FOUNDATIONS OF HOSPITALITY PERFORMANCE MEASUREMENT RESEARCH: A CO-CITATION APPROACH

Abstract

Studies related to hospitality performance measurement has expanded and matured, leading to diversity in the themes and topics of papers published on the subject. Though many papers have highlighted the trends, clusters, and topics, the present article is the first known academic study attempting to explore the architectural structure of this research stream. Using a database with 56,163 citations, the authors categorized the empirical evidence into four different time periods and an overall representation. Consequently, this paper adopts a co-citation approach to explore the number of articles published in the field of hotel performance studies. Finally, using the VOSviewer software program, this study identifies the most popular cross-cited and citing journals and authors. Though the study focuses only on the foundation papers identified using co-citations and network cluster analysis, revealing the architectural structure of this literature stream, contributes to the literature on hotel performance measurement.

Keywords: Co-citation analysis; network cluster analysis; hotel performance measurement; VOSviewer software program; hospitality.

1 INTRODUCTION

Performance lies at the heart of strategic management (Bititci et al., 2012) and plays a pivotal role for many approaches and disciplines (Choong, 2014). Given its centrality in the strategy and management field, the concept of performance has changed over time and has been variously defined (Neely, 2005) and differently measured in concrete research projects (Kennerley & Neely, 2002). During the 1980s, increasing dissatisfaction with traditional accounting and financial measures emerged (Chakravarthy, 1986; Venkatraman & Ramanujam, 1986).

The need to align the performance measurement systems with the increasing changing environment has also interested the field of hospitality, where problems with measuring firm results created two related research streams: performance measurement and determinants of performance. The first area of inquiry is primarily based on technical disciplines, such as management (Chen & Chang, 2012), accounting (Sainaghi, 2011), finance (Kim & Jang, 2012), and efficiency (Assaf & Agbola, 2014). Studies frequently develop new performance measurement systems, signal the limitations of current performance indicators, or propose new dimensions of results (Brander Brown & McDonnell, 1995; Denton & White, 2000; Harris & Mongiello, 2001; Phillips, 1999; Sainaghi, 2010a; Yilmaz & Bititci, 2006). Determinants of performance is a second area of research. While performance is the central goal of the first research stream, representing the dependent variable, the heart of such studies are factors (determinants or antecedents) able to influence firm performance (Atkinson & Brander Brown, 2001; Bergin-Seers & Jago, 2007; Mia & Patiar, 2001; Sainaghi, Phillips & Corti, 2013).

The first stream (performance measurement) can be visualized as a small, medieval city well-protected by walls, where only few, specialized researchers have access to the topics and are able to develop and propose new systems (Sainaghi, Phillips, Baggio & Mauri, 2018). By contrast, the second area of inquiry (determinants of performance) is wide and increasing in term of published papers (Sainaghi, 2010a). In fact, these studies employ many different independent variables, such as

43 competitive advantage (Sharma & Christie, 2010), price strategies (Abrate & Viglia, 2016), customer
44 satisfaction (Mohsin & Lengler, 2015), social capital (Sainaghi & Baggio, 2014), service quality
45 (Giritlioglu, Jones & Avcikurt, 2014), social media (Bore et al., 2017), brand management (Wang &
46 Chung, 2015), environmental strategies (Pereira-Moliner et al., 2015), corporate social responsibility
47 (Zhu, Sun & Leung, 2014), human resource management (Lee, Chao & Chen, 2015), and external
48 variables, such as macroeconomic indicators (Dewally, Shao & Singer, 2013), effectiveness of
49 destination positioning (Sainaghi & Baggio, 2017), or destination events (Sainaghi & Mauri, 2018).

50 It is not surprising, therefore, that several recent literature reviews, mentioned below, have
51 defined "hotel performance" as a relevant research stream for the hospitality industry. This area of
52 inquiry includes hundreds of papers. A recent study published by Sainaghi et al. (2018) is based on a
53 gross sample of 1,515 articles, while a previous review by Sainaghi, Phillips, and Zavarrone (2017)
54 includes 978 papers.

55 The development of determinants studies has opened the first research stream (performance
56 measurement systems) to many researchers, making this area on inquire an increasingly popular topic.
57 The recent rise in the overall number of reviews published on this topic also confirms the area's
58 growth (see Table 1).

59 Given the relative novelty of the hotel performance research stream, previous studies have
60 focused their attention only on the visible part of the literature. In fact, they identify trends, clusters,
61 and topics developed by the published papers of performance research stream. A clear gap has
62 emerged, however, as no one study has explored the architectural structure of this research stream.
63 Using a metaphor, the hospitality performance measurement can be thought as a house. This study
64 identified the foundation papers and the key pillars, represented by the proposed clusters. This paper,
65 based on the co-citation approach, contributes to filling this gap by exploring the reference structure
66 of a large sample of hotel performance studies.

Two research questions guide the inquiry. The first focuses on the foundation studies (identified using cluster analysis), while the second explores what are the top-cited journals (2.A) and when these papers were published (2.B). The foundation studies are the most co-cited papers that have acquired a central position in their clusters.

Research question 1. What are the main foundation studies of hotel performance? What are the trends within them?

R**esearch question 2.A** What are the top-cited journals?

R**esearch question 2.B** Where and when were these foundation studies published?

2 LITERATURE REVIEW

This chapter discusses the relevance of two research streams: the hotel performance literature and its related findings (2.1), and the bibliometric approach later used to develop the two research questions (2.2).

2.1 Hotel performance studies

Hotel performance is a wide and growing area of inquiry, including both performance measurement studies and determinants of results. Table 1 introduces the previous literature reviews, promoting understanding regarding the existing knowledge in this field. Twelve studies, covering nine years of research, from 2010 to 2018, are presented. The authors identified these papers by considering the authors' experience, analyzing the references of previous papers, and using keywords in the Scopus and Web of Science database.

Insert Table 1 here

These works are deeply rooted in the hotel performance streams and are built around a content analysis approach, with the partial exception of Sainaghi et al. (2018), which is based on network theory and a cross-citation approach. Given their ties with the hotel industry, the *International Journal of Contemporary Hospitality Management* (*IJCHM*) and *International Journal of Hospitality Management* (*IJHM*) account for the publication of most of the studies, with seven and two of the twelve total papers, respectively.

