption. Shanka and Taylor (2004) find that age and residence have a moderating effect on the guests' experienced satisfaction on the physical facilities and the service provision components.

Additionally, Gu and Ryan (2008) underline that hotel category and its service quality level influence the satisfaction level of guest. Danziger et al. (2004) indicate that the star rating is the most important information in hotel selection, because process the "information chunks" that help to the decision of hotel selection.

5.2. Empirical Study

As previously mentioned, this chapter is based on the application of a fuzzy hybrid MCMD model to a database obtained from the administration of a survey questionnaire to a sample of guests who spent some night in the hotels included in the analysis. The survey instrument contains different sections providing valuable information for the empirical exercise developed in this chapter.

5.2.1. Questionnaire

According to Johnson and Christensen (2014), the design of questionnaires is one of the main quantitative techniques for data collecting. Thus, the questionnaire to analyse the guests' satisfaction in three different hotels of Saint-Petersburg in Russia was constructed including some of the more important determinants and consequences of customer satisfaction in hospitality obtained in the previous chapters (Figure 5.1.)

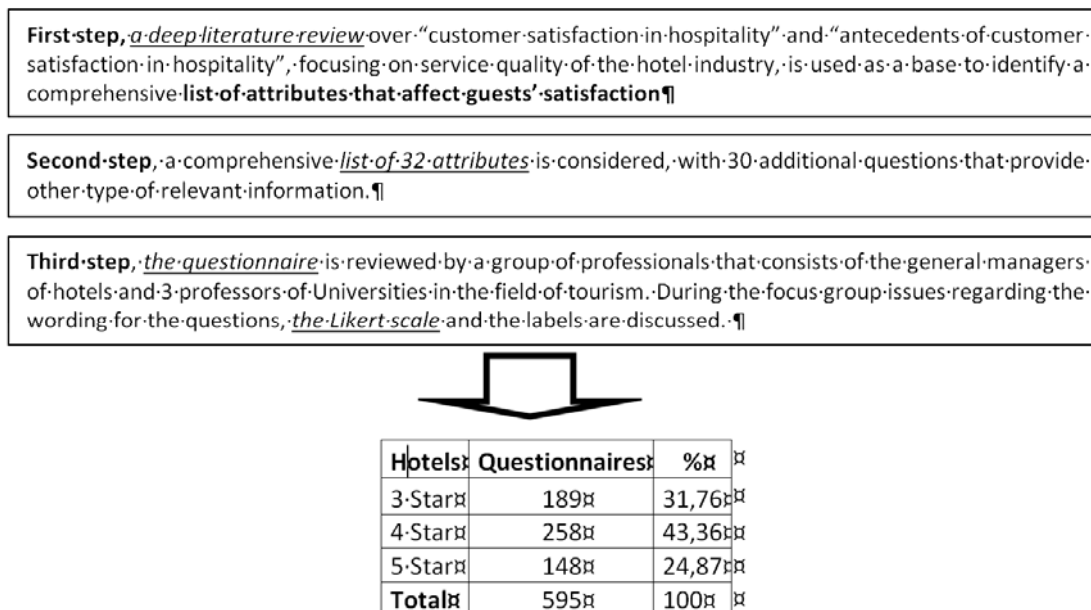


Figure 5.1. A three steps process for the questionnaire construction

A total of 595 valid questionnaires are obtained for a representative sample of the three selected hotels where guests older than 18 years old are interviewed. The questionnaire was written in Russian and translated into English with 4 pages length. The questionnaire was finally administered to customers from September 2014 to June 2016.

Finally, we formed six age groups: under 25 years, 26-35 years, 36-45 years, 46-55 years, 56-65 years and over 65 years, and the most representative group is between 46 and 55 years old in both hotel categories. However, the men are the most represented group in 4 stars hotel, while women represent 55% in 3 stars hotel. According to the nationalities the visitors from Former Soviet Union are prevalent in hotels of all categories. However, the guests in 4 stars hotel are mostly from China, France, while Italian visitors' percentage rose with the star level of hotel. Also, the constructed guest profile showed that mostly Russian and Chinese customers visit Saint-Petersburg for business purposes.

The guests respond about the importance, the satisfaction, and the fulfilment of expectations over all the attributes included in the second and third sections. Table 5.1 shows the linguistic Likert scales applied in the questionnaire.

The questionnaire is organized into five sections that are presented in the annex of the present study.

Table 5.1. Linguistic Likert scales used in the questionnaire

Satisfaction level		Importance level		Fulfilment of expectations	
1	Bad	1	Not important at all	1	Much worse than expected
2	Fair	2	Not very important	2	Worse than expected
3	Good	3	Important	3	The same as expected
4	Very good	4	Very important	4	Better than expected

Source: Compiled by authors

5.2.2. Variables

This part of the thesis is dedicated to the explication of used variables inside of the questionnaire. A key step to measure the guests' satisfaction is to identify the attributes that are important to hotel guests. It was mentioned that a profound systematic literature review over determinants and consequences of customer satisfaction in hospitality was carried out. The list of attributes presented in previous studies of Li et al. (2012), Magnini et al. (2011), and Zhou et al. (2014) was extended. Finally, the list of 32 specific attributes was expected to represent adequately the guests' preferences (Table 5.2).

Table 5.2. List of attributes to measure guests' satisfaction

Accessibility	Front desk service (check-in)
Front desk facilities	Front desk service (check-in). (FOS)
Information and signs	Correctness of reservation
Food at breakfast	Correctness of reservation (FOS)
Food at a la carte restaurant	Easy reservation
Drinks	Easy reservation (FOS)
Welcome gifts in hotel room	Attentiveness of front desk clerk
Welcome gifts in bathroom	Attentiveness of front desk Clerk (FOS)
Room furniture	Room cleaning at the arrival
Quietness in room	Room cleaning at the arrival (FOS)
Room and hotel security	Room cleaning service during the stay
Furniture/decoration in public areas	Room cleaning service during the stay (FOS)
Furniture/decoration in restaurants and bars	Breakfast in the restaurant
View from hotel room	Breakfast in the restaurant (FOS)
Hotel location (closeness to the city centre)	Restaurant a la carte
Hotel decor and design	Restaurant a la carte (FOS)

Source: Compiled by authors

5.2.3. A very brief synthesis of the fuzzy hybrid method

After considering all the quantitative data collection techniques, this chapter uses the triangular fuzzy numbers TFNs. The TFNs are defined by a triplet of real numbers. Each linguistic term is characterized by a triangular fuzzy number (a_1, a_2, a_3) to represent its approximate value range between 0 and 100¹, and denoted as (a_1, a_2, a_3) , where $0 \leq a_1 \leq a_2 \leq a_3 \leq 100$. For each segment of analysis, the arithmetic mean of the TFNs is calculated according to the algebra of TFNs (Buckley, 1985) as:

$$\tilde{A} = (a_1, a_2, a_3) = \left(\frac{1}{n} \right) \bullet (\tilde{A}_1 \oplus \tilde{A}_2 \oplus \dots \oplus \tilde{A}_n) = \left(\frac{\sum_{i=1}^n a_1^{(i)}, \sum_{i=1}^n a_2^{(i)}, \sum_{i=1}^n a_3^{(i)}}{n} \right) \quad (1),$$

where \tilde{A}_i is a TFN, \bullet is the external operator of a scalar and a fuzzy number, and \oplus is the sum operator of fuzzy numbers, so \tilde{A} is the overall average performance evaluation of some hotel (observation) under some attribute over a segment of n interviewed guests.

As the methods based on the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) need a matrix of information of real numbers, it is necessary to clarify the information obtained through the process of fuzzy logic. Within our research we applied a very simple method proposed by Chen (1996) using $v_{\tilde{A}} = (a_1 + 2a_2 + a_3) / 4$. Once the clarified matrix information V is obtained, the application of the method TOPSIS (Hwang & Yoon, 1981; Zeleny, 1982), which is based on the ideal solutions: positive and negative, is now possible. The ideal solutions are computed as:

$$PIS = \left\{ (\max V_{ij} | j \in J), i = 1, 2, \dots, m \right\} \quad (2)$$

$$NIS = \left\{ (\min V_{ij} | j \in J), i = 1, 2, \dots, m \right\} \quad (3),$$

where the ideal solutions PIS and NIS are the vectors of those segments that are the most and least satisfied with each of the attributes considered in the study.

¹ Other ranges as (0-7) o (0-10) are also valid.

Once the ideal solutions have been obtained, the synthetic satisfaction index SAT for each segment that can be considered of interest is determined by the Euclidean distances between ideal solutions and each segment vector, and the relative closeness to the positive ideal solution as:

$$S_i^+ = \text{dist}(V_i, PIS) = \sqrt{\sum_{j=1}^n (V_{ij} - PIS_j)^2} \quad i = 1, 2, \dots, m \quad (4)$$

$$S_i^- = \text{dist}(V_i, NIS) = \sqrt{\sum_{j=1}^n (V_{ij} - NIS_j)^2} \quad i = 1, 2, \dots, m \quad (5)$$

$$SAT_i = \frac{S_i^-}{S_i^+ + S_i^-} \quad i = 1, 2, \dots, m \quad (6)$$

Thus, the satisfaction experienced by each of the segments can be obtained. This approach has been widely used in different decision contexts and there are good empirical applications in the hotel industry (Benítez et al., 2007; Fu et al., 2011; Stylos, & Vassiliadis, 2015).

The elasticity to quantify the degree of sensitivity of the SAT towards changes in each of the attributes considered in the analysis is also calculated. In mathematical notation, the elasticity can be calculated for each segment i , and each satisfaction attribute j as:

$$\eta_{ij} = \frac{\Delta\%SAT_i}{\Delta\%V_{ij}} = \frac{dSAT_i}{dV_{ij}} \frac{V_{ij}}{SAT_i} \quad (7)$$

Elasticity values are usually obtained to help hotel managers who can now better understand the most critical attributes that determine the overall satisfaction in the hotel industry.

5.3. Academic Outputs

The results of this chapter are collected together and presented in two papers: Paper V and Paper VI. The Paper V shows that age and gender affect the satisfaction experienced by the hotel guests and there are some attributes more heterogeneous than others. Thus, not all the attributes are equally important when satisfaction is studied. The Paper VI shows that different patterns are observed when the analysis is individualized by the three and four stars hotels. For example, in 3 stars hotels it seems that women are more satisfied than men, and young travellers with less than 35 years are more satisfied than the rest of

the age segments. The opposite results are observed in the 4 stars hotel. A interesting result resides in the fact that satisfaction seems to be more elastic with respect to some tangible attributes in the 3 stars hotels and with respect to some services and friendliness of the staff in the 4 stars hotels.

The following papers are presented in the following sections: Paper V entitled “Hotel guests’ satisfaction: A segmentation analysis based on age and gender”; and Paper VI entitled “A gender and age segmentation analysis in Saint Petersburg. A case study for 3 and 4 stars hotels”.

PAPER V

Hotel guests' satisfaction: A segmentation analysis based on age and gender

Abstract. Service quality and guest's satisfaction in the hotel industry cannot be easily measured because these constructs depend on multiple intangible attributes that can be evaluated very differently by distinct market segments. In this paper, the satisfaction experienced by different market segments based on age and gender is evaluated by the use of a hybrid method built from the fuzzy logic and optimal solutions. Fuzzy set theory has become a standard technique to resolve in part the uncertain information provided by guests. The results show that age and gender affect the satisfaction experienced by the hotel guests, and that not all the attributes are equally important when satisfaction is studied. The analysis of the elasticities show that the guest satisfaction is quite inelastic with respect to the 32 attributes included in the study, but the elasticity is higher for these four attributes: (1) welcome gifts in the room; (2) furniture/decoration in restaurants and bars; (3) furniture/decoration in public areas; and (4) welcome gifts in the bathroom.

Keywords: Fuzzy numbers; TOPSIS; hotel guests' satisfaction; age; gender

1. INTRODUCTION

Hospitality is a catalyst for economic development and it improves the welfare of the citizenry by providing jobs, increasing revenues, and enhancing income distribution and the wellbeing of nationals. There are many empirical studies that establish hospitality as a driver of economic growth in tourism (Gunduz & Hatemi-J, 2005). Tourism including hospitality sector development creates both direct and indirect impacts on the local economy (Grado et al., 1998). Hotels and accommodations of the cities have a basic role in attracting tourists and people traveling to the city (Williams, 1998). Hotels must respond to the needs of a wide range of guests (Seyyedian & Shahroudi, 2012).

The searching for the key elements of customer satisfaction in hospitality is a topic that deserves deeper research and understanding (McKercher et al., 2006; Radojevic et al., 2015). The topic has already been investigated by different authors (Fah & Kandasamy, 2011; Gonzalez et al., 2007). Punj and Steward (1983) underline that market segmentation is especially relevant as different segments might be more or less satisfied.

In this strand of literature, the aim of this paper is to analyse how different market segments based on age and gender experience more or less satisfaction in three hotels in Saint-Petersburg. A detailed analysis for all the attributes based on the elasticity is also important to customize the service for each of the segments under analysis. This study fills, in part, the gap indicated by Yoo and Weber (2005) who recommend that more investigation on this topic in other parts of the world outside North America is needed. To our knowledge, and after a careful revision made by 02 Feb., 2017 in Scopus this paper is the first study analysing guests' satisfaction and market segmentation in Russia. Saint-Petersburg can be considered a paradigmatic Russian city because of the border location and the former importance and vestige.

The rest of the paper is structured as follows: literature on the subject is reviewed in section 2. The questionnaire and the database are presented in section 3. Section 4 presents the basics of the methodology. The empirical results are reported and discussed in section 5. The conclusions are included in section 6.

2. LITERATURE REVIEW

2.1. Satisfaction in hospitality

Giese and Cote (2000) contend that, despite many attempts to define "customer satisfaction", there still does not appear to be a consensus regarding it. Customer satisfaction is seen as a post consumption evaluative judgement concerning a specific product or service Gundersen et al. (1996) or as the conformity between the tourist expectations and the characteristics of the host destination, including hotels facilities (Truong & Foster, 2006). So, customer satisfaction is a business philosophy that highlights the importance of creating value for customers, anticipating and managing their expectations, and demonstrating the ability and responsibility to satisfy their needs (Dominici & Guzzo, 2010).

Hotel guests' satisfaction is becoming progressively important because of the highly positive correlation between this construct and the probability of the return to the same hotel (Choi & Chu, 2001). Oh and Parks (1997) find that most of the studies undertaken by hospitality researchers focus on identifying the sources of customer satisfaction and discovering effective ways to determine customer wants and needs. While most researchers disagree on the number of key attributes, they all agree that satisfaction must be measured on a multi-attribute scale.

Some studies conclude that quality is the most important component of customer satisfaction in hospitality, underlying staff quality and room quality as the most prevalent factors (Choi & Chu, 2001), although, combined with these, other factors have also a significant impact as general amenities, facilities, business services, value and security.

Saleh and Ryan (1992) conclude the aesthetics of the hotel, both interior and exterior, are the prevalent factors in customer satisfaction. While, Gu and Ryan (2008) find that the main determinants are reputation and cleanliness of the rooms, but they also find the external environment. Fah and Kandasamy (2011) note that tangibility: reliability and assurance, responsiveness and empathy, ecological design and concept have a significant relationship with customer satisfaction in Malaysian hotels. Campo-Martínez and Garau-Vadell (2010) demonstrate that all travellers seek comfortable hotels, but there are also different groups of customers that assign different importance to different services. Ananth et al. (1992) show that cost and quality of facilities within the hotels are the most important factors, while security and hotel's location are in the next levels. Chu and Chai (2000) identify the following factors as the key drivers of tourists' choice and satisfaction: quality of facilities within the hotels, costs, quality of residential facilities, performance of reception, food quality, entertainment and security. Attributes such as cleanliness, location, security, SPA and beauty salon services, image, and reputation are recognized as critical determining factors in a number of studies (Ananth et al., 1992; Barsky & Labagh, 1992). Therefore, there is no consensus in the existing literature on factors that influence client satisfaction due to the wide range of variables that can affect client satisfaction in hospitality.

2.2. Gender

Market segmentation orientation helps to classify potential visitors and to group them in such a way that the hotel marketing strategies are targeted correctly (Bass et al., 1968; Pickton & Broderick, 2005). The literature on market segmentation and hotel satisfaction is still scant (Homburg & Giering, 2001). There are some exceptions that start with a seminal paper by Oh et al. (2002) who analyse how men and women differ in product evaluation and service consumption. Women want to be heard during the service recovery attempts in the hotel industry because they want to provide some inputs in the process. Men, in contrast, do not express such desire to be heard (McColl-Kennedy et al., 2003). Women also pay more attention to details and form of the design while men are more interested in the functionality of the design (Carev, 2008). Men are more likely to complain than women (Yavas et al., 2012). Female guests are more likely to be delighted by employee friendliness and professionalism, while male tourists are more likely to be delighted by having their needs met, by efficient and timely service and by the availability of complimentary amenities (Torres et al., 2014). Sánchez-Franco et al. (2016) find that

males describe a hotel room basically as a place to sleep. In contrast, the female guests describe cognitively their stays in terms of a restful and relaxing atmosphere.