The reviews reported in Table 1 aim to organize the literature. Sainaghi (2010a) distinguishes between performance measurement research streams and determinants of performance. Concerning this last topic, a classification of 138 studies is proposed, using the balanced scorecard model – the well-known performance measurement framework developed by Kaplan and Norton (1992). Sainaghi (2010b) identifies three different research styles, showing the methodological differences between papers on performance in the European, American, and Asiatic traditions. Jang and Park (2011) explore finance in the hospitality field, revealing important differences related to areas of inquiry, methodologies, and citations. Tsai, Pan and Lee (2011) synthesize published, contemporary hospitality financial management research and provide future research directions. Sainaghi, Phillips and Corti (2013) trace trends in the performance literature and articulate independent variables of performance determinants using the balanced scorecard model. Janković and Krivačić (2014) focus on hotel environmental accounting practices, providing an overview of current studies. Park and Jang (2014) examine studies published in leading hospitality, accounting, and finance literature. They propose an interdisciplinary approach, mixing these three different disciplines (hospitality, accounting and finance). Phillips and Moutinho (2014) concentrate their analysis on strategic planning, an adjacent topic of performance measurement. They reveal some trends and develop a segmentation of strategic planning studies based on method, topics, and strategy. Pnevmatikoudi and Stavrinoudis (2016) classify performance indicators and produce codification distinguishing between ten different categories of financial and non-financial indicators. Sainaghi, Phillips and Zavarrone

(2017) perform meta-analysis of performance studies based on three variables: the unit of analysis (destinations; clusters; firms), approaches (competitiveness; efficiency; metrics in use; performance measurement systems; tourism productivity), and disciplines (accounting and financial management; economics; strategy). The study reports some trends related to the year of publication, top ten journals, leading journals, tourism and non-tourism journals, and number of citations. Altin et al. (2018) provide a critical literature review based on three dimensions: progress on ontological and epistemological issues, on the purpose of performance measurement and on the emerging contexts. Finally, Sainaghi et al. (2018) explore trends in performance measurement using cross-citation and network analysis. Their study identifies the most popular cross-cited and citing journals and authors.

After the short presentation of each paper included in the Table 1, it is interesting now to identify some cross issues: i) the sources used to select the sample, ii) the sample size, iii) the publication year; iv) the method use to analyze the paper, v) the main topic analyzed. Concerning the information *sources* used to select the sample, the previous reviews can be classified mainly in two groups. A first set includes the majority of studies (six) that have used keywords researched in some databases (Sainaghi, 2010a, 2010b; Tsai, Pan & Lee, 2011; Pnevmatikoudi & Stavrinoudis, 2016; Sainaghi, Phillips & Zavarrone, 2017; Saianghi et al., 2018). By contrast three studies have focused their attention to some leading journals (Jang & Park, 2011; Sainaghi, Phillips & Corti, 2013; Phillips & Moutinho; 2014). There are some other papers that have used mixed method (database and leading journals) (Altin et al., 2018) or that have not specified the criteria used (Janković & Krivačić, 2014; Park & Jang, 2014). The focus on leading journals reduces the *sample size*. In fact, the three studies based on this information source swing from 77 (Phillips & Moutinho, 2014) to 138 (Sainaghi, Phillips & Corti, 2013). By contrast the use of large database (as Scopus) increases the sample size. The minimum amount is 79 (Pnevmatikoudi & Stavrinoudis, 2016), while the maximum is 978 (Sainaghi, Phillips & Zavarrone, 2017). The *year of publication* shows that the majority of papers were published between 2010 and 2011 (four studies), while in the following biennial (2013-2014)

the studies are three; the 2012 is not included because any paper appeared. In the last biennial (2016-2017) two articles were published. There is not a clear correlation between the publication year and the sample size. In fact, the average number of articles included in the three studies of 2010 is 145, while the mean of 2014 is 51 and in 2016 is 79. However, in the last two years the maximum number is recorded (978 in 2017, 734 in 2018). The *method used to analyze the papers* is a key variable to understand the sample size and more generally the ability of researchers to consider the wide literature. In fact, the reviews based on manual content analysis (ten studies, with the exception of Sainaghi, Phillips & Zavarrone, 2017 and Sainaghi et al., 2018) show a considerably lower amount of papers (102) than the studies based on Computer-aided text analysis (978) and network cluster analysis (734). This variable clearly segments the previous reviews, showing the inevitable shortcomings of the papers based on manual content analysis, that are based on few studies. Finally, *the main topic analyzed* distinguishes between studies focused on intellectual structure (co-citation or architectural structure) and reviews focused on topics segmentation (as clusters or trends). All the papers reported in Table 1 explore topics segmentation, proposing clusters of hotel performance topics or identify trends. No one study has explored the architectural structure. This knowledge gap is incorporated into the first research question and represents the most important focus of the present paper.

2.2 Bibliometric and co-citation approach

Scientific publications include bibliographic information, such as author affiliations, keywords, and references. Researchers have used this information to identify the evolution in intellectual structure, social structure, and conceptual structures of a discipline or field; and to evaluate research outputs (Nerur, Raheed & Natarajan, 2008). This method of research is called a bibliometric study, which is "the quantitative study of physical published units, or of bibliographic units, or of the surrogates for either" (Broadus, 1987, p. 376). Bibliometric studies are complementary to traditional methods of review and structured literature review, increasing the objectivity of these

164 studies (Zupic & Cater, 2015). Three techniques—review, evaluative, and relational—are used to
165 conduct bibliometric studies (Koseoglu, Rahimi, Okumus & Liu, 2016). Review techniques, such as
166 structured literature reviews, systematic literature reviews, or meta-analysis deal with the assessment
167 of a given field by focusing on bibliographies or output content examined via the qualitative approach
168 (Zupic and Cater, 2015). Evaluative techniques investigate the impact of output or ranking of related
169 output bibliographies (Benckendorff & Zehrer, 2013; Hall, 2011). Finally, relational techniques look
170 at the patterns of co-occurrence in bibliographies, such as authors (co-authorship analysis), keywords
171 (co-word analysis), and references (co-citation or bibliographic coupling analysis) among a field's
172 output (Koseoglu et al., 2016).

173 In the current study, co-citation analysis to determine the relationships among references
174 (Pilkington & Lawton, 2014) was utilized to address the research questions. The results obtained from
175 co-citation analysis help to clarify the changes in a discipline's intellectual structure over time; which
176 belongs to the same school, paradigm, or theory; and to identify the most influential research—or the
177 central, peripheral, or bridging studies of the field—since output references represent the theoretical
178 and empirical foundations of the material (Acedo, Barroso & Galan, 2006; Zupic & Cater, 2015). The
179 validity, power, and usefulness of co-citation analysis has been proven in many studies (see Batistič,
180 Černe & Vogel, 2017; Zhao, Zhang & Kwon, 2017). Further details related to how co-citation is
181 utilized are provided in the methodology section.

182 In hospitality and/or tourism literature, the number of bibliometric studies has increased over
183 time. Several articles have utilized review and evaluative techniques; however, limited papers
184 (Benckendorff, 2009; Hu & Racherla, 2008; Li, Ma & Qu, 2017; Racherla & Hu, 2010; Ye, Li &
185 Law, 2013) have used relational techniques to explore the intellectual, contextual, and social structure
186 of the field (Koseoglu et al., 2016). Recently, co-citation analysis has been used to visualize the
187 intellectual structure of hospitality management (García-Lillo, Úbeda-García & Marco-Lajara, 2016),
188 tourism crisis and disaster management research (Jiang, Ritchie & Benckendorff, 2017), social media

research in hospitality (Leung, Sun & Bai, 2017), and human resources in hospitality management (García-Lillo et al., 2018). However, as indicated by Koseoglu et al. (2016) and Zarezadeh, Benckendorff and Gretzel (2018), more bibliometric studies with relational techniques are needed to improve understanding and help researchers with theory development.

3 METHODOLOGY

3.1 Sample selection

The sample used in the present study was defined according to previous reviews published in the field. As reported in Table 1, a longitudinal approach is widely used and papers are identified using keywords in leading journals or in large databases. The focus on databases rather than a few leading journals assures wider coverage, as shown by recent studies, such as Sainaghi, Phillips and Zavarrone (2017) and Sainaghi et al. (2018). This last literature review (Sainaghi et al., 2018) researched hotel and performance keywords in the Scopus database, selecting 1,515 papers from the last 20 years (1996–2015). After an analytical inspection, the net sample consisted of 734 papers. The authors of the present paper asked Sainaghi et al. (2018) for their reference list, and the present study is based on this sample.

In order to explain how the sample was identified, three criteria were applied: i) keywords, ii) journals, iii) year of publication. Two *keywords* were used: hotel and performance, as suggested in some reviews reported in Table 1. Concerning the *journals*, as previously discussed, the reviews that focused only on leading journals reduce significantly the sample size. For this reason, the present article has used a large database (Scopus). The empirical study was carried out at the beginning of August 2016 and these keywords ("hotels and performance") were researched in abstract, title and keywords. This approach is widely used in review and bibliometric papers (Gross, Gao & Huang, 2013; Hua, 2016; Sourouklis & Tsagdis, 2013; Tsai, Pan & Lee, 2011). Only journals published in English were included in the sample. The *time horizon* embraces 20 years, from 1196 to 2015 inclusively. This choice is coherent to some previous reviews realized in this field, as reported in

214 Table 1. Four time periods were identified in order to map trends: first slice 1996–2000, second slice
215 2001–2005, third slice 2006–2010 and fourth slice 2011–2015).

216 Overall, these choices assure a wide coverage of the literature. Using these three criteria, the
217 gross sample includes 1,155 papers. All the papers were analyzed to verify the relationship with the
218 "hotel performance" research stream. Only articles that explore determinants of results (Sainaghi,
219 2010a) or, on the other hand, propose performance measurement systems (Phillips, 1999; Phillips and
220 Louvieris, 2005) were included in the final sample. This choice is consistent with previous studies
221 (i.e. Tsang & Hsu, 2011; Yoo, Lee & Bai, 2011). The final sample includes 734 papers.

222 This choice assures both reliability, as the sample is identified by keywords and future studies
223 can use these to update the considered papers considered, and comparability, as it is possible to
224 compare what emerges from analyzing the sample related to cluster of topics (as reported in Sainaghi
225 et al., 2018) and from the architectural structure perspective (present study).

226 *3.2 Co-citation approach*

227 Co-citation analysis deals with how output references are interconnected where they have
228 been considered together (Fernandes et al., 2017) to highlight any similarities or differences in the
229 content of the two documents (Koseoglu, Sehitoglu & Craft, 2015). These reference-based
230 relationships generate networks depicting the positions of the references in the field (Serrat, 2017).
231 Figure 1 (created with the VOSviewer software program) provides an example that considers seven
232 articles' references. For example, Reference 1 and Reference 3 appear together in Articles 1, 2, and
233 3. This shows that the co-citation number is three for these two references. Based on these co-
234 citations, the number of articles within the network is drawn. The thickness of the lines and the sizes
235 of the circles or nodes show who occupies a strong position within the network, while the color of
236 the nodes and the lines highlight the incidence of clustering within the network (Van Eck & Waltman,
237 2010). Consequently, this visualization of the networks can help researchers clarify the strength of

238 the ties within the entire network and the positioning of a given citation within the field (Koseoglu,
239 2016).

240

241 **Insert Figure 1 here**

242

243 This study's database contained 56,163 citations. To gain a clear understanding from the co-
244 citation analysis, the authors established cutoff points for each period to select the most influential
245 papers, as suggested by Leung, Sun and Bai (2017) and García-Lillo, Úbeda-García & Marco-Lajara
246 (2016). Thus, this study selected the studies (references) that had been cited at least 15 times in the
247 overall period. The analysis considered cited academic journal articles. To understand the intellectual
248 structure of the studies, the authors conducted co-citation analysis for each period by using the smart
249 local moving (SLM) algorithm as a method for cluster analysis (Waltman & Van Eck, 2013). The
250 networks generated from the co-citation analysis for each period were visualized. In the visualization
251 generated by the VOSviewer software program, the size of the circle shows the normalized number
252 of citations for the articles. The thickness of the lines shows the strength of the co-citation ties. The
253 link between and proximity of two cited articles indicates the co-citation relationship between them.
254 The color of the circle indicates the cluster with which the cited article is associated (Leung, Sun &
255 Bai, 2017). The visualization (grey-colored) is based on the Fruchterman–Reingold algorithm, which
256 is "a force-directed method using both attractive and repulsive forces in order to place the nodes of a
257 network over a 2D or 3D space" (Silva, Rodrigues, Oliveira & da F. Costa, 2013, p. 472). Each circle
258 was labeled with the code given by this study's researchers for each cited article. The code list is
259 provided in Appendix 1.