Segmentation based on gender has been studied in other industries of the economy beyond hotels. For instance, in the financial sector, find that in the banking industry women are more satisfied with the staff empathy in understanding the financial needs, and are more loyal to their banks than men (Belás et al., 2015). These differences are usually underpinned describing men as goal or outcome oriented and women as a communal or social oriented. Hall and Hall (1993) explain that “real-life customer experiences seem to indicate that gender stereotypes are incorporated into customer expectations regarding good service”. Mattila et al. (2003) show how men and women have different valuation ratings when they evaluate service encounters satisfaction. Martín et al. (2017) find that women are less satisfied than men analysing a set of conferences held in an academic institution and concluded that women are more demanding than men about some specific attributes.

2.3. Age

Caruana (2002) identifies that age plays a major role in determining the different perceptions of customers about service quality, satisfaction and loyalty. Barrett (2006) and Hayes (2008) indicate that elder customers become more valuable to the company, highlighting the segment of those who are 51 years old and above. Also, it is important to highlight that information processing declines with age and the satisfaction level too (Gilly & Zeithaml, 1985), because older people change their preferences less than youngsters and are more reactive to changes and innovation (Henry, 2002).

The literature on the topic of age and satisfaction in the hotel industry is even scarcer than other market segmentations. Shanka and Taylor (2004) find that age and residence have a moderating effect on the guests' experienced satisfaction on the physical facilities and the service provision components. Han et al. (2009) analyse the effects of age and gender in a green context, finding that behavioural intention and willingness to pay more are not affected by the overall image for different age groups. Del Chiappa et al. (2016) find that the older passengers are less satisfied than the rest of the passengers analysing the food and beverage retail sector in one airport of Sardinia.

3. QUESTIONNAIRE AND DATA

Guests' satisfaction is analysed in three hotels of Saint-Petersburg in Russia. These three hotels have 5, 4, and 3 stars level. The 5-stars hotel was built in 1912 and is located in the historical city centre. This hotel is part of the "Best hotels in the world. Top 100 - Condé Nast Traveler 2014", and it has also been awarded as the "Best hotel for meetings, 2013" by the Russian Business Travel & MICE. The hotel has 188 rooms, 58 of which are suites and 122 employees take care of the facilities and guests. This hotel is one of the most famous in St. Petersburg. The 4-stars hotel was built in 2005 and is located in a new district of the city, not so well located to the historical attractions. It has 251 rooms of different price categories and 160 employees work in the hotel. The 3-stars hotel is also located in the historical centre, on the main avenue of the city, close to the metro station. The hotel has 164 rooms and 97 employees.

A total of 595 valid questionnaires are obtained in these 3 hotels for a representative sample of these three hotels where guests older than 18 years old are interviewed. The questionnaire was written in Russian and translated into English with 4 pages length. The survey instrument is designed to measure the guests' satisfaction. A 2 steps process was followed to develop the questionnaire. First, a deep literature review over "customer satisfaction in hospitality" and "antecedents of customer satisfaction in hospitality", focusing on service quality of the hotel industry, is used as a base to identify a comprehensive list of attributes that affect guests' satisfaction. After the review, a comprehensive list of 32 attributes is considered, with 30 additional questions that provide other type of relevant information. Second, the questionnaire was finally reviewed by a group of professionals that consists of the general managers of hotels and 3 professors of Universities in the field of tourism. During the focus group issues regarding the wording for the questions, the Likert scale and the labels are discussed.

The questionnaire was finally administered to customers from September 2014 to June 2016. The number of questionnaires by hotel is presented in Table 1. It can be seen that from the total, 32% correspond to the 3-stars hotel, 43% to the 4-stars hotel and 25% to the luxurious hotel.

Table 1. The structure of received questionnaires from 3 hotels (2014-2016)

Hotels	Questionnaires	%
3 Star	189	31,76
4 Star	258	43,36
5 Star	148	24,87
Total	595	100

Source: Compiled by authors

The questionnaire is organized into five sections: (1) Socio-Demographic data; (2) Hotel facilities; (3) Services and friendliness of staff (FOS); (4) Services or facilities not included in the questionnaire that are relevant to the guests; (5) Services or facilities that are important for the hotels in the future.

The first section “socio-demographic data” deals with personal information of respondents and is represented by 16 personal questions and three questions about satisfaction and expectations’ fulfilment on an overall assessment of the hotel facilities, the staff and hotel services and the global hotel quality. 2 additional behavioural questions about whether the customer will visit again and recommend this hotel in terms of decision level were also included. The second and third sections form the core part of this questionnaire, in which the respondents answer about the experienced satisfaction on the hotel facilities, services and friendliness of staff. The hotel facilities are represented by a total of 18 items in a 4-points Likert scale, and services and FOS are represented by 16 attributes in the same Likert scale. The fourth and fifth sections contain relevant information about current missing attributes and important-in-the-future attributes. These sections contain open questions.

The guests respond about the importance, the satisfaction, and the fulfilment of expectations over all the attributes included in the second and third sections. Table 2 shows the linguistic Likert scales applied in the questionnaire.

Table 2. Linguistic Likert scales

Satisfaction level		Importance level		Fulfilment of expectations	
1	Bad	1	Not important at all	1	Much worse than expected
2	Fair	2	Not very important	2	Worse than expected
3	Good	3	Important	3	The same as expected
4	Very good	4	Very important	4	Better than expected

Source: Compiled by authors

A key step to measure the guests’ satisfaction is to identify the attributes that are important to hotel guests. As said, a profound literature review was done to select a list of attributes that can represent adequately the guests’ preferences. Our list extends the previous studies of Li et al. (2012), Magnini et al. (2011) and Zhou et al. (2014). As an example, Zhou et al. (2014) propose the use of 23 specific attributes that can be included in six dimensions: (1) Physical setting-room; (2) Physical setting-hotel; (3) Physical setting-food; (4) Price; (5) Location; and (6) Staff. Our proposal contains 32 attributes extending this previous list with some additional important attributes (Table 3). In particular, it is relevant to mention that the friendliness of staff has been more particularly analysed for some services, in comparison with the previous study where there are only three attributes for the staff: FOS; skills of the staff; and efficiency of the staff in solving problems.

Table 3. List of attributes

Accessibility	Front desk service (check-in)
Front desk facilities	Front desk service (check-in). (FOS)
Information and signs	Correctness of reservation
Food at breakfast	Correctness of reservation (FOS)
Food at a la carte restaurant	Easy reservation
Drinks	Easy reservation (FOS)
Welcome gifts in hotel room	Attentiveness of front desk clerk
Welcome gifts in bathroom	Attentiveness of front desk Clerk (FOS)
Room furniture	Room cleaning at the arrival
Quietness in room	Room cleaning at the arrival (FOS)
Room and hotel security	Room cleaning service during the stay
Furniture/decoration in public areas	Room cleaning service during the stay (FOS)
Furniture/decoration in restaurants and bars	Breakfast in the restaurant
View from hotel room	Breakfast in the restaurant (FOS)
Hotel location (closeness to the city centre)	Restaurant a la carte
Hotel decor and design	Restaurant a la carte (FOS)

Source: Compiled by authors

Table 4 provides some descriptive statistic information about the guests included in the study. It can be seen that the age is divided into six groups: under 25 years, 26-35 years, 36-45 years, 46-55 years, 56-65 years and over 65 years, and that the most representative group corresponds to those whose age is between 46 and 55 years old. Regarding the gender, it is observed that men represents above the 55 % of the sample. With respect to the nationality, it can be seen that the most representative categories correspond to the domestic Russians, the Chinese and the USA citizens.

Table 4 Guests' profile

Variables	Frequency	%
Gender		
Male	329	55,29
Female	266	44,71
Age		
Under 25 years	1	0,17
26-35 years	11	1,85
36-45 years	130	21,85
46-55 years	249	41,85
56-65 years	142	23,87
Over 65 years	62	10,42
Nationality		
Russia	110	18,49
China	89	14,96
USA	65	10,92
France	45	7,56
UK	26	4,37
Spain	24	4,03
Italy	23	3,87
Finland	18	3,03
Others	195	32,77

Source: Compiled by authors

4. METHODOLOGY

The linguistic Likert scales are vague and uncertain. For example, linguistic expressions such as bad, fair, good and very good are interpreted as a natural representation of preferences, or judgments or perceptions of people. The proposed methodology to determine the level of guest satisfaction is based on a particular type of quantified sentences that are applied in the resolution of a great variety of problems that are the consequence of the imprecise information provided by humans in Natural Language (NL) (Delgado et al., 2014). In NL, the quantifiers that represent the notion of constructs like satisfaction, degree of agreement, expectations and behavioural intentions, among others, are by nature imprecise and uncertain, so fuzzy logic is an adequate method for handling this information.

In this paper, the imprecise nature of the responses is analysed by a combined method that integrates the methodology of fuzzy sets with the technique of similarity to ideal solution TOPSIS². This method has been applied in different fields like: (1) business management (Kannan et al., 2014; Liao & Kao, 2011; Zyoud et al., 2016); and (2) civil engineering and transport (Awasthi et al., 2011; Gumus, 2009; Wang & Elhag, 2006); and hospitality (Benitez et al., 2007; Ip et al., 2012; Fu et al., 2011; Ngai & Wat, 2003).

Zadeh (1965) is usually considered the father of the development of fuzzy logic. The origin of the theory is that many of the sets found in reality do not have clear and defined boundaries of the elements that are internally contained. In our case study, the existence of guests who are not very satisfied with each of the attributes included in the analysis can be better formulated with this type of logic. Zadeh (1973) fuzzy logic is the natural methodology that provides a perfect analytical framework to handling linguistic information that can then be analysed through the use of TOPSIS.

In this work the triangular fuzzy numbers TFNs are used. These TFNs are defined by a triplet of real numbers. Each linguistic term is characterized by a triangular fuzzy number (a_1, a_2, a_3) to represent its approximate value range between 0 and 100³, and denoted as (a_1, a_2, a_3) , where $0 \leq a_1 \leq a_2 \leq a_3 \leq 100$. Table 5 shows the set of TFNs that have been chosen for this investigation. One can see that the extreme points are degenerated at the beginning and the end of the interval 0-100, and that the length of the range is 50 when the satisfaction is bad and 30 when the satisfaction is very good. The range of the other two triangular numbers is equal to 40, and the intervals are centred symmetrically on the most likely values

² TOPSIS is an acronym that comes from the English following term: techniques for order preference by similarity of the ideal solution. It is about to establish an algorithm for extracting the relevant information by similarity to positive ideal solutions or difference of the negative ideal solutions.

³ Other ranges as (0-7) o (0-10) are also valid.

50 and 70, respectively. For each segment of analysis, the arithmetic mean of the TFNs is calculated according to the algebra of TFNs (Buckley, 1985) as:

$$\tilde{A} = (a_1, a_2, a_3) = \left(\frac{1}{n} \right) \bullet \left(\tilde{A}_1 \oplus \tilde{A}_2 \oplus \dots \oplus \tilde{A}_n \right) = \left(\frac{\sum_{i=1}^n a_1^{(i)}, \sum_{i=1}^n a_2^{(i)}, \sum_{i=1}^n a_3^{(i)}}{n} \right) \quad (8),$$

where \tilde{A}_i is a TFN, \bullet is the external operator of a scalar and a fuzzy number, and \oplus is the sum operator of fuzzy numbers, so \tilde{A} is the overall average performance evaluation of some hotel (observation) under some attribute over a segment of n interviewed consumers.

As the TOPSIS method needs a matrix of information of real numbers, it is necessary to clarify the information obtained through the process of fuzzy logic expressed by Eq. 1. There are multiple methods to clarify the information, as for example, the "middle-of-maximum", "centre-of-area" and the "alpha-cut" method (Zhao & Govind, 1991).

In this paper, the average proposed by Chen (1996) using $v_{\tilde{A}} = (a_1 + 2a_2 + a_3) / 4$ has been finally preferred. This method has a number of advantages over other proposals for its simplicity and because the prior establishment of a judgment of the investigator is not required.

Once the clarified matrix information V is obtained, the application of the method TOPSIS (Hwang & Yoon, 1981; Zeleny, 1982), which is based on the ideal solutions: positive and negative, is now possible. The positive ideal solution is one that maximizes all the criteria associated with benefit and minimizes all the criteria associated with cost⁴; whereas ideal negative solution is based on the opposite logic. The optimal observation is the one that is closest to the positive ideal solution and farthest from the negative ideal solution. The ranking of observations that can be considered of interest for the researchers in TOPSIS is performed taking into account "the relative similarity of any of these observations to the obtained ideal solutions."

⁴ In this case, there are no cost attributes in the satisfaction scale so the partition between benefit and cost attributes is not necessary.

Table 5. Triangular Fuzzy Numbers TFNs. Representatives of the Likert scale

Linguistic term	TFNs
Bad	(0, 0, 50)
Fair	(30, 50, 70)
Good	(50, 70, 90)
Very good	(70,100,100)

Source: Own elaboration

The ideal solutions are computed as:

$$PIS = \{(\max V_{ij} | j \in J), i = 1, 2, \dots, m\} \quad (9)$$

$$NIS = \{(\min V_{ij} | j \in J), i = 1, 2, \dots, m\} \quad (10),$$

where the ideal solutions *PIS* and *NIS* are the vectors of those segments that are the most and least satisfied with each of the attributes considered in the study.

Once the ideal solutions have been obtained, the synthetic satisfaction index *SAT* for each segment that can be considered of interest is determined by the Euclidean distances between ideal solutions and each segment vector, and the relative closeness to the positive ideal solution as:

$$S_i^+ = dist(V_i, PIS) = \sqrt{\sum_{j=1}^n (V_{ij} - PIS_j)^2} \quad i = 1, 2, \dots, m \quad (11)$$

$$S_i^- = dist(V_i, NIS) = \sqrt{\sum_{j=1}^n (V_{ij} - NIS_j)^2} \quad i = 1, 2, \dots, m \quad (12)$$

$$SAT_i = \frac{S_i^-}{S_i^+ + S_i^-} \quad i = 1, 2, \dots, m \quad (13)$$

Thus, the satisfaction experienced by each of the segments can be obtained by Eq. 6, so an analysis of whether a particular segment is more or less satisfied than the average guest or any other segment can be easily done. This approach has been widely used in different decision contexts and there are good empirical applications in the hotel industry (Benítez et al., 2007; Fu et al., 2011; Stylos, & Vassiliadis, 2015).

The elasticity to quantify the degree of sensitivity of the *SAT* towards changes in each of the attributes considered in the analysis is also calculated. The elasticity is usually understood or defined as the percentage change variation. In mathematical notation, the elasticity can be calculated for each segment *i*, and each satisfaction attribute *j* as:

$$\eta_{ij} = \frac{\Delta\%SAT_i}{\Delta\%V_{ij}} = \frac{dSAT_i}{dV_{ij}} \frac{V_{ij}}{SAT_i} \quad (14)$$

Elasticity values are usually obtained to help hotel managers who can now better understand the most critical attributes that determine the overall satisfaction in the hotel industry. The knowledge of these critical attributes is crucial and important to develop adequate managerial processes and strategies that improve the guests' satisfaction which is usually an important factor to achieve an adequate level of long term success and profitability.

5. RESULTS

For the all the respondents and each segment, the answers were aggregated to obtain the overall average performance valuation as a new TFN for each attribute. Table 6 shows the fuzzy performance measures for the total, the male and the female segments. The remaining segments are omitted for the sake of exposition. Each fuzzy measure represents the overall performance valuation of all the hotels for the particular chosen segments. The table also shows the crisp information of the matrix V that is obtained through the clarification process. Thus, it can be seen that guests are more satisfied with the welcome gifts in the room and the furniture/decoration in restaurants and bars and less satisfied with the process of the reservation and the friendliness of staff in the restaurant a la carte. Similarly, males and females are more satisfied with the friendliness of staff of the reservation service and the service provided at the front desk. Analysing the less satisfier attributes, it can be concluded that for men, these are the view from the room and the welcome gifts in the room (the amenities), meanwhile for women are the room furniture as well as the amenities in the bathroom. It can also be seen that for the majority of the attributes, men are usually more satisfied than women, so it would be plausible to find that men are more satisfied than women according to the SAT indicator.

Table 6 and table 7 here

Table 7 shows the positive and negative ideal solutions, as well as the percentage variation for all the attributes. This table is quite informative as it can be used to determine which attributes are best and least evaluated, and which attributes are more or less homogeneous. It can be observed that there is more homogeneity for these attributes which only show 33% of percentage variation: Accessibility, FOS of the front desk during check-in and the reservation. On the opposite side, it can be seen that the attributes which are characterized by being more heterogeneous are: drinks, quietness in room, room and hotel security, view from hotel room, hotel location (closeness to the city centre), easy reservation and service of front desk. In all these attributes, it can be seen that there exists some segment which evaluates the

attribute at the maximum and minimum level, obtaining in this case the maximum percentage variation. This accused variability may be explained by a dual phenomenon. On the one hand, heterogeneous tourists' preferences might be the cause for this observed variation. On the other hand, the lack of a standard quality in the hotels under analysis might be the origin of this. The table also shows that PIS is formed by the maximum satisfaction experienced for all the attributes, and that the segments are mainly characterized by the hotel category (4 and five stars hotels) and some nationalities. Analysing the values of NIS, it can be concluded that the most heterogeneous attributes are also those which present the lowest possible satisfaction. As an interesting result, it can be highlighted that the segments which experience this lowest satisfaction level are characterized for those tourists who do not recommend the hotel to friends or relatives or do not visit the hotel again. This result is concurrent in the literature. For example, Prasad et al. (2014) find that guest satisfaction is paramount to encourage guest revisit and recommendation, so enhancing guest satisfaction is essential for gaining market shares and improving sustainable growth. They conclude that the analysis of guest satisfaction has a strategical nature that should be incorporated in the missions of all hospitality organizations. The identification of service attributes with low NIS and high variability allow hotel managers to implement actions and strategies that respond effectively to tourists' preferences identifying those facilities and services which can cause a lot of discomfort to guests.