260 Some network measures were calculated in order to catch some additional details about the
261 relevance of each paper. In particular, the Appendix 2, 3, and 4 reports the first 40 papers for each
262 period ranked in the first forty positions according to each single measure. The indices calculated are

three and represent well-known network indicators: i) betweeness, ii) degree centrality, iii) closeness. The measure of betweenness represents a bridge or channel between several citations or refernces: When a reference has more channels, it has more power (Zhang, 2015). Degree centrality is the most common and simplest measurement for representing strong collaboration by references. Yet, despite its commonness and simplicity, degree centrality is very important for academic evaluation insofar as it gauges the strength of collaboration by a reference by looking at the total number of collaborations it has had. Hence, according to degree centrality, when a reference has a strong collaboration network, it will tend to be more active and influential in the literature (Ye, Li & Law, 2013). Closeness explains the closeness of references to each other in the literature (Zhang, 2015).

4 RESULTS

The empirical findings are reported and articulated in two Section: §4.1 focuses on co-citation clusters and develops the first research question (what are the main foundation studies of hotel performance? What are the trends within them?), while §4.2 identifies the relevant journals and discusses the second research question, analyzing the leading cited journal (what are the top-cited journals?) and the trends (where and when were these foundation studies published?).

4.1 Co-citation clusters

The first research question is now discussed, aiming to identifying the foundation papers of the hospitality performance literature. Empirical evidence is articulated in four different time periods: 1996–2000; 2001–2005; 2006–2010; 2011–2015, and an overall representation (1996–2015). For each temporal slice, the co-citation network is reported, the clusters are identified, and the most relevant papers are shown. These results are reported in Appendix 1 and are listed in the references of this paper.

4.1.1 The embryonic phase: 1996–2000

The Figure 2 reports the full network of this period (Panel A), while Panel B shows the most cited studies. During the embryonic phase 32 papers were published. Consequently, the co-citation network (Figure 2, Panel A) appears sparse (39). Focusing on most relevant articles (Panel B), an important observation concerns the journals where these papers were published, as none of them were positioned in hospitality journals. Essentially, the foundation papers of hotel performance literature are linked, in this period, with the broader fields of management and marketing.

Panel B reports five very small clusters. Given the sparse structure of this network, the editing of Panel B (heat map) is different than those used for the other periods (clusters). For the embryonic phase, the heat map is more readable that the cluster map. Focusing on Panel B, four of them show only one relevant co-cited work. The leftmost group (labeled Cluster 1) includes three studies related to the broad topic of service quality. These articles are well-known in the field of service management as "A4" (Parasuraman, Zeithaml & Berry, 1988) or "A59" (Carman, 1990). Service quality represents a stable theoretical foundation in each period and for the overall co-citation network.

Insert Figure 2 here

The central group of Panel B, Cluster 2, depicts only one relevant work but is positioned strategically in the middle of Figure 2. "A64" is Kaplan and Norton's famous 1992 work: the balanced scorecard. In the following periods, this seminal article remains a touchstone for hotel performance literature.

To the extreme right (Cluster 3), another influential study is reported. Paper "A59" represents the contributions of Baum and Mezias (1992) dedicated to localized competition in the Manhattan hotel industry. The relevance of location is a central topic for hospitality researchers. In the lower-side of Figure 2 (Panel B, Cluster 4), "A65" contains another seminal work and, most importantly,

311 another key topic for the hospitality industry: the link between human resource management practices
312 and firm performance (Huselid, 1995). Finally, in the upper-side of Figure 2 (Cluster 5), a
313 methodological paper is reported ("A28"), dedicated to the development of "better marketing
314 constructs" (Churchill, 1979). This co-citation is interesting because it shows, as it emerges in the
315 next temporal period (2001–2005), the strong tie between hotel performance and the marketing
316 discipline.

317 The network measures add some interesting additional details. The appendix 2 reports the
318 betweeness centrality, an index able to identify the bridging articles. The work of Parasuraman,
319 Zeithaml and Berry (1988, "A4") plays this strategic role, as clearly identify by the Panel A of Figure
320 2. The degree centrality (Appendix 3) reveals a wide group of papers (those ranging from rank 1 to
321 rank 13) with a higher score. In the first four positions there are the same papers reported in Appendix
322 2 ("A67", "A59", "A4", "A20"), but we some changes in the rank position. Finally, the closeness
323 centrality (Appendix 4) is less discriminant. In fact, the first 12 papers account the same value (1.00).

324 *4.1.2 The foundational phase: 2001–2005*

325 During this second period, the number of published papers included in our sample increases
326 significantly from 32 to 72. This trend generates a more complex and interconnected group, composed
327 of 70 studies. Panel A in Figure 3 shows the entire co-cited network. The picture can be divided into
328 three blocks that approximately correspond to the left area of Panel B—that is, the split of the upper
329 side of Panel A articulated in Clusters 3, 4, and 5—and to the right side, where two groups are
330 identified (Clusters 1 and 2) corresponding to the lower part of Panel A. The left side includes some
331 clusters related to management and efficiency, while the right part focuses on marketing and service
332 management, as later discussed.

333 This period is a "foundation" stage of the field. During this time, two primary disciplines
334 emerge: marketing on the right side of Panel B, and management on the left. *Marketing* includes two
335 connected Clusters, 1 and 2. The first group comprises several relevant co-cited works belonging to

the service quality field. Most of these studies are well-known contributions of the service management literature stream, such as Cronin and Taylor (1992, "A25"); Parasuraman, Zeithaml, and Berry (1988, "A4"); Bitner, Booms, and Tetreault (1990, "A19"); and Gronroos (1984, "A49").

The second cluster, labeled Cluster 2, contains relevant, non-hospitality articles related to the broader area of the relationship between market orientation and firms' competitive advantage, and, in some papers, with firms' performance. Anderson, Fornell, and Lehmann (1994, "A37") explore the relationships between customer satisfaction, market orientation, and firm performance; similarly, Jaworski and Kohli's (1993, "A46") illustrate antecedents and outcomes of market orientation. In their work, Day and Wensley (1988, "A106") investigate competitive superiority primarily based on market positioning. Therefore, the Cluster 2 investigates the ties between competitive advantage based on external (market) positioning, and firm performance. Unsurprisingly, the most central article is the work of Venkatraman and Ramanujam (1986, "A17"), which examines the different approaches useful for measuring business performance. This group of papers is principally inspired by the "positioning school," based on Porter's work; however, the leftmost paper ("A99") is based on the resource-based view (Day, 1994) and studies the capabilities of market-driven organizations. Looking at the he marketing side of Panel B, at Clusters 1 and 2, shows a peculiarity: none of the most relevant studies are published in hospitality journals. Instead, most of the papers originated in marketing journals. Therefore, the foundation articles for hospitality researchers are external to their field.