The TOPSIS indicator determines the relative adjacency of each observation with respect to the ideal solutions in order to rank the satisfaction experienced by each of the segments analysed in the study. Figure 1 shows the synthetic indicator of satisfaction experienced by men and women. It can be seen that men are more satisfied than women. This result is similar to the findings obtained by Martín et al. (2017) in the context of the MICE industry and Belás et al. (2015) in the hotel industry. Women pay normally more attention to all the details and they experience more constraints than men because they normally travel with children (Biron et al., 2016; McGreggor et al., 2017). Chen et al. (2016) show that traveling with young children is the least-desired choice, so this constraint can explain in part the low satisfaction experienced by women. Another possible explanation for the result can be originated by income differences, as women usually get inferior wages so maybe they have to stay in hotels of an inferior category (Da Silva, 2016; Nwaka et al., 2016; Schnabel, 2016).

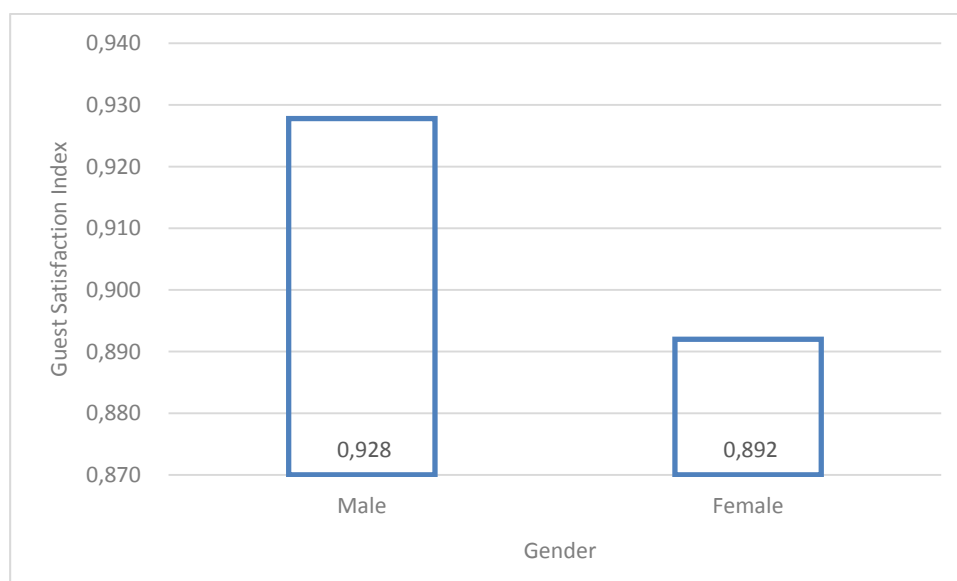


Figure 1. Guest Satisfaction index by gender

Source: on the base of the questionnaire

Figure 2 shows the results of the guest satisfaction index by age. It can be seen that the graph corresponds to an inverted U, where the maximum satisfaction is observed for the group of guests whose age is between 46 and 55 years old. It can also be observed that the segments of millennials those whose age is less than or equal to 35 years old and the baby boomers (age greater than or equal to 66) are less satisfied than the rest of the segments. These two segments are in very different cycles of the professional life, so the income can explain in part this observed result (Chandler, 2004). Similarly, Nicolau and Más (2005) find that income and household size are the two most important personal restrictions that influence the intention to travel. Chen et al., (2009) indicate that young people prefer to stay in economy hotels or B&B, spending the least amount of money on accommodation. Hudson (2000) analyses the patterns on trips and vacation finding that the segment group of age between 27 and 40 years old can be denominated “Insufficient Money and Time”. Thus, it can be inferred that this segment should stay in economic hotels. The author also finds that the senior group does not spend too much money in the luxury class hotels. It is out of the scope of the current study, but the income effect can also be analysed by our approach and this can be an interesting line for future research.

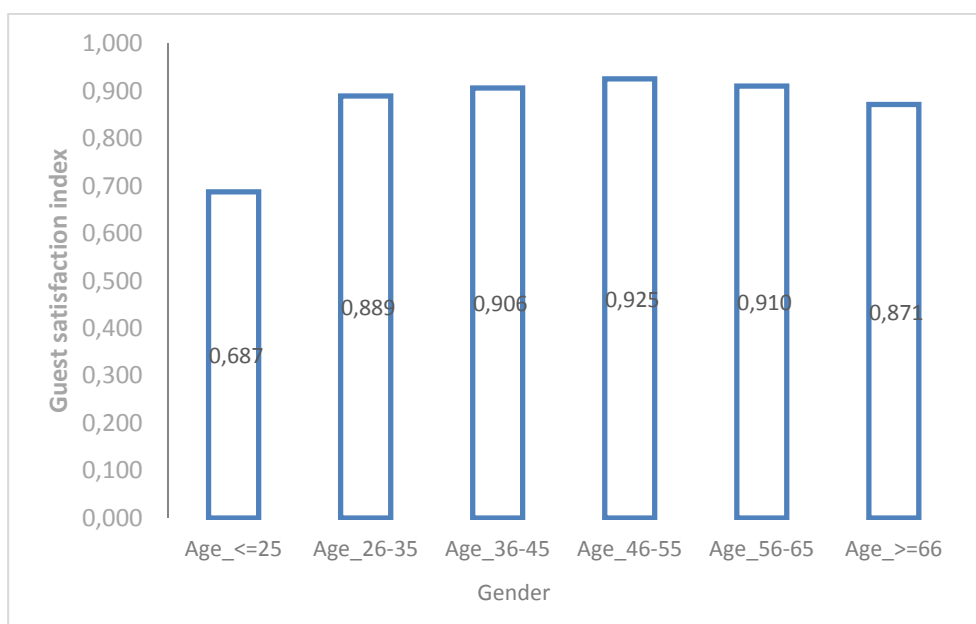


Figure 2. Guest satisfaction index by age

Source: on the base of the questionnaire

This section ends with the analysis of the elasticity of guest's satisfaction by gender and age with respect to all the attributes. This analysis allows hotel managers to determine the most sensitive attributes in order to improve the guests' satisfaction. Table 8 also includes the global elasticity for the whole sample of respondents. It can be seen that for all the attributes the guest's satisfaction is quite inelastic, and that for the whole sample the satisfaction is more elastic with respect to: (1) welcome gifts in the room; (2) furniture/decoration in restaurants and bars; (3) furniture/decoration in public areas; and (4) welcome gifts in the bathroom. On the other extreme, it can be seen that satisfaction is more rigid with respect to: (1) reservation (FOS); (2) reservation; and (3) restaurant a la carte (FOS). These results are similar to those obtained by Schall (2003) and Prasad et al. (2014). Schall identifies three primary factors underlying guest satisfaction ratings: room (cleanliness, functioning amenities, and comfort), food (food experience), and staff (friendliness, helpfulness or accuracy, and promptness of service). Prasad et al. (2014) conclude after analysing the previous literature on hotel guests' satisfaction that service staff quality, room quality, security, and maintenance represent the key areas of importance to the customer.

Table 8 here

Analysing the results by gender, it can be seen that men is a segment more elastic than women. In 21 attributes, the elasticity values are higher. Nevertheless, a similar pattern to the one explained for the whole sample is obtained. . It can also be expected that some of them can dine or eat while they are having a business meeting. According to these results, hotel managers should pay more attention to all

the services related to welcome gifts, furniture and decoration, meanwhile resources dedicated to the reservation area can be wasteful.

The analysis of the results by age varies more than by gender. It can be seen now that the pattern is not as general as in the previous case. The millennials are not as elastic with respect to the welcome gifts, the furniture and the decoration as the rest of the age segments who exhibit a similar pattern to the average sample respondent. The millennials are more elastic with respect to the drinks, the food and the reservation FOS. The sandwich generation, those guests whose age is between 46 and 55 years old, seems to be most elastic segment. The family constraints that are present in this generation, they have teenagers children and ageing parents, are very different in comparison with other age segments. This result can also be affected by the gender variable, as family constraints are usually perceived as a function of the females' gender in regard to the duties associated with parental, marital, and children care as well as all the duties associated with the home. This is a relevant issue for future research where this market segment is going to be very different, and the family constraints evolve dynamically. For example, Medina-Muñoz and Medina-Muñoz (2014), analysing the attractiveness of wellness destinations like Gran Canaria, find that policy planners and destination managers should develop and promote specific wellness packages and experiences with a view to better satisfying the precise needs of the different market segments, in particular they emphasize the groups of friends or parents with children.

6. CONCLUDING REMARKS

Hotels and accommodations of the cities have a basic role in attracting tourists and people travelling to the city. Since business and leisure trips are expected to increase in the near future in Saint Petersburg, it can be said that this study is timely as the hotels should respond the needs of a wide variety of tourist segments who are ready to visit this iconic city.

This research aims to shed some light analysing to what extent the guests' satisfaction can be affected by guests age and gender. To this end, we propose the use of a hybrid model which is based on the fuzzy logic and the TOPSIS as an appropriate technique that resolves the uncertain information provided by the general survey instruments that are usually based on Likert semantic scales.

Our results show that there are attributes more heterogeneous than others, and that NIS is observed for those segments which are not loyal to the hotel, as the behavioural intention to recommend to friends and relatives or to stay again in the hotel obtains very low values. In most of the cases, the guests are sure for not recommending the hotel or for not staying again in the hotel. Meanwhile, PIS vector

achieves the maximum satisfaction values represented by some segments that are mainly characterized by the hotel category (4 and 5 stars hotels) and by some nationality.

Analysing the clarification matrix for the whole sample, it was seen that guests are more satisfied with the welcome gifts in the room and the furniture/decoration in restaurants and bars and less satisfied with the process of the reservation and the friendliness of staff in the restaurant a la carte. Prasad et al. (2014), analysing the staff service quality construct, find that greeting by the front desk staff as the first impression, staff friendliness encountered by the guests and service competence demonstrated by the hotel frontline staff are the main key attributes of the staff service quality.

Similarly, males and females are more satisfied with the friendliness of staff of the reservation service and the service provided at the front desk. Analysing the less satisfier attributes, it can be concluded that for men, these are the view from the room and the welcome gifts in the room (the amenities), meanwhile for women are the room furniture as well as the amenities in the bathroom, so it was seen that the dissatisfiers are gender dependent, in contrast with the satisfiers. Prasad et al. (2014) find that 19% of the problem complains are related to specific services and amenities such as Internet connection, alarm clocks, shampoo, safe box, among others.

Our market segmentation analysis concludes that men are more satisfied than women, and that satisfaction exhibits an U inverted form with respect to age. In the empirical model developed by Prasad et al. (2014) that analyses the moderating effects of satisfaction on intention to revisit and recommend, the authors conclude that part of the unexplained variance could be due to other different market segments like business vs. leisure, length of stay, market origin (e.g., domestic vs. international tourists), cultural background (Tsaor et al., 2005) or other demographics (Tsiotsou & Vasioti, 2006), which need further investigation. The authors conclude that the analysis should be complemented by including demographic attributes as well as other motivational and behavioural attributes since they can influence guest satisfaction. The current study does not use any causal econometric model, but it includes this type of variables in the analysis.

The analysis of the elasticities showed that guest satisfaction is quite inelastic with respect to the whole set of 32 attributes included in the analysis. Nevertheless, it was seen that for the whole sample the satisfaction is more elastic with respect to: (1) welcome gifts in the room; (2) furniture/decoration in restaurants and bars; (3) furniture/decoration in public areas; and (4) welcome gifts in the bathroom. Therefore, these results can be used by hotel managers in order to develop a systematic action plan on these four key attributes that will improve the satisfaction of all hotel guests. On the opposite side, satisfaction is more rigid with respect to: (1) reservation (FOS); (2) reservation; and (3) restaurant a la carte (FOS), and therefore the action plan on these attributes is neither urgent nor needed. Other interesting results were obtained analysing the different market segments. For example, men were a

segment more elastic than women. Regarding the age segment analysis, it was seen that the millennials are not as elastic with respect to the welcome gifts, the furniture and the decoration as the rest of the age segments who exhibited a similar pattern to the average sample respondent. The sandwich generation was the most elastic segment.

At practical level, hotel managers can use the obtained results to realize that guest satisfaction is affected by gender and age. In particular, some useful recommendations were extracted identifying the key factors for men and women as well as for different age market segments. The existence of different key factors posit some major challenges on hotel managers in order to customize the experience of different guests providing them with the higher potential satisfaction, that means fulfilling the previous expectations. Our results can also assist hotel managers to prevent potential misallocation of resources that can be originated by focusing in some factors for whom the satisfaction is more rigid. For example, welcome gifts in the room and in the bathroom are less effective for the millennials, and this result should be taken into account by hotel management.

Though this study uses a hybrid fuzzy-TOPSIS model to analyse guest satisfaction by including 32 attributes obtained through the administration of a survey instrument to a sample of 595 guests in three hotels located in Saint Petersburg, it is not exempt of some limitations. First, the list of attributes is large enough and the content has been validated in other studies, but some important attributes for particular guests might not be included. Second, the sample is selected from the guests of three different category hotels in the city. Therefore, some of the results of this research might be the consequence of existing differences between the gender and age composition of guests at the different hotels. This can be analysed in future research, as the results can be very different especially for the 5-stars luxury hotel. Third, as discussed earlier, market segmentation is recognized as important driver in guest satisfaction and loyalty research. Other demographics, such as education or nationality, as well as other type of variables related to loyalty, can also play a role in the way guests perceive satisfaction with hospitality products and services. These ideas do open new lines of future research.

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UNIVERSITAT ROVIRA I VIRGILI
CUSTOMER SATISFACTION IN HOSPITALITY
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Table 6. TFNs and crisp information for the segments: Total, Men and Women

Attribute	Total		Men		Women	
	TFN	V	TFN	V	TFN	V
Accessibility	(65.24 , 93.27 , 97.19)	87.24	(65.71 , 93.92 , 97.48)	87.76	(64.64 , 92.45 , 96.83)	86.59
Front desk facilities	(68.08 , 97.28 , 98.89)	90.38	(65.71 , 93.92 , 97.48)	87.76	(64.64 , 92.45 , 96.83)	86.59
Information and signs	(67.58 , 96.60 , 98.54)	89.83	(68.72 , 98.12 , 99.33)	91.07	(67.29 , 96.24 , 98.35)	89.53
Food at breakfast	(66.73 , 95.38 , 97.97)	88.87	(68.29 , 97.58 , 98.99)	90.61	(66.70 , 95.38 , 97.99)	88.86
Food at à la carte restaurant	(63.72 , 91.22 , 96.01)	85.54	(67.28 , 96.15 , 98.32)	89.47	(66.06 , 94.43 , 97.54)	88.12
Drinks	(64.60 , 92.61 , 96.52)	86.58	(64.29 , 91.95 , 96.42)	86.15	(62.97 , 90.29 , 95.49)	84.76
Welcome gifts in hotel room	(61.40 , 87.87 , 94.26)	82.85	(65.41 , 93.77 , 97.00)	87.49	(63.61 , 91.18 , 95.92)	85.47
Welcome gifts in bathroom	(62.80 , 89.80 , 95.22)	84.41	(63.69 , 91.11 , 95.75)	85.42	(58.49 , 83.77 , 92.36)	79.60
Room furniture	(67.03 , 95.69 , 98.27)	89.17	(64.92 , 92.87 , 96.55)	86.80	(60.10 , 85.89 , 93.51)	81.35
Quietness in room	(66.60 , 95.24 , 97.84)	88.73	(67.22 , 95.96 , 98.42)	89.39	(66.78 , 95.35 , 98.08)	88.89
Room and hotel security	(68.29 , 97.57 , 98.97)	90.60	(66.95 , 95.71 , 98.13)	89.13	(66.16 , 94.65 , 97.48)	88.24
Furniture/decoration in public areas	(62.43 , 89.40 , 95.18)	84.11	(68.81 , 98.28 , 99.34)	91.18	(67.66 , 96.70 , 98.51)	89.89
Furniture/decoration in restaurants and bars	(61.95 , 88.87 , 94.79)	83.62	(63.63 , 91.06 , 95.94)	85.42	(60.92 , 87.29 , 94.22)	82.43
View from hotel room	(64.23 , 91.87 , 96.43)	86.10	(63.24 , 90.72 , 95.55)	85.05	(60.32 , 86.52 , 93.83)	81.80
Hotel location (closeness to the city centre)	(67.04 , 95.81 , 98.23)	89.22	(65.64 , 93.93 , 97.32)	87.71	(62.48 , 89.32 , 95.34)	84.12
Hotel decor and design	(63.66 , 91.28 , 95.91)	85.54	(67.37 , 96.27 , 98.47)	89.59	(66.64 , 95.25 , 97.92)	88.76
Front desk service (check-in)	(67.93 , 97.00 , 98.84)	90.19	(65.18 , 93.47 , 96.87)	87.25	(61.74 , 88.53 , 94.69)	83.37
Front desk service (check-in). Friendliness of Staff (FOS)	(66.89 , 95.45 , 98.30)	89.02	(68.08 , 97.20 , 98.93)	90.35	(67.74 , 96.75 , 98.72)	89.99
Correctness of reservation	(67.50 , 96.52 , 98.44)	89.75	(67.78 , 96.75 , 98.78)	90.02	(65.77 , 93.85 , 97.70)	87.79
Correctness of reservation (FOS)	(68.15 , 97.32 , 98.96)	90.44	(67.65 , 96.79 , 98.47)	89.92	(67.33 , 96.18 , 98.40)	89.52
Easy reservation	(68.98 , 98.50 , 99.42)	91.35	(68.44 , 97.71 , 99.14)	90.75	(67.79 , 96.83 , 98.74)	90.05
Easy reservation (FOS)	(68.56 , 97.93 , 99.17)	90.90	(68.91 , 98.41 , 99.33)	91.27	(69.08 , 98.62 , 99.54)	91.47

Attentiveness of front desk clerk	(65.41 , 93.78 , 96.77)	87.44	(68.95 , 98.45 , 99.41)	91.31	(68.03 , 97.23 , 98.84)	90.33
Attentiveness of front desk Clerk (FOS)	(66.94 , 95.69 , 98.11)	89.11	(66.04 , 94.65 , 97.22)	88.14	(64.55 , 92.60 , 96.15)	86.48
Room cleaning at the arrival	(67.72 , 96.75 , 98.63)	89.96	(67.21 , 96.10 , 98.24)	89.41	(66.58 , 95.13 , 97.94)	88.69
Room cleaning at the arrival (FOS)	(66.77 , 95.36 , 98.17)	88.92	(68.01 , 97.16 , 98.84)	90.29	(67.35 , 96.25 , 98.37)	89.55
Room cleaning service during the stay	(66.68 , 95.41 , 97.88)	88.85	(66.90 , 95.50 , 98.27)	89.04	(66.61 , 95.20 , 98.03)	88.76
Room cleaning service during the stay (FOS)	(66.68 , 95.13 , 98.17)	88.78	(67.22 , 96.18 , 98.23)	89.45	(66.02 , 94.47 , 97.46)	88.11
Breakfast in the restaurant	(66.87 , 95.63 , 98.08)	89.05	(66.78 , 95.32 , 98.15)	88.89	(66.56 , 94.90 , 98.19)	88.64
Breakfast in the restaurant (FOS)	(67.61 , 96.55 , 98.61)	89.83	(67.22 , 96.14 , 98.30)	89.45	(66.42 , 95.00 , 97.81)	88.56
Restaurant a la cart	(66.96 , 95.76 , 98.09)	89.14	(67.61 , 96.60 , 98.56)	89.84	(67.60 , 96.50 , 98.67)	89.82
Restaurant a la cart (FOS)	(69.01 , 98.57 , 99.43)	91.40	(68.05 , 97.30 , 98.81)	90.36	(65.60 , 93.87 , 97.20)	87.63

Table 7. Ideal Solutions

Attribute	PIS		NIS		Perc. Variation
	Value	Segment	Value	Segment	
Accessibility	92.50	'Andorra'	70.00	'I would not visit this hotel for sure'	32.14%
Front desk facilities	92.50	'5 Star'	50.00	'I would not visit this hotel for sure'	85.00%
Information and signs	92.50	'4 Star'	63.33	'Lithuania'	46.05%
Food at breakfast	92.50	'5 Star'	58.33	'I would not recommend this hotel for sure'	58.57%
Food at à la carte restaurant	92.50	'5 Star'	40.63	'Latvia'	127.69%
Drinks	92.50	'5 Star'	12.50	'I would not visit this hotel for sure'	640.00%
Welcome gifts in hotel room	92.50	'5 Star'	29.05	'I would not recommend this hotel probably'	218.44%
Welcome gifts in bathroom	92.50	'5 Star'	32.88	'I would not recommend this hotel probably'	181.37%
Room furniture	92.50	'5 Star'	31.67	'I would not recommend this hotel for sure'	192.11%
Quietness in room	92.50	'5 Star'	12.50	'I would not visit this hotel for sure'	640.00%
Room and hotel security	92.50	'5 Star'	12.50	'I would not visit this hotel for sure'	640.00%
Furniture/decoration in public areas	92.50	'5 Star'	49.71	'I would not visit this hotel probably'	86.09%
Furniture/decoration in restaurants and bars	92.50	'5 Star'	49.20	'I would not recommend this hotel probably'	88.02%
View from hotel room	92.50	'Armenia'	12.50	'I would not visit this hotel for sure'	640.00%
Hotel location (closeness to the city centre)	92.50	'Andorra'	12.50	'I would not visit this hotel for sure'	640.00%
Hotel decor and design	92.50	'5 Star'	37.50	'I would not recommend this hotel for sure'	146.67%
Front desk service (check-in)	92.50	'Andorra'	50.00	'Turkmenia'	85.00%
Front desk service (check-in). Friendliness of Staff (FOS)	92.50	'5 Star'	70.00	'Turkmenia'	32.14%
Correctness of reservation	92.50	'5 Star'	50.00	'Turkmenia'	85.00%
Correctness of reservation (FOS)	92.50	'5 Star'	70.00	'Slovenia'	32.14%
Easy reservation	92.50	'4 Star'	12.50	'I would not recommend this hotel for sure'	640.00%
Easy reservation (FOS)	92.50	'5 Star'	50.00	'Brazil'	85.00%
Attentiveness of front desk clerk	92.50	'5 Star'	12.50	'I would not visit this hotel for sure'	640.00%
Attentiveness of front desk Clerk (FOS)	92.50	'5 Star'	50.00	'Chile'	85.00%

Room cleaning at the arrival	92.50	'4 Star'	50.00	'I would not visit this hotel for sure'	85.00%
Room cleaning at the arrival (FOS)	92.50	'5 Star'	50.00	'Norway'	85.00%
Room cleaning service during the stay	92.50	'5 Star'	52.50	'Luxemburg'	76.19%
Room cleaning service during the stay (FOS)	92.50	'Armenia'	58.33	'I would not visit this hotel for sure'	58.57%
Breakfast in the restaurant	92.50	'5 Star'	50.00	'I would not visit this hotel for sure'	85.00%
Breakfast in the restaurant (FOS)	92.50	'5 Star'	59.00	'Latvia'	56.78%
Restaurant a la cart	92.50	'Andorra'	50.00	'Chile'	85.00%
Restaurant a la cart (FOS)	92.50	'4 Star'	50.00	'Chile'	85.00%

Table 8. Elasticities of Guest Satisfaction with each attribute by gender and age

Attribute	Total	Gender		Age					
		Male	Female	<=25	26-35	36-45	46-55	56-65	>=66
Accessibility	0.062	0.069	0.056	0.012	0.024	0.076	0.076	0.047	0.029
Front desk facilities	0.032	0.029	0.035	0.050	0.043	0.039	0.028	0.033	0.025
Information and signs	0.037	0.034	0.039	0.016	0.056	0.043	0.033	0.035	0.032
Food at breakfast	0.047	0.049	0.045	0.018	0.042	0.040	0.044	0.056	0.047
Food at à la carte restaurant	0.081	0.090	0.073	0.027	0.100	0.084	0.080	0.082	0.065
Drinks	0.074	0.076	0.071	0.065	0.105	0.070	0.074	0.072	0.067
Welcome gifts in hotel room	0.106	0.099	0.109	0.058	0.057	0.108	0.103	0.099	0.111
Welcome gifts in bathroom	0.092	0.083	0.097	0.031	0.056	0.104	0.085	0.084	0.098
Room furniture	0.047	0.052	0.043	0.032	0.031	0.047	0.042	0.051	0.051
Quietness in room	0.053	0.057	0.050	0.042	0.033	0.048	0.056	0.047	0.064
Room and hotel security	0.034	0.031	0.037	0.042	0.033	0.024	0.036	0.034	0.045
Furniture/decoration in public areas	0.093	0.097	0.088	0.050	0.058	0.089	0.094	0.094	0.088
Furniture/decoration in restaurants and bars	0.097	0.102	0.092	0.051	0.043	0.092	0.095	0.102	0.097
View from hotel room	0.078	0.074	0.081	0.065	0.076	0.069	0.079	0.088	0.069
Hotel location (closeness to the city centre)	0.048	0.051	0.046	0.042	0.061	0.036	0.055	0.043	0.052
Hotel decor and design	0.081	0.077	0.083	0.029	0.073	0.080	0.078	0.086	0.078
Front desk service (check-in)	0.034	0.038	0.031	0.050	0.044	0.041	0.035	0.033	0.021
Front desk service (check-in). Friendliness of Staff (FOS)	0.044	0.041	0.046	0.012	0.024	0.039	0.045	0.048	0.044
Correctness of reservation	0.039	0.044	0.035	0.050	0.043	0.031	0.039	0.044	0.037
Correctness of reservation (FOS)	0.030	0.031	0.028	0.012	0.038	0.023	0.032	0.038	0.017
Easy reservation	0.026	0.029	0.024	0.067	0.015	0.025	0.029	0.023	0.026
Easy reservation (FOS)	0.027	0.026	0.028	0.057	0.110	0.023	0.030	0.026	0.020
Attentiveness of front desk clerk	0.066	0.069	0.064	0.065	0.086	0.057	0.076	0.061	0.056
Attentiveness of front desk Clerk (FOS)	0.045	0.050	0.042	0.023	0.050	0.039	0.058	0.031	0.045

Room cleaning at the arrival	0.037	0.039	0.035	0.050	0.027	0.026	0.037	0.040	0.043
Room cleaning at the arrival (FOS)	0.047	0.055	0.041	0.050	0.027	0.046	0.047	0.047	0.047
Room cleaning service during the stay	0.048	0.049	0.046	0.049	0.009	0.048	0.048	0.048	0.046
Room cleaning service during the stay (FOS)	0.048	0.056	0.041	0.047	0.009	0.042	0.052	0.051	0.043
Breakfast in the restaurant	0.046	0.050	0.043	0.050	0.043	0.032	0.053	0.051	0.040
Breakfast in the restaurant (FOS)	0.037	0.044	0.031	0.047	0.055	0.027	0.045	0.039	0.024
Restaurant a la carte	0.045	0.038	0.050	0.023	0.072	0.052	0.043	0.039	0.039
Restaurant a la carte (FOS)	0.022	0.021	0.023	0.050	0.010	0.019	0.023	0.024	0.015

PAPER VI

A gender and age segmentation analysis in Saint Petersburg. A case study for 3 and 4 stars hotels

Abstract: Hospitality is one of the most profitable tourism's activity and hotel managers try to have more guests each year. Despite of this fact, satisfaction and segmentation analysis for different category hotels is very scarce. Hence, this study is an attempt to fill this gap by analysing how gender and age of visitors in hotels of three and four stars in Saint Petersburg (Russia) influence in different way satisfaction level of guests. The sample consists of 447 questionnaires, and the data analysis is performed via the hybrid method built from the fuzzy logic and optimal solutions. Fuzzy set theory has become a standard technique to resolve in part the uncertain information provided by guests. The results of the study show that the managers should pay more attention to the segmentation analysis and that this should be done individually taking into account the category of the hotel which clearly affects the guests' satisfaction. This research fills an important existing gap in the previous analysis finding important differences taking into account the guests' satisfaction under the binomial of hotel category and market segmentation based on age and gender.

Keywords: hotel market segmentation; guests' satisfaction; age; gender; Fuzzy numbers; TOPSIS

1. INTRODUCTION

Customer satisfaction (CS) is one of the key judgments that consumers make with regard to a tourism service (Rathnayake, 2015). This is a reason why CS is one of the

most researched areas in tourism studies due to its importance for the tourism business (Gursoy et al., 2007). To be successful, an organization must give customers what they want, when they want, and how they want (Mey et al., 2006). Thus, the enterprises should constantly measure CS (Kessler, 1996). Also, CS in hospitality segment is one of the important themes within scientific research in tourism. However, Campo and Yagüe (2009) underline that the CS factors are still under the debate in the academic literature. Information about CS and tourism industry is very limited and sometimes controversial (Moufakkir, 2010). Publications in English language on CS over tourism cases in American, European, Chinese and Asian regions dominate the scientific publications. Although, a block of literature on CS in other than English languages also exists, the research of these countries has not been compared with the predominant ones. Additionally, Martin-Fuentes (2016) confirmed that the hotels classification system adequately fulfils its function regarding the analysis of customer satisfaction. For this reason, the main goal of this study is to examine if there are differences and particularities on the CS analysis analysing the market segments based on age and gender and taking into account two different hotel categories, name list three and four stars hotels. Two hotels are selected in an iconic Russian destination (Saint-Petersburg). To our knowledge, this is the first attempt to make such analysis.

Other previous studies have researched this topic separately, analysing either the CS in different hotel categories or CS for similar market segments based on age and gender. For example, Inbakaran and Jackson (2005) analyse CS on resort hotels and find that the age factors affect more than gender. Zhou et al. (2014) underline the importance to investigate CS according to the hotel's stars level. The authors analyze the factors that affect CS in three, four and five stars hotels in 40 countries in Asia but they do not extend the research using market segmentation, as well as they do not include in the hotels sample any hotel in Russia or in the Former Soviet Union.

Saint-Petersburg (Russia) is still an iconic destination for Russian and non-Russian travellers able to attract an important number of tourists because of a wide variety of

attractions including but not limited to museum areas. Although the importance of the tourist sector in the city is more than evident, it is paradoxical that the research studies related to CS in the hospitality industry in Saint-Petersburg or Russian hotels is inexistent. Saint Petersburg attracts travellers from over the world as, “the attraction motivates large numbers of people to visit it, usually for leisure” (Ho & Ap, 2009, p.3). These travellers usually have different expectations of hotel services which, in turn, have an effect on their overall satisfaction levels.

2. LITERATURE REVIEW

Nowadays CS in hospitality becomes a major area of attention to practitioners and academic researchers, because the more satisfied the customers are, the more likely they would return to hotels, because both satisfaction and the number of previous visits have a positive effect on intention to return (Alegre & Cladera, 2009). At the same time, “hotels have to invest in managing their relationships with customers and maintaining quality to ensure that customers whose loyalty is in the short term will continue to be loyal in the long term” (Mbuthia et al, 2013 p.22).

Guests’ preferences are dynamic and they need to be constantly monitored to facilitate effective managerial practices in the hotel industry (Curaković et al., 2013). This is the reason why numerous studies analyse attributes that travellers feel important regarding their satisfaction (Amissah, 2013), and the key problem leading hotel management resides in the implementation of measure that retain and fascinate customers (Shi & Su, 2007).

A customer is satisfied when an offering performs better than expected and is dissatisfied when expectations exceed performance (Bolton & Drew, 1991). For example, cleanliness, security, value for money and courtesy of staff are the main attributes that determine CS according to Atkinson (1988). While Choi and Chu (2001) point out that staff quality, room qualities and value as the top three hotel factors that determine travellers' satisfaction. These determinants were also indicated

by Barsky and Labagh (1992) who find employee attitude, location and rooms like the most influenced attributes for travellers' satisfaction.

Additionally, it is important to note that the quality standards provided by a hotel correspond to its category, usually reflected in the number of stars it has. However, although hotels are classified according to their category, more than one hotel rating system confuses customers in making a choice, because sometimes the same hotel is assigned by different rating levels (Daily, 2004).

Tawinunt et al. (2015) find that organizations need to listen to the clients' needs as an strategy to increase customer loyalty and satisfaction, resulting in higher revenues and long-term profitability. Thus, guests do not only expect a comfortable place to stay with various attributes that make them feel satisfied, but also expect to receive positive emotions.

Huertas-García et al. (2012) underline high contributions of CS attributes to a wide variety of research contexts such as income, number of family members, age, environment and attitudes toward holidays. Although a wide range of studies has produced numerous lists of key CS attributes, it is difficult to present a closed accepted list. For example, Knutson et al. (1990) indicate five attributes in hospitality: reliability; assurance; responsiveness; tangibles; and empathy. However, Saleh and Ryan (1991) develop other five dimensions in hospitality: conviviality; tangibles; reassurance; avoid sarcasm; and empathy. Min and Min (1997), analysing Korean luxury hotels, reported two major service criteria "overall room values" and "front-office services" that sub-classified into seven different categories. Kandampully and Suhartanto (2000) conclude that not all hotels' attributes could be equally important for guest and identified four factors (reception, housekeeping, food and beverages, and price) as the most important attributes in determining CS in hotels in New Zealand. Juwaheer and Ross (2003), analysing the service quality in Mauritian hotels, conclude that there are 2 groups of factors that would lead to high guest satisfaction: "assurance factors" (security and safety of guests, effective handling of complaints

and problems resolution by hotel staff), and “reliability factors” (hotels perform tasks that promised to guests and resolve problems encountered by guests).