The left part of Panel B includes studies rooted in the *management* disciplines and pertaining to three different clusters, identified as Clusters 3, 4, and 5. The first paper belonging to Cluster 3 and located in the middle ("A89") creates a link between management and marketing. The leftmost article of Cluster 2 ("A99") is based on resource-based view. Unsurprisingly, "A89" is Grant's (1991) foundational work dedicated to examining the link between resources and competitive advantage. The three most central papers of this cluster are important articles related to resource-based view theory: "A32" investigates the link between the resource-based perspective and firm performance

(Russo & Fouts, 1997); "A3" (Barney, 1991) looks at the relationship between resource-based view and competitive advantage; and "A43" proposes the resource-based view theory (Wernerfelt, 1984). Interestingly, the two remaining papers report on studies centered on hospitality firms: "A29" is Ingram and Baum's (1997) famous work that develops the link between chain affiliation and the failure rate of Manhattan hotels, while "A129" examines the need to go beyond revenue per available room (RevPAR) (Brown & Dev, 1999). Cluster 3 creates a bridge between marketing and management, starting from resource-based view and moving to performance measurement.

Insert Figure 3 here

Cluster 4 includes studies related to the efficiency approach. The most relevant contribution is "A8," a foundational study measuring the efficiency of decision-making units (Charnes, Cooper & Rhodes, 1978) and "A38," a case study paper measuring the results of a hotel group (Morey & Dittman, 1995). Interestingly, while in the marketing area all the relevant articles are published in non-hospitality journals; in the efficiency clusters, significant research comes from hospitality magazines, such as "A36" (Johns, Howcroft & Drake, 1997) and "A48" (Tsaur, 2001). All the papers (except for "A8") are studies within the hospitality field.

Finally, Cluster 5 is composed of a group of studies related to the performance measurement research stream. The foundational work is the balanced scorecard of Kaplan and Norton (1992, "A64"). The remaining papers are based on the hospitality industry and are published in hospitality journals, such as "A96" (Phillips, 1999) and "A55" (Harris & Mongiello, 2001), or in management (Baum & Mezias, 1992, "A50").

Looking comprehensively at the left side of Panel B, some common observations emerge concerning the "management approach." Few papers are based on theoretical frameworks developed in the broad

managerial area and, therefore, these studies do not report any empirical finding related to the hospitality field. These papers are mainly located in Cluster 3 and belong to the resource-based view theory. However, these non-hospitality-based contributions usually occupy central positions within the three clusters (Cluster 3: "A3" and "A32"; Cluster 4: "A8"; Cluster 5: "A64") and confirm that foundation studies vital to hotel performance measurement stream are external to this field. However, in contrast to the marketing approach (right side of Panel B), many articles of the management discipline (left side of Panel B) are based on hospitality evidence and are primarily published in hospitality journals.

The network measures add some additional details. The betweeness centrality (Appendix 2) reveals, on the one hand, the relevancy assured by marketing studies ("A28"), and service quality ("A25"), but, on the other, the emerging role played by the resource based-view theory ("A89", "A3"). The degree centrality (Appendix 3) confirms the relevancy of resource based-view approach ("A3", "A43"), but also the rising attention to some hospitality papers, as the work of Ingram and Baum (1997, "A29") and Phillips (1999, "A96"). Finally, the closeness centrality (Appendix 4) reports some interesting indications. In the first seven positions (all accounting and index of 1.00) five articles are based on hospitality studies ("A38", "A48", "A96", "A6", "A80").

4.1.3 The development phase: 2006–2010

During the five years of this period, the number of articles included in the sample triples, moving from 72 to 221. The co-citation network increases both in terms of studies (120) and links, as Panel A (Figure 4) clearly suggests. The network appears as a ball divisible in three parts: one small, right-side, densely connected cluster (Cluster 1); one larger, lower-side area less densely linked (Clusters 2 and 3); and the upper-left area, which representing the largest part and is articulated in Clusters 4, 5, and 6. The Panel B reports the main disciplines: efficiency on the right-side; environmental management and performance management in the center; human resource management, service quality and marketing on the left-side.

410 This third period can be defined as “development phase” and is primarily characterized by
411 two different evolutionary patterns. On the one hand, the number of disciplines rise, as suggested by
412 the increased complexity of the network (in terms of the number of papers, links, and clusters); on
413 the other, many of the relevant articles are based on hospitality studies or are published in hospitality
414 journals.

415 On the left side of Panel B, Cluster 1 includes a group of relevant papers strongly related to
416 the efficiency research stream. Three central articles are bigger and, therefore, more important: “A44”
417 (Barros, 2005b) evaluates the efficiency of a Portuguese hotel chain and is published in a hospitality
418 journal. The relevance of “A38” (Morey & Dittman, 1995) and “A8” (Charnes, Cooper & Rhodes,
419 1978) were presented in section 4.1.2. The remaining three articles (“A36,” “A85,” and “A48”) are
420 all hospitality-based papers published in hospitality journals, except for “A85.” Therefore, the internal
421 structure of Cluster 1 clearly suggests an important evolutionary pattern: the theoretical bases of this
422 research stream are now strongly related to hospitality papers and journals.

423 The central area of Panel B is populated by two different but adjacent and related Clusters, 2
424 and 3. The Cluster 2 is theoretically anchored to the resource-based view (Barney, 1991, “A3”) and
425 firm performance (Venkatraman & Ramanujam, 1986, “A17”). Curiously, this last paper (“A17),
426 which is a methodological study, was associated with market orientation in section 4.1.2, while in the
427 present period (2006-2010), it is cited to operationalize the performance measurement of resource-
428 based view approach. Cluster 2 contains a group of articles (left-side) focused on environmental
429 management. “A32” (Russo & Fouts, 1997) represents the theoretical foundation of this research sub-
430 stream, because it creates a connection between resource-based view and environmental performance.
431 Other studies within the environmental management subtopic are primarily based on hospitality
432 evidence and published in related journals, such as “A107” (Kirk, 1998), “A26” (Kirk, 1995), and
433 “A123” (Bohdanowicz, 2006). The right side of Cluster 2 presents several papers related to
434 performance measurement, published both in hospitality journals, such as “A86” (Israeli, 2002) and

435 "A56" (Pine & Phillips, 2005), or in management journals, such as "A50" (Baum & Mezias, 1992)
436 and "A45" (Baum & Haveman, 1997).