Gu and Ryan (2008), analysing CS from a sample of 941 Chinese hotel guests, find that CS can be better explained via factors like cleanliness, room size, decor, and comfort. These results are similar to those obtained by Danziger et al. (2004) who also find that the star rating system is a powerful tool used by guests in hotel selection. A more recent study by Darini and Khozaei (2016) indicates that hotel location, food management, cleanliness, facilities, design and staff behaviour are the main attributes of CS within the three-star hotels in Dubai.

In general and not only in hospitality, Hall and Hall (1993) underline that in the real life customer experiences seem to indicate that gender stereotypes are incorporated into customer expectations regarding good services. This point of view is shared by Oh et al. (2002) who explain that the customers’ gender can affect the product evaluation and service consumption. There are numerous examples showing that this is the case. For instance, Sánchez-Franco et al. (2016) find that males describe a hotel room basically as a place to sleep. Mattila et al. (2003) explain that men and women differ according to the satisfaction over service. Han et al. (2009) explain that gender should be taken into consideration during the satisfaction analysis. Regarding the age, the literature is not so abundant, but Del Chiappa et al. (2014) find that the older passengers are less satisfied than the rest of the passengers analysing the food and beverage retail sector in one airport of Sardinia.

3. QUESTIONNAIRE AND DATA

In this research, CS is analysed in two hotels of Saint-Petersburg in Russia (3 and 4 stars). The 4 stars hotel was built in 2005 in a new district of Saint Petersburg in a distance from the historical attractions. It has 251 rooms of different price categories and is serviced by 160 employees. While, 3 stars hotel is located in the historical

centre, on the main avenue and close to the metro station. This hotel has 164 rooms of different standards and employs 97 persons.

The simplest way to determine what services customers like or prefer is to ask it to them. Gilbert and Horsnell (1998) and later Su (2004) base their works on guest comment cards that are commonly used for determining hotel CS. However, other researchers prefer questionnaires, for instance, Saayman et al. (2010) indicate that visitors' surveys are the most common technique used to obtain information on what visitors need and expect. So, to reach the goal of this study a questionnaire was administered to guests from September 2014 to June 2016. The number of valid questionnaires obtained by the interviewers is 447. The respondents are filtered to be guests older than 18 years old, and a representative sample according to quotas for age and gender is obtained and presented in Table 1.

Table 1. The structure of valid received questionnaires (2014-2016)

Hotels	Questionnaires	%
3 Star	189	42,28
4 Star	258	57,72
Total	447	100

Source: Compiled by authors

It can be seen that 42% of received questionnaires correspond to the 3 stars hotel and 58% to the 4 stars hotel.

In this research, the two steps process to develop the questionnaire is applied. Firstly, a deep literature review over "CS determinants", focusing on service quality of the hotel industry, is used as a base to identify a comprehensive list of attributes that affect CS. After the review, a comprehensive list of 32 attributes is considered, with 30 additional questions that provide other type of relevant information. Secondly, the questionnaire was finally reviewed by a group of professionals that consists of the general managers of hotels and 3 professors of Universities dedicated to tourism area.

During the focus group issues regarding the wording for the questions, the Likert scale and the labels were discussed.

Finally, the questionnaire consists of 4 pages organized into five sections written in Russian and translated into English. The first section “socio-demographic data” deals with personal information of respondents and contains 16 personal questions; 3 questions about satisfaction and expectations’ fulfilment on an overall assessment of the hotel facilities, the staff and hotel services and the global hotel quality; 2 additional behavioural questions about whether the customer will visit again and recommend this hotel in terms of decision level were also included. In the second and third sections of the questionnaire, there are questions about the experienced satisfaction on the hotel facilities, services and friendliness of staff. The hotel facilities are represented by a total of 16 items (Table 2) in a 4-points Likert scale (Table 3), and services and friendliness-of-staff (FOS) are represented by 16 attributes (table 2) in the same Likert scale (table 3). The fourth and fifth sections are dedicated to the current missing attributes and important-in-the-future attributes and contain open questions.

Table 2. List of attributes

Accessibility	Front desk service (check-in)
Front desk facilities	Front desk service (check-in). (FOS)
Information and signs	Correctness of reservation
Food at breakfast	Correctness of reservation (FOS)
Food at à la carte restaurant	Easy reservation
Drinks	Easy reservation (FOS)
Welcome gifts in hotel room	Attentiveness of front desk clerk
Welcome gifts in bathroom	Attentiveness of front desk Clerk (FOS)
Room furniture	Room cleaning at the arrival
Quietness in room	Room cleaning at the arrival (FOS)
Room and hotel security	Room cleaning service during the stay
Furniture/decoration in public areas	Room cleaning service during the stay (FOS)
Furniture/decoration in restaurants and bars	Breakfast in the restaurant
View from hotel room	Breakfast in the restaurant (FOS)
Hotel location (closeness to the city centre)	Restaurant a la cart
Hotel decor and design	Restaurant a la cart (FOS)

Source: Compiled by authors

The list of 32 attributes appears after a profound literature review (Choi and Chu, 2001; Zhou et al., 2014). Our study extends some of the previous analysed research, particularly in regard to FOS where this construct is usually studied using only three items: friendliness of staff (FOS); skills of the staff; and efficiency of the staff in solving problems. Table 3 shows the linguistic Likert scales applied in the questionnaire.

Table 3. Linguistic Likert scales

Satisfaction level		Importance level		Fulfilment of expectations	
1	Bad	1	Not important at all	1	Much worse than expected
2	Fair	2	Not very important	2	Worse than expected
3	Good	3	Important	3	The same as expected
4	Very good	4	Very important	4	Better than expected

Source: Compiled by authors

Table 4 presents some basic characteristics of the guests' profile.

Table 4. Guests' profile

Variables	Frequency 3 star hotel		Frequency 4 star hotel		Frequency Total	
		%		%		%
Gender						
Male	84	44,44	149	57,75	233	52,13
Female	105	55,55	109	42,25	214	47,87
Age						
26-35 years	7	3,70	4	1,55	11	2,46
36-45 years	33	17,46	75	29,07	108	24,16
46-55 years	63	33,33	130	50,39	193	43,18
56-65 years	52	27,51	33	12,79	85	19,02
Over 65 years	34	17,99	16	6,20	50	11,19
Nationality						
China	15	7,94	72	27,91	87	19,46
Russia	42	22,22	44	17,05	86	19,24
USA	17	8,99	36	13,95	53	11,86
France	15	7,94	17	6,59	32	7,16
Italy	5	2,65	13	5,04	18	4,03
UK	6	3,17	11	4,26	17	3,80

Chapter 5. Paper VI.

Spain	5	2,65	12	4,65	17	3,80
Holidays	92	48,68	29	11,24	121	27,07
Business	97	51,33	229	88,76	326	72,93
Work status						
Active worker	146	77,25	248	96,12	394	88,14
Retired	40	21,16	8	3,10	48	10,74
Others	3	1,59	2	0,78	5	1,12

Source: Compiled by authors

Regarding the age, it can be seen that the most representative group is between 46 and 55 years old in both hotel categories. Regarding the gender, the men are the most represented group in 4 stars hotel, while women represent 55% in 3 stars hotel. Also the nationalities vary according to the hotel rating. In total, the visitors from Former Soviet Union are prevalent. The international guests mainly come from China and USA. Regarding the EU, it can be seen that France has a dominant position. Nevertheless, it is also interesting to remark that Russian and Chinese customers visit Saint-Petersburg mainly for business purposes.

The table 4 also shows that active working population is the predominant class regarding the occupation. This is especially reinforced for the 4 stars hotel which shows in parallel that most of the guests are coming to the city for business.

These results concur with the findings obtained by Karunaratne and Jayawardena (2010) who indicate that the presence of guests coming for business is more important in high ranking star hotels.

4. RESEARCH METHODOLOGY

This paper is based on the same methodology explained in Paper V, so for the sake of exposition, this section is omitted and readers are referred to the respective section in the previous paper.

5. RESULTS

Table 6 shows the TFN vectors for the total, the males and the female, as well as the crisp vectors after applying the clarification procedure for the 3 and 4 stars hotels. This table is shown to explain in detail one of the steps carried out by applying the fuzzy hybrid model explained. It can be seen that in both hotels the guests are more satisfied by front desk facilities, security in room and hotel. Gender varies substantially in the following attributes: women are more satisfied regarding the welcome gifts in the room and furniture, while men are on the other hand more satisfied regarding the security services. Similarly, guest of 4 stars hotel are more satisfied of the easy reservation, view from the room and decoration, in contrast to 3 stars hotel guests. However the biggest gap exists in food a la cart satisfaction, where guest of 3 stars hotel are less satisfied. In general, it can be seen that men are more satisfied than women that would be agreeable to support by the SAT indicator. Secondly it would be plausible to find that guests of 4 stars hotel have less dissatisfied attributes. This conclusion is supported by Callan (1995) and Chikosha and Vutete (2014) as both studies conclude that CS is in positively correlated with hotel rating.

Table 6 here

At the same time, the satisfaction could be analysed according to the age preferences in hotels of different categories (tables 7 and 8).

Table 7 and 8 here

It can be seen that the satisfaction attributes vary substantially according to the age. Within all attributes of our research, the maximum satisfaction in the 3 stars hotel is observed in the age segments of guests between 46-55 and 56-65 years old. While, the less satisfied age segment is over 66 years old. It is important to note that this

category is unsatisfied equal for all attributes of 3 stars hotel, and contrary the easy reservation attribute is the most satisfied point.

Table 9 and 10 here

Table 9 and 10 demonstrate the positive and negative ideal solutions and percentage variation for all the analysed attributes. This table is very useful for hotel managers in order to know which attributes generate more or less satisfaction to guests, and which are more or less homogeneous from an ideal positive situation and a negative one. According to the obtained data in both hotels, there is more homogeneity for most attributes in 4 stars hotel (30 attributes of the total of 32) with a 85% of percentage variation, while less attributes (only 19 attributes) show this percentage in 3 stars hotel. Contrarily, only two attributes (welcome gifts in hotel and welcome gifts in hotel room) shows the highest percentage variation (640%) between positive and negative level, so these attributes are more heterogeneous in terms of satisfaction. It is also remarkable that all the attributes in this particular set of homogenous attributes show a negative value higher than 50 meaning that even for this unsatisfied segment, the performance is not perceived very negatively. In some of the attributes, it can be seen that there exists some segment which evaluates the attribute at the maximum and minimum level, obtaining in this case the highest percentage variation. In the 4 stars hotel, a particular segment can be distinguished “accommodation” (bed and breakfast) as the most repeated segment that evaluates negatively most of the attributes for the negative ideal solution. The most heterogeneous attributes are also those which present the lowest possible satisfaction.

Regarding to 3 stars hotel, there are 10 attributes that present higher levels of percentage variation, so are more heterogeneous. In addition to the two attributes cited for the four-star hotel, these are drinks, quietness in the room, room and hotel security, furniture/decoration in restaurants and bars, view from hotel room, hotel location (closeness to the city center), easy reservation, and attentiveness of front desk clerk. In the 3 stars hotel, we find some other attributes with an intermediate level of

homogeneity in terms of satisfaction as: room furniture and hotel décor and design. In this case, many different segments evaluate the attributes at the maximum and minimum levels. For instance, the segments Former Soviet Union and Russian guests in the positive ideal solution, and segment of guests that answered 'I would not visit this hotel probably' in the negative one in 4 stars hotel. A similar analysis can be done for 3 stars hotel. In the positive case, segments which present higher level of percentage variation are basically guests that answered 'I would not visit this hotel for sure' and those who had to pay 'Price 501-750 euros'. The heterogeneity on the satisfaction experienced by the ideal solutions might be explained by a dual cause. On the one hand, heterogeneous tourists' preferences might in part explain this observed variation. On the other hand, the lack of a standard quality procedures in the hotels under analysis might be the origin of this. To wrap up, it can be concluded that the hotel of 4 stars shows a more homogenous performance in terms of satisfaction than the counterpart 3 stars hotel. It can also be highlighted that the guest with the lowest satisfaction level do not recommend the hotel to friends or relatives or do not visit the hotel again.

Moving now to the results obtained for the satisfaction synthetic index, it can be seen (Figures 1-4), that figure 1, 2, 3 and 4) that females are more satisfied than males in the 3 stars hotel, in contrast with what we observe in the 4 stars hotel where males are more satisfied than females. This finding can be partly explained by a different composition of business trips between males and females, and a different pattern regarding the previous visits to the hotel. Nevertheless, this tentative explanation should be explored taking into account the interaction between gender and the two commented variables: trip purpose and number of previous visits.

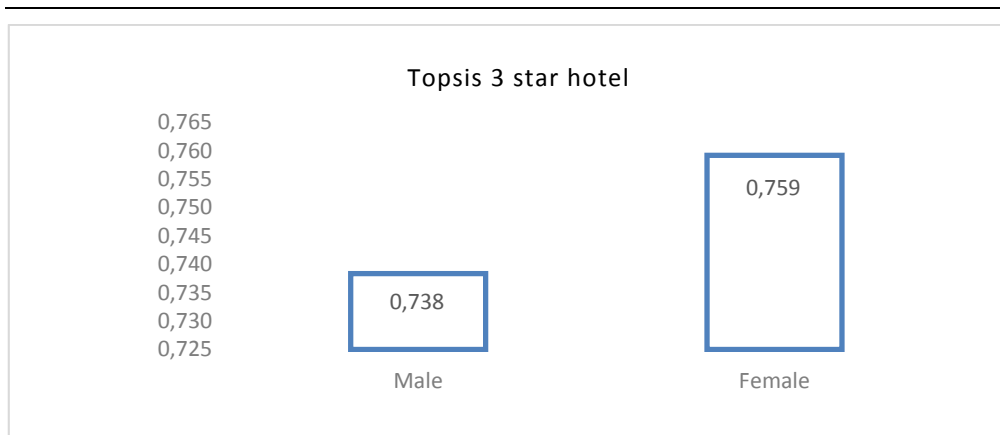


Figure 1. Guest Satisfaction index by gender in three stars hotel

Source: Compiled by authors

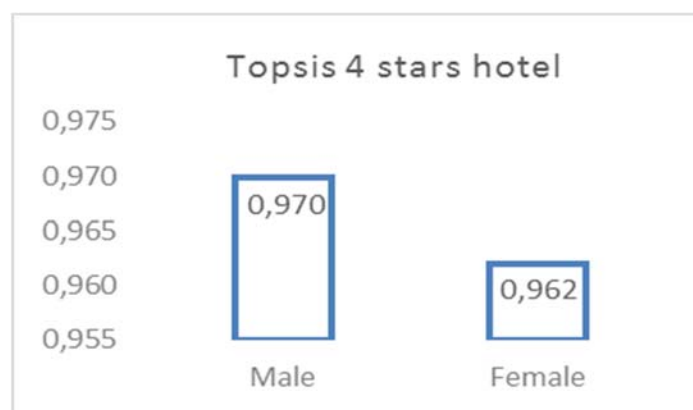


Figure 2. Guest Satisfaction index by gender in four stars hotel

Source: Compiled by authors

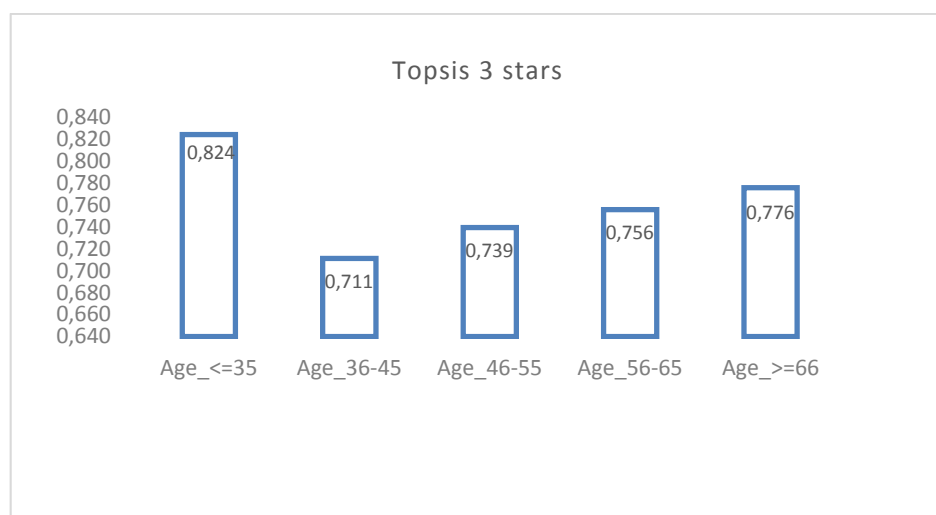


Figure 3. Guest satisfaction index by age in three stars hotel

Source: Compiled by authors

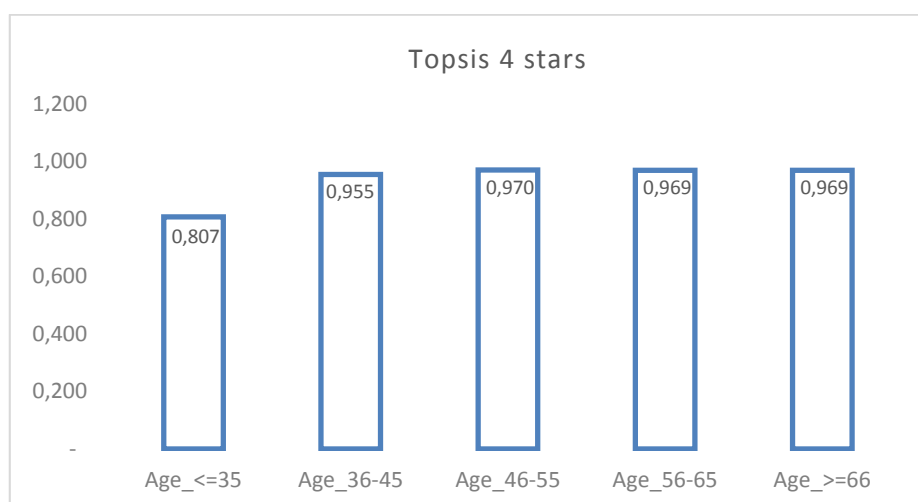


Figure 4. Guest satisfaction index by age in four stars hotel

Source: Compiled by authors

In the 3 stars hotel, the age guest segment ≤ 35 years old is more satisfied than the rest of age segments, in contrast what is observed in the 4 stars hotel in which this segment is less satisfied than the rest. It might be possible that the causality in this segmentation is more related with an income effect as the young generation usually is less affluent as they are in the initial stage of the labour life.

This section ends with the analysis of the elasticity values (Tables 10 and 11). The elasticity shows the percentage variation of CS by total, age and gender segments with respect to a one percent variation in all the attributes. Thus, the hotel managers can obtain a very valuable information in order to implement strategies according to the more or less elastic attributes.

Tables 10 and 11 here

Tables 10 and 11 inform about which attributes have more or less influence on guest satisfaction for the both hotels. This information could be very useful to managers of hotel in order to decide the best actions they have to implement to improve the level of satisfaction of their customers. As we first can observe, for all attributes customer' satisfaction is quite inelastic in both of hotels, nevertheless the results for the three stars hotel show that all the segments are usually less elastic with respect to the majority of the attributes than for the four stars hotel. Analysing now the results of Table 10, it can be seen that the ten more elastic values are observed in the following attributes (in parenthesis the respective segments are written): drinks (≤ 35 years old), welcome gifts in hotel room (total, females, age [36-45, 46-55, ≥ 66]), welcome gifts in the bathroom (36-45), furniture decoration in restaurants and bars (males, age 56-65), easy reservation FOS (age ≤ 35). On the other hand, seeing now the ten more inelastic values, we obtain the following results: check-in (age ≥ 66), correctness of reservation FOS (age ≥ 66), easy reservation (age ≤ 35), easy reservation FOS (age ≥ 66), room cleaning service (age ≤ 35), room cleaning service FOS (age ≤ 35), restaurant a la carte FOS (males, age [≤ 35 , 36-45, ≥ 66]). These results show that for the 3 stars hotel, it seems that CS is more elastic with respect to tangibles and is

more inelastic with respect to services. It is especially important the obtained result for the welcome gifts in the hotel room as it is the most representative attribute with 5 included segments.

The same analysis of Table 11 helps us to conclude that the more elastic values are obtained for the following attributes: accessibility (total, males, females, age [36-45, 46-55, 56-65, >=66]), food a la carte restaurant (age 56-65), restaurant a la carte service (females, age 56-65); and the most inelastic values are obtained for the majority of the attributes for the young age segment <=35 which is very inelastic in this type of establishment.

According to the results, the managers of both hotels have a very different pattern of possible strategies that increase the CS. In the case of the 3 stars hotel, managers should analyse a policy of incorporating welcome gifts in the room and in the bathroom, meanwhile the managers in the 4 stars hotel need to make a further research regarding the accessibility and the restaurant a la carte. The results put in value that the segments analysed in the study show very different preferences and this fact should be taken into account by the hotel managers.

6. CONCLUSIONES

Tourism is one of the main industries in the modern economy of each country, and hospitality plays a critical role in tourism. Consequently, the increase of guest satisfaction in hospitality might determine the competitiveness of the tourist destinations. The objective of this paper is to respond whether the preferences of different tourist segments that are ready to visit the iconic city Saint-Petersburg affect CS.

This study analyses to what extent the age and gender might influence guests' satisfaction and how this varies according to the stars level of the hotel. To reach this aim, a hybrid model based on the fuzzy logic TOPSIS is applied as one of the most

preferred methods to overcome the uncertainty associated to the survey instruments based on Likert semantic scales.

The findings indicate that the differences on the preferences of the segments under analysis are not negligible, and that the hotel categories also determine important observed peculiarities. Men are more satisfied than women in 18 attributes of 32 in 3 stars hotel, and in 25 attributes in 4 stars hotel. Nevertheless, females are more satisfied in the case of the 3 stars hotel, in contrast with the results obtained in the case of the 4 stars hotel. The same difference is maintained for the case of the age segments in which we obtain that the young segment of guests under 35 years old is more satisfied than the rest of the segments for the 3 stars hotel in contrast with the opposite result observed for the 4 stars hotel.

In the same breath, analysing the satisfaction attributes, it is found that the level of satisfaction for the representative guest in the 4 stars hotel is higher than for the 3 stars hotel, corroborating in this case the good functioning of the rating system.

It is important to note that this study uses a hybrid fuzzy-TOPSIS model to analyse CS on the base of 32 attributes through a survey of 447 guests in two hotels located in Saint Petersburg. However, this study also presents some limitations. Firstly, due to time and resource limitations, the researchers could only take one representative hotel of three and four stars respectively at Saint-Petersburg (Russia). Secondly, the guests answer the questionnaire in Russian and English and many guests are neither English nor Russian native speakers, so it is not easy to affirm that respondents similarly understood the wording of the questions. Thirdly, the different education, economic, cultural and social levels of responders also could influence the answers. Therefore, some of the results of this paper might be analysed in future research, as the results can be very different especially for the 5-stars hotel and other accommodations. New lines of future research can also be based on the analysis of other segmentation using different variables like propensity to loyalty, previous visits, length of stays, among others.

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Table 6. TFNs and crisp information for the segments: total, males and females. 3 and 4 stars hotels.

Attribute	3 STARS HOTEL						4 STARS HOTEL					
	Total		Males		Females		Total		Males		Females	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Accessibility	(64.29,91.53,97.04)	86.10	(63.81,90,83,96.79)	85.57	(64.67,92.10,97.24)	86.52	(63.35,90.86,95.80)	85.21	(64.03,91.74,96.24)	85.94	(62.41,89.63,95.19)	84.21
Front desk facilities	(64.60,92.33,96.88)	86.53	(65.71,93.69,97.74)	87.71	(63.71,91.24,96.19)	85.60	(69.53,99.34,99.73)	91.99	(69.60,99.40,99.80)	92.05	(69.45,99.27,99.63)	91.90
Information and signs	(62.43,89.37,95.45)	84.15	(63.33,90.60,96.07)	85.15	(61.71,88.38,94.95)	83.36	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Food at breakfast	(60.00,85.83,93.80)	81.36	(59.52,85.18,93.49)	80.84	(60.38,86.35,94.04)	81.78	(69.77,99.69,99.84)	92.25	(69.86,99.80,99.93)	92.35	(69.63,99.54,99.72)	92.11
Food at à la carte restaurant	(51.54,74.23,88.23)	72.06	(48.79,70.17,86.55)	68.92	(53.75,77.50,89.58)	74.58	(69.05,98.65,99.44)	91.45	(69.18,98.77,99.59)	91.58	(68.87,98.49,99.25)	91.27
Drinks	(49.02,71.41,86.30)	69.54	(45.95,67.57,84.05)	66.28	(51.09,74.00,87.82)	71.73	(69.28,98.91,99.64)	91.68	(69.19,98.78,99.59)	91.59	(69.38,99.06,99.69)	91.80
Welcome gifts in hotel room	(39.08,56.47,79.33)	57.84	(37.83,54.78,78.26)	56.41	(39.86,57.53,80.00)	58.73	(68.93,98.45,99.30)	91.28	(69.01,98.56,99.37)	91.37	(68.82,98.29,99.21)	91.15
Welcome gifts in bathroom	(43.01,61.77,82.04)	62.15	(41.90,60.48,80.95)	60.95	(43.66,62.54,82.68)	62.85	(68.71,98.17,99.16)	91.05	(68.93,98.51,99.26)	91.30	(68.40,97.65,99.01)	90.68
Room furniture	(60.66,86.47,94.61)	82.05	(59.61,84.87,94.21)	80.89	(61.54,87.80,94.95)	83.02	(69.55,99.35,99.72)	91.99	(69.38,99.10,99.59)	91.79	(69.80,99.71,99.90)	92.28
Quietness in room	(60.06,86.03,93.79)	81.48	(58.51,83.78,93.11)	79.80	(61.20,87.70,94.30)	82.73	(69.13,98.81,99.37)	91.53	(69.24,98.97,99.45)	91.66	(68.97,98.60,99.25)	91.36
Room and hotel security	(64.73,92.50,96.79)	86.63	(65.56,93.58,97.53)	87.56	(64.08,91.65,96.21)	85.90	(69.92,99.88,99.96)	92.41	(69.86,99.79,99.93)	92.34	(70.00,100.00,100.00)	92.50
Furniture/decoration in public areas	(47.73,68.70,85.89)	67.76	(46.34,66.71,85.00)	66.19	(48.83,70.29,86.60)	69.00	(69.17,98.92,99.42)	91.60	(69.30,99.09,99.51)	91.75	(68.97,98.66,99.28)	91.39
Furniture/decoration in restaurants and bars	(46.34,67.15,84.78)	66.36	(45.30,65.90,83.86)	65.24	(47.18,68.16,85.53)	67.26	(69.09,98.84,99.34)	91.53	(69.16,98.95,99.37)	91.61	(68.99,98.69,99.29)	91.41
View from hotel room	(53.39,76.56,89.79)	74.07	(53.93,77.50,90.24)	74.79	(52.95,75.81,89.43)	73.50	(68.95,98.56,99.30)	91.34	(69.46,99.32,99.59)	91.93	(68.26,97.52,98.90)	90.55
Hotel location (closeness to the city center)	(61.59,88.15,94.87)	83.19	(61.19,87.62,94.76)	82.80	(61.90,88.57,94.95)	83.50	(69.45,99.18,99.73)	91.88	(69.18,98.78,99.59)	91.58	(69.81,99.72,99.91)	92.29

Chapter 5. Paper VI.

Attribute	3 STARS HOTEL						4 STARS HOTEL					
	Total		Males		Females		Total		Males		Females	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Hotel decor and design	(51.06,73.99,87.71)	71.69	(52.26,75.95,88.45)	73.15	(50.10,72.40,87.12)	70.50	(69.44,99.20,99.68)	91.88	(69.46,99.25,99.66)	91.90	(69.41,99.12,99.71)	91.84
Front desk service (check-in)	(65.03,92.75,97.30)	86.96	(65.48,93.21,97.74)	87.41	(64.67,92.38,96.95)	86.60	(68.95,98.52,99.34)	91.33	(68.31,97.64,98.92)	90.63	(69.81,99.72,99.91)	92.29
Front desk service (check-in). Friendliness of Staff (FOS)	(61.43,87.51,95.34)	82.95	(63.10,89.88,96.31)	84.79	(60.10,85.62,94.57)	81.48	(69.11,98.68,99.49)	91.49	(68.99,98.52,99.40)	91.36	(69.26,98.89,99.63)	91.67
Correctness of reservation	(63.30,90.64,95.85)	85.11	(62.53,89.88,95.18)	84.37	(63.90,91.24,96.38)	85.69	(69.17,98.85,99.45)	91.58	(68.99,98.58,99.32)	91.37	(69.43,99.24,99.62)	91.88
Correctness of reservation (FOS)	(64.79,92.45,97.13)	86.70	(65.18,92.89,97.47)	87.11	(64.48,92.10,96.86)	86.38	(69.57,99.37,99.72)	92.01	(69.26,98.92,99.53)	91.66	(70.00,100.00,100.00)	92.50
Easy reservation	(65.58,93.47,97.47)	87.50	(62.78,89.44,95.56)	84.31	(67.29,95.93,98.64)	89.45	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Easy reservation (FOS)	(64.15,91.60,96.60)	85.98	(64.17,91.39,96.67)	85.90	(64.14,91.72,96.55)	86.03	(69.78,99.67,99.89)	92.26	(69.64,99.46,99.82)	92.09	(70.00,100.00,100.00)	92.50
Attentiveness of front desk clerk	(46.24,67.88,83.18)	66.29	(46.34,68.05,83.41)	66.46	(46.14,67.73,82.95)	66.14	(69.38,99.13,99.58)	91.80	(69.19,98.90,99.41)	91.60	(69.62,99.42,99.81)	92.07
Attentiveness of front desk Clerk (FOS)	(55.06,79.06,90.71)	75.97	(54.15,78.05,90.00)	75.06	(55.91,80.00,91.36)	76.82	(69.29,98.95,99.58)	91.69	(69.19,98.81,99.48)	91.57	(69.42,99.13,99.71)	91.84
Room cleaning at the arrival	(62.82,89.79,95.69)	84.52	(62.26,88.93,95.48)	83.90	(63.27,90.48,95.87)	85.02	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Room cleaning at the arrival (FOS)	(60.95,86.98,94.87)	82.45	(59.40,84.52,94.17)	80.65	(62.19,88.95,95.43)	83.88	(69.48,99.26,99.70)	91.92	(69.40,99.17,99.62)	91.84	(69.59,99.38,99.79)	92.04
Room cleaning service during the stay	(60.00,86.17,93.62)	81.49	(59.40,85.48,93.21)	80.89	(60.48,86.73,93.94)	81.97	(69.69,99.57,99.80)	92.16	(69.86,99.80,99.93)	92.35	(69.44,99.26,99.63)	91.90
Room cleaning service during the stay (FOS)	(60.21,85.64,94.57)	81.52	(58.45,83.21,93.33)	79.55	(61.63,87.60,95.58)	83.10	(69.83,99.75,99.92)	92.31	(69.85,99.78,99.93)	92.33	(69.81,99.71,99.90)	92.28

Chapter 5. Paper VI.

Attribute	3 STARS HOTEL						4 STARS HOTEL					
	Total		Males		Females		Total		Males		Females	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Breakfast in the restaurant	(60.53,86.77,94.23)	82.08	(59,29,85,12,93,45)	80.74	(61,52,88,10,94,86)	83.14	(69.84,99.80,99.88)	92.33	(70.00,100.00,100.00)	92.50	(69.61,99.51,99.71)	92.09
Breakfast in the restaurant (FOS)	(62.65,89.42,95.71)	84.30	(60,95,87,14,94,52)	82.44	(64,00,91,24,96,67)	85.79	(69.92,99.88,99.96)	92.41	(69.86,99.79,99.93)	92.35	(70.00,100.00,100.00)	92.50
Restaurant a la cart	(60.48,86.75,94.10)	82.02	(59,66,85,52,93,79)	81.12	(60,93,87,41,94,26)	82.50	(68.06,97.31,98.70)	90.35	(69.03,98.71,99.35)	91.45	(66.74,95.43,97.83)	88.86
Restaurant a la cart (FOS)	(66.02,94.22,97.71)	88.04	(65,52,93,45,97,24)	87.41	(66,30,94,63,97,96)	88.38	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50

Table 7. TFNs and crisp information for the age segments. 3 stars hotel

Attribute	Age									
	Age <=35		Age 36-45		Age 46-55		Age 56-65		Age ≥66	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Accessibility	(65,00,92,50,97,50)	86,88	(66,25,94,38,98,13)	88,28	(65,56,93,70,97,41)	87,59	(64,21,91,58,96,32)	85,92	(68,82,98,24,99,41)	91,18
Front desk facilities	(63,94,91,21,96,67)	85,76	(62,38,88,57,96,19)	83,93	(63,85,90,96,96,73)	85,63	(68,24,97,35,99,12)	90,51	(30,00,50,00,70,00)	50,00
Information and signs	(62,73,90,30,95,15)	84,62	(64,92,92,54,97,30)	86,83	(64,62,92,12,97,12)	86,49	(66,47,95,29,97,65)	88,68	(30,00,50,00,70,00)	50,00
Food at breakfast	(57,27,82,73,91,82)	78,64	(63,33,90,48,96,19)	85,12	(63,46,90,96,95,96)	85,34	(64,41,91,76,96,76)	86,18	(30,00,50,00,70,00)	50,00
Food at à la carte restaurant	(59,39,84,85,93,64)	80,68	(60,65,86,94,94,03)	82,14	(58,65,83,85,92,88)	79,81	(60,61,86,67,94,24)	82,05	(30,00,50,00,70,00)	50,00
Drinks	(49,20,71,60,86,00)	69,60	(50,00,72,20,87,32)	70,43	(51,89,74,32,88,65)	72,30	(55,50,79,50,91,00)	76,38	(30,00,50,00,70,00)	50,00
Welcome gifts in hotel room	(49,52,72,38,86,19)	70,12	(47,04,68,52,84,81)	67,22	(48,26,70,87,85,65)	68,91	(52,50,75,63,89,38)	73,28	(30,00,50,00,70,00)	50,00
Welcome gifts in bathroom	(28,33,41,67,71,11)	45,69	(40,75,58,75,80,00)	59,56	(41,18,59,41,81,18)	60,29	(38,70,56,09,79,57)	57,61	(30,00,50,00,70,00)	50,00
Room furniture	(31,67,46,11,73,33)	49,31	(45,00,64,74,82,89)	64,34	(45,00,64,00,84,33)	64,33	(43,04,62,17,82,17)	62,39	(30,00,50,00,70,00)	50,00
Quietness in room	(58,57,83,57,92,86)	79,64	(61,79,88,04,95,54)	83,35	(60,00,85,22,94,35)	81,20	(60,32,86,45,94,19)	81,85	(30,00,50,00,70,00)	50,00
Room and hotel security	(60,32,86,77,93,87)	81,94	(59,50,85,00,93,50)	80,75	(61,30,88,04,94,57)	82,99	(57,74,82,58,92,26)	78,79	(30,00,50,00,70,00)	50,00
Furniture/decoration in public areas	(66,88,95,63,98,13)	89,06	(63,97,91,27,96,35)	85,71	(65,10,93,06,97,14)	87,09	(63,24,90,59,95,59)	85,00	(30,00,50,00,70,00)	50,00
Furniture/decoration in restaurants and bars	(43,44,63,13,82,81)	63,13	(47,62,68,25,85,87)	67,50	(47,80,69,40,85,60)	68,05	(49,70,70,91,87,58)	69,77	(30,00,50,00,70,00)	50,00
View from hotel room	(42,42,62,42,81,52)	62,20	(47,46,67,94,86,03)	67,34	(45,20,66,40,83,60)	65,40	(46,67,67,27,85,15)	66,59	(30,00,50,00,70,00)	50,00
Hotel location (closeness to the city center)	(51,21,73,94,88,48)	71,89	(53,65,77,30,89,52)	74,44	(51,73,74,04,88,85)	72,16	(57,06,80,88,92,65)	77,87	(30,00,50,00,70,00)	50,00
Hotel decor and design	(63,94,91,21,96,67)	85,76	(58,89,84,44,93,02)	80,20	(63,27,90,58,95,77)	85,05	(61,76,88,24,95,29)	83,38	(30,00,50,00,70,00)	50,00

Chapter 5. Paper VI.