437 Cluster 3 is focuses on performance measurement and is centered around the work of Kaplan
438 and Norton (1992, "A41"; 1996, "A77"). The remaining studies are well-rooted in the accounting
439 discipline and propose performance measurement systems, such as "A96" (Phillips, 1999), "A131"
440 (Haktanir & Harris, 2005), and "A98" (Harris & Brander Brown, 1998). The link between these
441 contributions and the balanced scorecard is relevant; in fact, as Kaplan and Norton's framework
442 examines the limits traditional accounting measures (unbalanced, past-oriented, focused on short-
443 term, centered on shareholders), these hospitality studies develop new performance measurement
444 systems more oriented to the future, inspired by a balanced, multi-dimensionality approach able to
445 represent different stakeholders. Finally, "A128" (Denton & White, 2000) operationalizes the Kaplan
446 and Norton model for hotel firms.

447 In the leftmost area of Panel B there are three strongly connected Clusters, 4, 5, and 6. Cluster
448 4 is the smallest and includes papers exploring innovation in tourism. Not surprisingly, given the
449 novelty of this topic and, therefore, the need for new methodologies to examine this area of inquiry,
450 this group is primarily populated by methodological studies, with a strong link with structural
451 equation modelling. In fact, "A1" (Fornell & Larcker, 1981) and "A10" (Bagozzi & Yi, 1988) develop
452 criteria to evaluate structural equation modelling, a framework widely used by hospitality researchers.
453 Similarly, "A54" (Hu & Bentler, 1999) proposed cutoff criteria in covariance structure analysis.
454 These contributions are neither developed nor published in the hospitality field. The two rightmost
455 papers of Cluster 4 are two applied works. "A60" (Ottenbacher & Gnoth, 2005) is rooted in the hotel
456 industry.

457

458 **Insert Figure 4 here**

459

460 Cluster 5 contains studies pertaining to service quality (variously interrelated with customer
461 satisfaction), a research stream that emerged in the first (4.1) and in second (4.2) periods. This group
462 is centered around the framework of SERVQUAL proposed by Parasuraman, Zeithaml and Berry
463 (1988, "A4"; 1985, "A7"), Zeithaml (1988, "A58"), or used in empirical studies (Carman, 1990). If
464 the theoretical foundation remains strongly related to service management, this cluster includes some
465 papers based on hospitality evidence, such as "A69" (Choi & Chu, 2001), "A53" (Kandampully &
466 Suhartanto, 2000), and "A121" (Chu & Choi, 2000).

467 Finally, Cluster 5 is rooted in the organization disciplines and is broadly linked with human
468 resource management. Panel B shows three central works: one methodological paper (Anderson &
469 Gerbing, 1988, "A2") based on structural equation modelling, and two technical studies (Heskett et
470 al., 1994, "A11"; Hartline & Ferrell, 1996, "A14"). Generally speaking, papers included in Cluster 5
471 stress the centrality of customers and employees. Interestingly, the remaining papers are primarily
472 empirical studies related to human resource management practices, such as role stressors and
473 customer orientation (Bettencourt & Brown, 2003, "A132"), differences of employee behaviors
474 comparing men and women (Babin & Boles, 1988, "A22"), and the determinants of prosocial service
475 behaviors of contact employees (Bettencourt & Brown, 1997, "A79"). Overall, this cluster is largely
476 populated by papers neither rooted nor published in the hospitality field. This is consistent with the
477 evolutionary paths described in other research streams, such as service quality or market orientation:
478 the first phase of most studies pertains to the broad general management literature, with hospitality
479 articles gaining centrality later.

480 The network indices enrich the analysis. The betweeness centrality (Appendix 2) shows four
481 relevant papers. The first three are not hospitality-based studies and focus on methodology in
482 marketing ("A23"), environmental management ("A32") and service quality ("A4"). By contrast,
483 there is one hospitality-based paper ("A34") that applies the environmental approach to this industry
484 (Álvarez-Gil, Burgos-Jimenez & Cespedes-Lorente, 2001). The degree centrality (Appendix 3)

485 confirms the relevance of some studies ("A23", "A4"), and adds another important work focused on
486 service management ("A7"). All these three articles are not based on the hospitality industry. Finally,
487 the closeness centrality (Appendix 4), as usual, adds some additional and partially different insights.
488 In the first four ranks there are three papers based on the broad management and marketing area
489 ("A43", resource based-view; "A5" a methodological study; "A57", service quality). The only one
490 hospitality study is the article "A48", based on efficiency theory.

491 *4.1.4 The specialization phase: 2011–2015*

492 Figure 5 reveals the last evolution of the co-citation network. The number of papers published
493 in this period and included in the sample is roughly double, moving from 221 to 409. The increase
494 (188 articles) is the highest registered. The network represented in Figure 5 (Panel A) includes 128
495 papers and identifies five clusters. While in the previous periods Panel A (Figures 1, 2, and 3) shows
496 some vacuum spaces between the identified clusters, Figure 5 shows a more densely connected
497 network.

498 This period is defined as the "specialization phase" because the clusters are now well-defined,
499 and, with some exceptions, the foundation papers are primarily based on hospitality papers. Relevant
500 articles tend to be less important. Graphically, there are more small circles and few big balls, except
501 for in emerging areas of inquiry (Cluster 5). The Panel B reports the main disciplines: human resource
502 management on the left; service quality and management in the center-left; performance measurement
503 in the center-right; efficiency on the right.

504 Cluster 1 focuses on efficiency, is characterized by many links, and, for the first time, all
505 relevant papers in Panel B are both rooted in the hospitality industry and published in this field. Papers
506 playing pivotal roles, including many new, relevant studies (compared with the previous period),
507 primarily centered on data envelopment analysis (Chiang, Tsai & Wang, 2004, "A15"; Hwang &
508 Chang, 2003, "A6"; Hsieh & Lin, 2010, "A90") or efficiency (Barros, 2005a, "A18"; Chen, 2007,
509 "A18"; Barros & Mascarenhas, 2005, "A31").

Cluster 2 contains a less connected cluster but is centrally positioned in the entire network. This group belongs to the performance measurement stream and includes a mixture works based both on hospitality industry and not. External articles are represented by the balanced scorecard framework (Kaplan & Norton, 1992, "A64") and the methodological work of Venkatraman and Ramanujam (1986, "A17"). Studies related to the hospitality field include four papers described in previous time periods ("A129," "A55," "A45," and "A50"). A new paper is the work of Sainaghi (2010a, "A111"), which provides a literature review on performance measurement. This study, despite being published only one year before the beginning point of this period, has gained high visibility and suggests that hospitality researchers are increasingly attentive to hospitality papers.

Cluster 3 is based on the marketing discipline and includes studies centered on market orientation, environmental management, and mixing theoretical and methodological papers on one side, and empirical contributions published in non-hospitality journals and realized in this field, on the other. The theoretical background remains the resource-based view (Barney, 1991, "A3"; Grant, 1991, "A89"; Russo & Fouts, 1997, "A32"). Market orientation (Babin & Boles, 1988, "A22"; Kohli & Jaworski, 1990, "A82") and methodological contributions (Armstrong & Overton, 1977, "A23") are built around contributions hosted in marketing journals. Finally, empirical works related to the hospitality industry are related to environmental management (Erdogan & Baris, 2007, "A92"; Bohdanowicz, 2005, "A124"). It is interesting to note that the external foundation studies tend to be old, while studies based on the hospitality field are often considerably more recent.

Cluster 4 mixes service quality and customer satisfaction, as previously observed. This group includes a majority of non-hospitality papers based in a central position and encountered in previous periods (such as Zeithaml, 1988, "A58"; Heskett et al., 1994, "A11"; Gronroos, 1984, "A49"; Parasuraman, Zeithaml & Berry, 1988, "A4"; Parasuraman, Zeithaml and Berry, 1985, "A7"). In this case, it is also evident that the external foundation papers are old. Some emerging studies related to

534 the hospitality industry explore customer loyalty (Kandampully & Suhartanto, 2000, "A53") and the
535 antecedents of customer satisfaction (Choi & Chu, 2001, "A69").

536 Finally, Cluster 5 is a densely connected group focused on human resource management.
537 Three central papers reveal some methodological bases, such as structural equation modelling
538 (Fornell & Larcker, 1981, "A1"; Anderson & Gerbing, 1988, "A2") or the roles played by mediator
539 and moderator variables (Baron & Kenny, 1986, "A9"). The relevant empirical papers are all external
540 (except for Kusluvan et al., 2010, "A73") and, in some cases, were cited in previous time periods
541 (Babin & Boles, 1988, "A22"; Bitner, Booms & Tetreault, 1990, "A19"), plus new works (Babakus
542 et al., 2003, "A39"; Podsakoff et al., 2000, "A95").

543

544 **Insert Figure 5 here**

545

546 The network measures enlarge the evidences. The betweeness centrality (Appendix 2)
547 identifies four relevant papers. The first ("A23") recorded the first position also in the previous period
548 and is the methodological paper based on marketing approach. But in the next three positions there
549 are new articles showing some evolutionary trends. Two papers, in fact, belong to the human resource
550 management ("A126", "A97"), while the fourth is a methodological study based on structure equation
551 modelling ("A1"). The degree centrality (Appendix 3) measures collaboration by researchers. In the
552 first three ranks there are two works unrelated to the hospitality industry ("A1", "A3") and one article
553 rooted in this field and based on the performance measurement approach ("A56"). Finally, the
554 closeness centrality (Appendix 4) shows similar results of the previous period with the adjunct of an
555 efficiency study based on hospitality evidences ("A83").

556 *4.1.5 The overall picture: 1996–2015*

557 Figure 6 depicts the entire network created when considering all the papers included in the
558 sample (734) and based on the co-citation network (128 contributions). Panel A shows the complexity

559 network, so densely connected is difficult to identify the five clusters reported in Panel B. Of these
560 five groups, Cluster 1 is related to efficiency, Cluster 2 to performance measurement, Cluster 3 to
561 market orientation and environmental management, Cluster 4 to service quality and customer
562 satisfaction, and Cluster 5 to human resource management. The basic characteristics are very similar
563 to those reported in section 4.4.

564

565 **Insert Figure 6 here**

566

567 The network metrics, overall, suggest the increasing importance assured mainly by some
568 methodological studies (as later presented); the foundation papers ranked in the first four positions
569 are mainly based on non-hospitality articles, with very few exceptions. The betweeness centrality
570 (Appendix 2) reports two methodological studies in the first four ranks ("A23", "A1"). There are two
571 hospitality papers, one linked to the environmental management approach ("A34") and one related to
572 the human resource management field ("A97"). The degree centrality (Appendix 3) illustrates four
573 non-hospitality studies in the first four ranks. Two of them are methodological papers ("A1", "A23"),
574 one is rooted in the service management approach ("A4") and one on the resource based-view ("A3").
575 Similarly, the degree centrality (Appendix 4) reports four studies unrelated to the hospitality industry,
576 two based on methodology ("A1", "A23"), one on service management ("A4"), and one on resource
577 based-view ("A3").

578 *4.2 Relevant journals*

579 The second research question focuses on leading journals. Using the references of the 734
580 papers included in the sample created a database that counted the frequencies (citation) collected by
581 each journal. Based on these citations, the ranks and time trends of the top 25 journals are discussed
582 (4.2.1). Based on co-citation analysis, some trends related to the journals where the most co-cited
583 studies are published are reported (4.2.2).

584 *4.2.1 Leading cited journals*

585 To identify top cited journals, the researchers considered the total references in the sample,
586 equal to 56,163 studies. By filtering these contributions per journal, a database was created. Table 2
587 lists the first 25 journals and the citations retrieved in each period. As reported in the third column
588 from right, these 25 journals account approximately 21 thousand citations (37.35% of total).

589

590 **Insert Table 2 here**

591

592 Starting from the *overall column*, three hospitality journals appear in the top positions; they
593 are *IJHM*, *Cornell Hospitality Quarterly* (*CHQ*), and *IJCHM*. Together, these journals account for
594 24% of the total number of citations registered by the first 50 journals. The clear majority of the 25
595 journals reported in Table 2 are not part of the hospitality industry; in fact, 18 journals are primarily
596 related to marketing and management, accounting for 45% of the citations. By contrast, the seven
597 hospitality (and tourism) journals attract 35% of the citations. The remaining 20% is collected by
598 "other" papers.

599 Focusing on Table 2 and on the four temporal periods reported in the columns 3 (1996-2000),
600 4 (2001-2005), 5 (2006-2010) and 6 (2011-2015) from left, some trends can be described. During the
601 "embryonic phase" (1996–2000), *CHQ* (the oldest review) is ranked first (13%), while the remaining
602 hospitality journals are far from top rank: *IJHM* is 7th (5%) and *IJCHM* is 13th (3%). The total number
603 of citations collected by hospitality papers is 25% (compared with the 35% of the overall period); by
604 contrast, non-hospitality studies represent 65% (not considering the "other" line). This result is
605 consistent with the findings previously discussed: the foundation studies fall mainly outside the
606 hospitality field.