Attribute	Age									
	Age <=35		Age 36-45		Age 46-55		Age 56-65		Age ≥66	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Front desk service (check-in)	(45,76,67,27,83,64)	65,98	(52,06,75,71,88,25)	72,94	(50,96,73,65,87,69)	71,49	(53,03,75,76,89,70)	73,56	(30,00,50,00,70,00)	50,00
Front desk service (check-in). Friendliness of Staff (FOS)	(63,33,90,30,96,36)	85,08	(65,24,93,02,97,46)	87,18	(64,62,92,12,97,12)	86,49	(67,65,96,47,98,82)	89,85	(30,00,50,00,70,00)	50,00
Correctness of reservation	(60,91,86,97,94,85)	82,42	(61,75,87,94,95,56)	83,29	(60,77,86,54,95,00)	82,21	(61,18,87,06,95,29)	82,65	(30,00,50,00,70,00)	50,00
Correctness of reservation (FOS)	(65,15,93,33,96,97)	87,20	(63,55,91,13,95,97)	85,44	(61,73,88,65,94,62)	83,41	(63,82,90,88,96,47)	85,51	(30,00,50,00,70,00)	50,00
Easy reservation	(65,15,93,03,97,27)	87,12	(64,84,92,42,97,26)	86,73	(62,69,89,42,95,96)	84,38	(67,65,96,47,98,82)	89,85	(30,00,50,00,70,00)	50,00
Easy reservation (FOS)	(64,71,92,35,96,47)	86,47	(63,67,90,67,96,33)	85,33	(66,52,94,78,98,26)	88,59	(67,27,95,91,98,64)	89,43	(30,00,50,00,70,00)	50,00
Attentiveness of front desk clerk	(64,71,92,35,96,47)	86,47	(62,67,89,67,95,67)	84,42	(63,64,90,45,96,82)	85,34	(67,27,95,91,98,64)	89,43	(30,00,50,00,70,00)	50,00
Attentiveness of front desk Clerk (FOS)	(46,88,70,00,83,13)	67,50	(40,00,59,31,78,28)	59,22	(47,50,68,50,85,00)	67,38	(54,67,79,33,89,33)	75,67	(30,00,50,00,70,00)	50,00
Room cleaning at the arrival	(55,63,80,00,90,63)	76,56	(49,31,71,72,86,21)	69,74	(60,00,85,50,94,50)	81,38	(56,67,80,67,92,67)	77,67	(30,00,50,00,70,00)	50,00
Room cleaning at the arrival (FOS)	(64,24,91,82,96,36)	86,06	(62,38,89,21,95,56)	84,09	(62,75,89,61,95,69)	84,41	(62,06,88,82,95,00)	83,68	(30,00,50,00,70,00)	50,00
Room cleaning service during the stay	(57,88,83,03,92,73)	79,17	(61,11,87,14,95,08)	82,62	(62,12,88,85,95,19)	83,75	(61,18,86,76,95,59)	82,57	(30,00,50,00,70,00)	50,00
Room cleaning service during the stay (FOS)	(56,36,81,21,91,21)	77,50	(60,00,86,19,93,65)	81,51	(60,58,86,92,94,04)	82,12	(61,21,87,88,94,24)	82,80	(30,00,50,00,70,00)	50,00
Breakfast in the restaurant	(58,18,83,03,93,03)	79,32	(59,68,84,60,94,60)	80,87	(60,19,85,77,94,42)	81,54	(61,82,87,88,95,45)	83,26	(30,00,50,00,70,00)	50,00
Breakfast in the restaurant (FOS)	(62,12,89,09,95,15)	83,86	(58,57,84,13,93,02)	79,96	(60,19,86,35,93,85)	81,68	(62,94,90,00,95,88)	84,71	(30,00,50,00,70,00)	50,00
Restaurant a la cart	(63,33,90,30,96,36)	85,08	(60,48,86,35,94,29)	81,87	(62,88,89,81,95,77)	84,57	(66,47,94,71,98,24)	88,53	(30,00,50,00,70,00)	50,00

Chapter 5. Paper VI.

Attribute	Age									
	Age <=35		Age 36-45		Age 46-55		Age 56-65		Age ≥66	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Restaurant a la cart (FOS)	(60,00,86,25,93,75)	81,56	(61,11,87,04,95,19)	82,59	(60,00,86,32,93,16)	81,45	(61,76,88,82,94,71)	83,53	(30,00,50,00,70,00)	50,00

Table 8. TFNs and crisp information for the age segments. 4 stars hotel

Attribute	Age									
	Age <=35		Age 36-45		Age 46-55		Age 56-65		Age >=66	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Accessibility	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Front desk facilities	(61.49,88.24,94.59)	83.14	(64.00,91.77,96.23)	85.94	(64.55,92.42,96.67)	86.52	(62.50,90.00,95.00)	84.38	(65.14,92.97,97.30)	87.09
Information and signs	(68.40,97.73,99.07)	90.73	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(67.89,97.11,98.68)	90.20
Food at breakfast	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Food at à la carte restaurant	(69.73,99.60,99.87)	92.20	(69.69,99.61,99.77)	92.17	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(68.42,97.89,98.95)	90.79
Drinks	(68.71,98.06,99.35)	91.05	(69.44,99.30,99.58)	91.90	(67.14,95.71,98.57)	89.29	(70.00,100.00,100.00)	92.50	(67.50,96.88,98.13)	89.84
Welcome gifts in hotel room	(69.09,98.64,99.55)	91.48	(69.67,99.50,99.83)	92.13	(68.00,97.00,99.00)	90.25	(70.00,100.00,100.00)	92.50	(68.89,98.33,99.44)	91.25
Welcome gifts in bathroom	(67.84,96.86,98.63)	90.05	(69.00,98.56,99.33)	91.36	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(66.45,94.84,97.74)	88.47
Room furniture	(67.17,96.04,98.11)	89.34	(69.11,98.71,99.41)	91.49	(69.33,99.00,99.67)	91.75	(70.00,100.00,100.00)	92.50	(66.18,94.71,97.35)	88.24
Quietness in room	(69.03,98.61,99.31)	91.39	(69.67,99.51,99.84)	92.13	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(67.11,95.79,98.16)	89.21
Room and hotel security	(68.51,97.97,98.92)	90.84	(69.13,98.81,99.37)	91.53	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(65.26,93.42,96.58)	87.17
Furniture/decoration in public areas	(69.73,99.59,99.86)	92.19	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(69.47,99.21,99.74)	91.91
Furniture/decoration in restaurants and bars	(68.53,98.09,98.97)	90.92	(69.17,98.92,99.42)	91.60	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(66.11,95.00,97.22)	88.33
View from hotel room	(68.55,98.12,98.99)	90.94	(69.01,98.76,99.26)	91.45	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(65.56,94.44,96.67)	87.78
Hotel location (closeness to the city center)	(69.20,98.93,99.47)	91.63	(68.53,97.98,98.99)	90.87	(69.39,99.09,99.70)	91.82	(70.00,100.00,100.00)	92.50	(66.05,94.74,97.11)	88.16
Hotel decor and design	(69.44,99.17,99.72)	91.88	(69.54,99.31,99.77)	91.98	(69.39,99.09,99.70)	91.82	(68.75,98.13,99.38)	91.09	(69.47,99.21,99.74)	91.91
Front desk service (check-in)	(69.18,98.77,99.59)	91.58	(69.35,99.11,99.59)	91.79	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(67.37,96.32,98.42)	89.61

Chapter 5. Paper VI.

Attribute	Age									
	Age <=35		Age 36-45		Age 46-55		Age 56-65		Age ≥66	
	TFN	V	TFN	V	TFN	V	TFN	V	TFN	V
Front desk service (check-in). Friendliness of Staff (FOS)	(68.13,97.33,98.93)	90.43	(68.99,98.60,99.30)	91.38	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(68.42,97.89,98.95)	90.79
Correctness of reservation	(68.93,98.40,99.47)	91.30	(68.99,98.53,99.38)	91.36	(69.39,99.09,99.70)	91.82	(70.00,100.00,100.00)	92.50	(67.89,96.84,98.95)	90.13
Correctness of reservation (FOS)	(68.63,98.22,99.04)	91.03	(69.13,98.74,99.45)	91.52	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(68.95,98.68,99.21)	91.38
Easy reservation	(69.73,99.59,99.86)	92.19	(69.29,98.98,99.53)	91.69	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(69.47,99.21,99.74)	91.91
Easy reservation (FOS)	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Attentiveness of front desk clerk	(69.64,99.46,99.82)	92.10	(69.77,99.65,99.88)	92.24	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(69.33,99.00,99.67)	91.75
Attentiveness of front desk Clerk (FOS)	(68.84,98.41,99.28)	91.23	(69.42,99.17,99.58)	91.83	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(68.82,98.53,99.12)	91.25
Room cleaning at the arrival	(69.12,98.68,99.56)	91.51	(69.08,98.67,99.42)	91.46	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Room cleaning at the arrival (FOS)	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50
Room cleaning service during the stay	(69.71,99.56,99.85)	92.17	(69.47,99.21,99.74)	91.91	(68.57,98.21,98.93)	90.98	(70.00,100.00,100.00)	92.50	(69.46,99.19,99.73)	91.89
Room cleaning service during the stay (FOS)	(69.73,99.59,99.86)	92.20	(69.53,99.38,99.69)	91.99	(70.00,100.00,100.00)	92.50	(70.00,100.00,100.00)	92.50	(68.,42,97.89,98.95)	90.79
Breakfast in the restaurant	(70.00,100.00,100.00)	92,50	(69.66,99.49,99.83)	92.12	(70.00,100.00,100.00)	92,50	(70.00,100.00,100.00)	92.50	(68,95,98.42,99.47)	91.32
Breakfast in the restaurant (FOS)	(70.00,100.00,100.00)	92,50	(69,68,99.60,99.76)	92.16	(70.00,100.00,100.00)	92,50	(70.00,100.00,100.00)	92.50	(68.89,98.61,99.17)	91.32
Restaurant a la cart	(70.00,100.00,100.00)	92,50	(69.84,99.76,99.92)	92.32	(70.00,100.00,100.00)	92,50	(70.00,100.00,100.00)	92.50	(69.46,99.19,99.73)	91.89
Restaurant a la cart (FOS)	(66.97,95.76,98.18)	89,17	(68.63,98.04,99.02)	90.93	(66.92,96.15,97.69)	89,23	(70.00,100.00,100.00)	92.50	(63.00,90.00,95.00)	84.50

Table 9. Ideal Solutions 3 and 4 stars hotels

Attribute	3 STAR HOTEL					4 STAR HOTEL				
	PIS		NIS		Perc. Variation %	PIS		NIS		Perc. Variation %
	Value	Segment	Value	Segment		Value	Segment	Value	Segment	
Accessibility	92.50	'4 previous visits'	50.00	'Nights_ 1'	85.00	92.5	'Age <=35'	50	'Accommodation'	85.00
Front desk facilities	92.50	'UK'	50.00	'Nights_ 1'	85.00	92.5	'China'	50	'Accommodation'	85.00
Information and signs	92.50	'France'	50.00	'Nights_ 1'	85.00	92.5	'Total'	50	'Accommodation'	85.00
Food at breakfast	92.50	'5 previous visits'	50.00	'Nights_ 1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Food at à la carte restaurant	92.50	'5 previous visits'	50.00	'Nights_ 1'	85.00	92.5	'France'	50	'Nights_ 6'	85.00
Drinks	92.50	'5 previous visits'	12.50	'I would not visit this hotel for sure'	640.00	92.5	'France'	50	'7 previous visits or more'	85.00
Welcome gifts in hotel room	92.50	'1 previous visit'	12.50	'5 previous visits'	640.00	92.5	'Former Soviet Union'	12.5	'I would not visit this hotel probably'	640.00
Welcome gifts in bathroom	92.50	'1 previous visit'	12.50	'5 previous visits'	640.00	92.5	'Russia'	12.5	'I would not visit this hotel probably'	640.00
Room furniture	92.50	'1 previous visit'	31.67	'I would not recommend this hotel for sure'	192.11	92.5	'Former Soviet Union'	50	'Accommodation'	85.00

Chapter 5. Paper VI.

Attribute	3 STAR HOTEL					4 STAR HOTEL				
	PIS		NIS		Perc. Variation %	PIS		NIS		Perc. Variation %
	Value	Segment	Value	Segment		Value	Segment	Value	Segment	
Quietness in room	92.50	'5 previous visits'	12.50	'I would not visit this hotel for sure	640.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Room and hotel security	92.50	'Nights_10 or more'	12.50	'I would not visit this hotel for sure	640.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Furniture/decoration in public areas	81.25	'Accommodation'	12.50	'Price_501-750 euros'	550.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Furniture/decoration in restaurants and bars	92.50	'Accommodation'	12.50	'Price_501-750 euros'	640.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
View from hotel room	92.50	'7 previous visits'	12.50	'I would not visit this hotel for sure	640.00	92.5	'France'	50	'Accommodation'	85.00
Hotel location (closeness to the city center)	92.50	'USA'	12.50	'I would not visit this hotel for sure	640.00	92.5	'Italy'	50	'Accommodation'	85.00
Hotel decor and design	92.50	'7 previous visits'	37.50	'I would not visit this hotel for sure	146.67	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Front desk service (check-in)	92.50	'Nights_2'	50.00	'Nights_1'	85.00	92.5	'Italy'	50	'Accommodation'	85.00
Front desk service (check-in). Friendliness of Staff (FOS)	92.50	'7 previous visits'	50.00	'Nights_1'	85.00	92.5	'Russia'	50	'Accommodation'	85.00
Correctness of reservation	92.50	'Nights_8'	50.00	'Nights_1'	85.00	92.5	'France'	50	'Accommodation'	85.00
Correctness of reservation (FOS)	92.50	'4 previous visits'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00

Chapter 5. Paper VI.

Attribute	3 STAR HOTEL					4 STAR HOTEL				
	PIS		NIS		Perc. Variation %	PIS		NIS		Perc. Variation %
	Value	Segment	Value	Segment		Value	Segment	Value	Segment	
Easy reservation	92.50	'China'	12.50	'I would not visit this hotel for sure'	640.00	92.5	'Total'	50	'Age <=35'	85.00
Easy reservation (FOS)	92.50	'Italy'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Age <=35'	85.00
Attentiveness of front desk clerk	92.50	'5 previous visits'	12.50	'I would not visit this hotel for sure'	640.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Attentiveness of front desk Clerk (FOS)	92.50	'Spain'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Room cleaning at the arrival	92.50	'Nights_8'	50.00	'Nights_1'	85.00	92.5	'Total'	50	'Accommodation'	85.00
Room cleaning at the arrival (FOS)	92.50	'Nights_8'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Room cleaning service during the stay	92.50	'Nights_8'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Room cleaning service during the stay (FOS)	92.50	'Nights_8'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Breakfast in the restaurant	92.50	'4p visits'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Breakfast in the restaurant (FOS)	92.50	'UK'	50.00	'Nights_1'	85.00	92.5	'Former Soviet Union'	50	'Accommodation'	85.00
Restaurant a la cart	92.50	'Spain'	50.00	'Nights_1'	85.00	92.5	'France'	50	'7 previous visits or more'	85.00
Restaurant a la cart (FOS)	92.50	'France'	50.00	'Nights_1'	85.00	92.5	'Total'	50	'7 previous visits or more'	85.00

Table 10. Elasticities of CS wrt each attribute by gender and age. 3 STARS HOTEL

ATTRIBUTES	Total	GENDER		AGE				
		MALE	FEMALE	Age_<=35	Age_36-45	Age_46-55	Age_56-65	Age_>66
Accessibility	0.032	0.033	0.031	0.024	0.031	0.036	0.033	0.020
Front desk facilities	0.031	0.028	0.033	0.046	0.033	0.030	0.031	0.025
Information and signs	0.036	0.034	0.038	0.046	0.042	0.034	0.034	0.032
Food at breakfast	0.042	0.042	0.041	0.035	0.039	0.039	0.045	0.042
Food at à la carte restaurant	0.057	0.059	0.055	0.064	0.052	0.057	0.058	0.054
Drinks	0.070	0.072	0.069	0.085	0.063	0.071	0.072	0.068
Welcome gifts in hotel room	0.079	0.077	0.080	0.074	0.067	0.076	0.079	0.085
Welcome gifts in bathroom	0.077	0.075	0.078	0.058	0.068	0.073	0.076	0.081
Room furniture	0.046	0.048	0.044	0.029	0.047	0.043	0.048	0.047
Quietness in room	0.053	0.056	0.050	0.033	0.052	0.054	0.050	0.058
Room and hotel security	0.043	0.042	0.044	0.033	0.041	0.046	0.041	0.045
Furniture/decoration in public areas	0.046	0.047	0.045	0.020	0.047	0.046	0.046	0.044
Furniture/decoration in restaurants and bars	0.073	0.072	0.074	0.053	0.068	0.071	0.075	0.077
View from hotel room	0.065	0.063	0.066	0.071	0.062	0.063	0.068	0.060
Hotel location (closeness to the city center)	0.050	0.051	0.049	0.052	0.046	0.055	0.046	0.049
Hotel decor and design	0.061	0.057	0.064	0.057	0.058	0.058	0.062	0.062
Front desk service (check-in)	0.030	0.029	0.031	0.045	0.032	0.029	0.031	0.022
Front desk service (check-in). (FOS)	0.038	0.034	0.042	0.024	0.037	0.037	0.040	0.040
Correctness of reservation	0.034	0.035	0.033	0.046	0.029	0.033	0.038	0.033
Correctness of reservation (FOS)	0.030	0.030	0.031	0.034	0.029	0.030	0.036	0.022
Easy reservation	0.041	0.048	0.035	0.018	0.045	0.046	0.038	0.034
Easy reservation (FOS)	0.032	0.032	0.032	0.060	0.030	0.035	0.034	0.023
Attentiveness of front desk clerk	0.073	0.071	0.075	0.084	0.065	0.076	0.073	0.064
Attentiveness of front desk Clerk (FOS)	0.051	0.051	0.051	0.044	0.044	0.058	0.042	0.051

ATTRIBUTES	Total	GENDER		AGE				
		MALE	FEMALE	Age_<=35	Age_36-45	Age_46-55	Age_56-65	Age_>66
Room cleaning at the arrival	0.035	0.036	0.034	0.035	0.031	0.036	0.036	0.038
Room cleaning at the arrival (FOS)	0.039	0.042	0.037	0.035	0.041	0.039	0.037	0.041
Room cleaning service during the stay	0.041	0.042	0.041	0.024	0.043	0.041	0.041	0.040
Room cleaning service during the stay (FOS)	0.041	0.044	0.039	0.024	0.041	0.042	0.042	0.039
Breakfast in the restaurant	0.040	0.042	0.038	0.046	0.034	0.043	0.041	0.035
Breakfast in the restaurant (FOS)	0.036	0.039	0.032	0.055	0.032	0.040	0.035	0.025
Restaurant a la carte	0.040	0.041	0.040	0.066	0.038	0.039	0.042	0.038
Restaurant a la carte (FOS)	0.027	0.029	0.026	0.033	0.027	0.029	0.032	0.018

Table 11. Elasticities of CS wrt each attribute by gender and age. 4 STARS HOTEL

ATTRIBUTES	Total	GENDER		AGE				
		MALE	FEMALE	Age_<=35	Age_36-45	Age_46-55	Age_56-65	Age_>66
Accessibility	0.280	0.279	0.269	0.014	0.252	0.280	0.250	0.314
Front desk facilities	0.041	0.042	0.039	0.014	0.066	0.023	0.022	0.021
Information and signs	0.021	0.022	0.018	0.014	0.016	0.023	0.022	0.021
Food at breakfast	0.031	0.029	0.032	0.014	0.025	0.037	0.022	0.021
Food at à la carte restaurant	0.063	0.062	0.060	0.014	0.057	0.049	0.150	0.021
Drinks	0.053	0.062	0.042	0.014	0.045	0.039	0.113	0.021
Welcome gifts in hotel room	0.071	0.073	0.066	0.025	0.087	0.073	0.023	0.023
Welcome gifts in bathroom	0.080	0.076	0.082	0.025	0.106	0.068	0.055	0.023
Room furniture	0.041	0.053	0.026	0.014	0.048	0.039	0.022	0.021
Quietness in room	0.059	0.059	0.057	0.014	0.063	0.065	0.022	0.021
Room and hotel security	0.025	0.029	0.018	0.014	0.025	0.023	0.022	0.021
Furniture/decoration in public areas	0.056	0.055	0.056	0.014	0.061	0.061	0.022	0.021
Furniture/decoration in restaurants and bars	0.059	0.061	0.055	0.014	0.060	0.068	0.022	0.021
View from hotel room	0.067	0.047	0.084	0.014	0.041	0.092	0.050	0.021
Hotel location (closeness to the city center)	0.046	0.062	0.026	0.014	0.034	0.045	0.050	0.078
Hotel decor and design	0.046	0.048	0.041	0.014	0.043	0.054	0.022	0.021
Front desk service (check-in)	0.067	0.102	0.026	0.014	0.074	0.071	0.022	0.021
Front desk service (check-in). (FOS)	0.061	0.072	0.047	0.014	0.050	0.072	0.050	0.021
Correctness of reservation	0.057	0.071	0.040	0.014	0.058	0.065	0.022	0.021
Correctness of reservation (FOS)	0.041	0.059	0.018	0.014	0.025	0.058	0.022	0.021

ATTRIBUTES	Total	GENDER		AGE				
		MALE	FEMALE	Age_<=35	Age_36-45	Age_46-55	Age_56-65	Age_>66
Easy reservation	0.021	0.022	0.018	0.114	0.016	0.023	0.022	0.021
Easy reservation (FOS)	0.031	0.040	0.018	0.114	0.028	0.034	0.022	0.021
Attentiveness of front desk clerk	0.049	0.061	0.033	0.014	0.052	0.052	0.022	0.021
Attentiveness of front desk clerk (FOS)	0.053	0.063	0.041	0.014	0.045	0.068	0.022	0.021
Room cleaning at the arrival	0.021	0.022	0.018	0.014	0.016	0.023	0.022	0.021
Room cleaning at the arrival (FOS)	0.044	0.051	0.034	0.014	0.026	0.048	0.084	0.021
Room cleaning service during the stay	0.035	0.029	0.039	0.014	0.025	0.045	0.022	0.021
Room cleaning service during the stay (FOS)	0.029	0.030	0.026	0.014	0.016	0.039	0.022	0.021
Breakfast in the restaurant	0.028	0.022	0.033	0.014	0.016	0.038	0.022	0.021
Breakfast in the restaurant (FOS)	0.024	0.029	0.018	0.014	0.016	0.030	0.022	0.021
Restaurant a la carte	0.105	0.068	0.137	0.014	0.108	0.090	0.152	0.021
Restaurant a la carte (FOS)	0.021	0.022	0.018	0.014	0.016	0.023	0.022	0.021

CHAPTER 6

CONCLUSIONS

6. Introduction

This part of the thesis is dedicated to summarize the final results obtained from the research. The conclusion section is divided into two sections. The first section “Discussion and conclusion” presents the general findings with a detailed explanation of the obtained results. The second section “Limitations and Suggestions for Future Research” is dedicated to explain the main limitations within the framework of the research proposing the directions for the possible future research.

6.1. Discussion and Conclusions

The core objective of this dissertation is dedicated to analyse how age and gender can influence customer satisfaction in hospitality taken three hotels of different category in Saint-Peterburg (Russia) as a case study. The aim was contextualized and put in value due to the importance that tourism is taking in all the modern worldwide economies. Saint-Petersburg was chosen as an iconic city of Russia for multiple motives but mainly because there is still a gap in the existing literature regarding the analysis of CS in Russia.

The dissertation is divided in three main parts that correspond to Chapters 2, 3 and 4, in which the framework of the dissertation was realized to answer the research questions posed in the introduction. The first two parts, chapter 2 and 3 are based on the systematic literature review that were developed from general features researched in the social and economic science (Papers I and II) to the more specific field of tourism (Papers III and IV). Thus, a questionnaire could be designed having a solid framework within a field that is not exempt of important controversy: the measurement scale of satisfaction in urban hotels. A description of the questionnaire and the methodology based on a fuzzy MCDM model are presented in the part III, and afterwards the core objective of the dissertation is settled through the empirical Papers V and VI in which the CS analysis is studied under

the premises of the segmentation based on age and gender. A twofold perspective is followed in such part: (1) the analysis is based aggregating the database of the three hotels included in the sample; and (2) the individual analysis for two hotels name list the 3 and 4 stars hotel is carried out. The empirical exercise provides important insights that can be used to obtain important managerial policies regarding the differences observed for each of the segments under analysis and for each individual hotel.

The dissertation contributes to have a better understanding of CS and adds important value in a geographical and in a particular topic as the market segmentation that have been clearly under-researched in the literature. A brief summary of the six papers contained in the research is presented below.

The evolution over a 63 years period on the base of academic publishing observations demonstrated that the systematic literature reviews on client satisfaction are very scarce, and almost all papers consulted had a very simple literature review just to give some context to the rest of the paper. Some insights and patterns like the increasing number of publications in the last years showed the interest and opportunity to carry out this investigation.

Moreover, analysing articles over the research object, significant differences were also observed looking at the authors' nationalities. For example, the following results were obtained: (1) the US showed a very dominant position; (2) The top 5 nationalities were from the Anglo-Saxon world, so it was not strange to find that a very ample part of the publications (96.3%) were written in English, thus there is an evidence of the gap over customer satisfaction research in other than English language; (3) Important differences are also obtained analysing 240 publications from Russian scientific data base between the Russian and non-Russian literature, especially in terms of the sectors and topics studied (for instance, psychology and medicine are over represented in non-Russian literature).

Regarding the analysis of CS in tourism, it was showed that the interest on the topic has been growing since the year 2010 being USA, UK and Australia the geographical areas with more research, and Tourism Management the journal with more publications.

A deeper analysis on the determinants and consequences showed that this topic in the field of tourism is still scarce and poorly described in theoretical terms. Service quality

Conclusions

was shown to be the most studied antecedent of CS in tourism. China is now the most popular country in applying studies on consequences of CS in tourism, while Spain for antecedents. Consequences in tourism became object of research since 1997, determinants since 2000, and 2015 was the most prolific year for both topics of the period under analysis.

NIS was mainly observed for those segments which are not loyal to the hotel, where loyalty is seen as the behavioural intention to recommend to friends and relatives or to stay again in the hotel. PIS was mainly observed in some segments lodged in the 4 and 5 stars hotels. The clarification matrix for the whole sample showed that guests are more satisfied with the welcome gifts in the room and the furniture/decoration in restaurants and bars and less satisfied with the process of the reservation and the friendliness of staff in the restaurant a la carte. The analysis of the elasticities showed that guest satisfaction is quite inelastic with respect to the whole set of 32 attributes included in the analysis. Nevertheless, it was seen that for the whole sample the satisfaction is more elastic with respect to: (1) welcome gifts in the room; (2) furniture/decoration in restaurants and bars; (3) furniture/decoration in public areas; and (4) welcome gifts in the bathroom. On the opposite side, satisfaction is more rigid with respect to: (1) reservation (FOS); (2) reservation; and (3) restaurant a la carte (FOS), and therefore the action plan on these attributes is not urgent or needed.

In the same breath, analysing the satisfaction attributes, it was found that CS depends also on the hotel category. Females are more satisfied in the case of the 3 stars hotel, in contrast with the results obtained in the case of the 4 stars hotel. The same difference is maintained for the case of the age segments in which we obtain that the young segment of guests under 35 years old is more satisfied than the rest of the segments for the 3 stars hotel in contrast with the opposite result observed for the 4 stars hotel. Analysing the satisfaction attributes, it was found that the level of satisfaction for the representative guest in the 4 stars hotel is higher than for the 3 stars hotel, corroborating in this case the good functioning of the rating system. Our results also showed that hotel managers need to adapt the CS policies according to the category of the hotel as the segments under analysis showed very different preferences. In the case of the 3 stars hotel, managers should analyse a policy of incorporating welcome gifts in the room and in the bathroom,

meanwhile the managers in the 4 stars hotel need to make a further research regarding the accessibility and the restaurant a la carte.

6.2. Limitations and Suggestions for Future Research

We end this chapter highlighting that our findings will provide a meaningful source of information about CS for a numerous set of characteristics that can support future research. Nevertheless, apart from the contributions explained above, several limitations must be mentioned.

First of all it can be said that our study is framed by the period of time since 1954 to 2016. The start point was taken 1954 since the first publication on customer satisfaction appeared in scientific database. Second, our literature review excludes conference proceeding papers, master's dissertations, doctoral theses, etc., so some sources are not considered. Third, only English written articles collected from Scopus database were taken into consideration and further articles from Russian Scientific database written in Russian language.

Regarding to CS scale, it must be highlighted that it is large enough and the content has been validated in other studies, but some important attributes for particular guests might not be included. For example, some families travelling with children might give a considerable importance to hotels providing some sort of day-care services.

Our sample is limited to three hotels located in Saint Petersburg, Russia, so it is not possible to extrapolate the findings to other specific contexts. Guests answered the questionnaire in Russian and English and many guests are neither English nor Russian native speakers, so it is not easy to affirm that respondents similarly understood the wording of the questions. Other features like different education, economic, cultural and social levels of respondents also could influence the answers.

Despite any possible limitations of this thesis, it should be pointed out that this study also identified several additional research questions that could be addressed in the future investigations.

As avenues for the future research it would be really welcomed any study analysing CS under a cross-nationalities perspective, i.e. it could be hypothesized that it might be possible that the preferences change when the travellers are visiting a foreign country. Additionally, it can be useful to compare different approaches, methods of research and

Conclusions

evaluation models of CS within different economic sectors, and also with different market segmentations based in other socio-demographics and/or behavioural variables.

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ANNEX

A. Hotel facilities, offer and state (Only answer if the hotel has these facilities and if you used them.)													Scoring (*)			
	Satisfaction level				Importance for global quality				Fulfillment of expectations							
	Bad	Fair	Good	Very good	--	-	+	++	--	-	+	++				
	1	2	3	4	1	2	3	4	1	2	3	4				
1. Easy hotel access	1	2	3	4	1	2	3	4	1	2	3	4				
2. Front desk facilities	1	2	3	4	1	2	3	4	1	2	3	4				
3. Information and signs	1	2	3	4	1	2	3	4	1	2	3	4				
4. Food at breakfast	1	2	3	4	1	2	3	4	1	2	3	4				
5. Food at dinner	1	2	3	4	1	2	3	4	1	2	3	4				
6. Food at à la carte restaurant	1	2	3	4	1	2	3	4	1	2	3	4				
7. Drinks	1	2	3	4	1	2	3	4	1	2	3	4				
8. Welcome gifts in hotel room	1	2	3	4	1	2	3	4	1	2	3	4				
9. Welcome gifts in bathroom	1	2	3	4	1	2	3	4	1	2	3	4				
10. Room furniture	1	2	3	4	1	2	3	4	1	2	3	4				
11. Quietness in room	1	2	3	4	1	2	3	4	1	2	3	4				
12. Room and hotel security	1	2	3	4	1	2	3	4	1	2	3	4				
13. Pool	1	2	3	4	1	2	3	4	1	2	3	4				
14. Furniture/decoration in public areas	1	2	3	4	1	2	3	4	1	2	3	4				
15. Furniture/decoration in restaurants and bars	1	2	3	4	1	2	3	4	1	2	3	4				
16. View from hotel room	1	2	3	4	1	2	3	4	1	2	3	4				
17. Hotel location (closeness to the city center)	1	2	3	4	1	2	3	4	1	2	3	4				
18. Hotel decor and design	1	2	3	4	1	2	3	4	1	2	3	4				

B. Please tell us if there is any facility or service your missed in the hotel during your stay and which you consider to be very important for the global quality evaluation of a hotel of this category.

C. Please tell us all the services you consider holiday and resort hotels should have in the future.