607 The second period was defined as the "foundational phase" (2001–2005) because some
608 important papers were linked with hospitality papers. The citations partially confirm this trend: *CHQ*

609 remains the first journal (11%), while *IJHM* is now third (7%), and *IJCHM* is 6th (6%). The total
610 citations of the hospitality papers increases and moves from 25% (1996–2000) to 32% (2001–
611 200505).

612 During the "development phase" (2006–2010) the hospitality journals are well positioned:
613 they attract 39% of the total citations. Furthermore, *IJHM*, with 10%, is ranked first; *CHQ* (9%) is
614 third; and *IJCHM* is fourth (8%). For the first time, *Tourism Management* (*TM*) accounts for a
615 significant percentage (6%) and occupies a good rank (7th). If during the development phase
616 hospitality journals acquire more centrality, by contrast, non-hospitality papers reduce significantly
617 their weight: from 68% (2001-2005) to 61% (2006–1010).

618 The final period was defined as the "specialization phase" (2011–2015), as more centrality was
619 acquired by hospitality studies. The citations confirm a strong decrease in the general management
620 and marketing studies, whose overall weight collapses to 52% (from 61%). In contrast, hospitality
621 papers move from 39% to 48%, the highest amount registered. Hospitality (and tourism) journals
622 occupy the first four ranks: *IJHM* is first (14.6%), *IJCHM* is second (9.3%), *TM* is third (8.6%), and
623 *CHQ* is fourth (8.1%). Also, the three remaining journals improve their ranks: *Annals of Tourism*
624 *Research* (*ATR*) is now 12th (was 13th), the *Journal of Hospitality and Tourism Research* (*JH&TR*)
625 moves from the 20th to the 15th position, and the *Journal of Travel Research* (*JTR*) moves from the
626 21st to the 17th rank.

627 *4.2.2 Where and when are the foundation papers published?*

628 The second analysis centered on journals is based on co-citation. The researchers considered
629 all the papers included in the networks reported in the previous chapter and included in the clusters.
630 Panel A of Figure 7 shows the number increase. While in section 4, the attention was on articles, now
631 the attention is on journals. This clarifies some insights that previously emerged concerning the
632 increasing relationships between the foundation studies and hospitality journals, on one side, and the

different time necessary for knowledge diffusion for hospitality papers and non-hospitality articles, on the other.

Insert Figure 7 here

With reference of the first point (rising contribute of hospitality papers), as reported in Panel B, the role played by \ hospitality (and tourism) journals increases considerably over time. The percentages are based on the total number of papers – alternatively the percentages reported in Panel B can be based on the citations received by hospitality journal over the total. The research team has verified that this second method (citations) produces results very similar at those reported in Figure 7 (evidence not reported). While in the "embryonic phase (1996-2000)," 92% of the foundation papers were published in the broad management and marketing field, the relevance of hospitality journals increases rapidly and moves from 8% (1996-2000) to 39% (2011–2015).

The previous section showed that foundation papers taken from the broad literature tend to be old, while hospitality studies are generally more recent. To evaluate this perception, Panel C reports the average year of published papers, distinguishing between the two groups of journals. The broader literature was published between the end of the 1980s and the beginning of the 1990s. In contrast, hospitality journals host fresher studies, published between 1996 and 2003. The distance between these two groups is reported in Panel D, which describes an increasing time gap, moving from 7.4 years (1996–2000) to 10.3 years (2011–2015).

5 CONCLUSIONS

This study adopted the co-citation analysis approach to identify and analyze the literature on hospitality performance measurement published in scientific journals over a period of 20 years. As a

657 first contribution, this research provides a clear depiction of the recent trends in the hospitality
658 performance measurement literature.

659 The analyses of this study classify the content of the hotel performance literature into five co-
660 citation clusters (Figure 2). Moreover, the authors categorized the empirical evidence into different
661 time periods: 1996–2000 (embryonic phase); 2001–2005 (foundational phase); 2006–2010
662 (development phase); 2011–2015 (specialization phase), and an overall representation (1996–2015).
663 This paper provides an updated picture of the subject areas focused on by papers published within
664 each of the co-citation clusters.

665 Three key conclusions are proposed based on the topics analysis previously presented in the
666 findings section. The first refers to the relationship between hospitality and management studies. This
667 article has illustrated as many researchers cite old or very old papers related to the broad management
668 and marketing field (see Figure 7, Panel C and D). This phenomenon can be interpreted in two
669 perspectives. First, when an author introduces a model related to the management or marketing
670 discipline, usually reports a citation of a foundation study. For example, if the topic is the balanced
671 scorecard, the author usually cites Kaplan and Norton (1992), if the theme is service quality/service
672 management, the work of Parasuraman, Zeithaml and Berry (1988) appears in the references. If the
673 author ignores these studies, he/she can have some problems during the reviewing process. This first
674 perspective explains why the management and marketing foundation studies are so old. But the time
675 lag reported in Figure 7 can introduce a second explanation. The hospitality researchers tend to refer
676 in their study to more recent works developed in their field. This choice can be explained in two
677 different ways. First, the hospitality papers have modified the models developed in other disciplines
678 incorporating the distinctive features of the tourism field. Second, the researchers in the field of
679 hospitality have not followed the development of these models and frameworks in the broad
680 management and marketing discipline and they cite only the original model. We propend to the first
681 explanation, given the increasing customization of the models used in the hospitality field.

682 A second reflection is related to the increasing number of foundation studies related to the
683 hospitality (and to some extent tourism) journals. This trend opens an interesting question: Is the field
684 increasingly isolated from the wider literature or are researchers starting to develop their own endemic
685 theories of performance measurement that better match the hospitality context? It is difficult to
686 answer this question, because the present paper identifies only the foundation studies. Therefore,
687 these leading papers (composing the architectural structure) can be associated also to some emerging
688 studies developed in other disciplines. But these latter receive less citations and therefore are not
689 classified as foundation studies. Furthermore, the answer can be influenced by the reviewing process.
690 When an author submits a paper to a hospitality or tourism journal focuses more attention on the
691 recent studies developed in this field, rather than in the broad management and marketing area. In
692 fact, the probability that the reviewers belong to the hospitality and tourism field is considerably
693 higher. This orientation can explain why there is a growing number of foundation studies related to
694 hospitality journals. This process can create in the long run a progressive isolation between hospitality
695 and the broad management and marketing field, especially if the researchers focuses his/her attention
696 only on the hospitality and tourism journals. Furthermore, this specialization is favored by the
697 increasing number of hospitality researchers and journals, that have increased considerably the total
698 number of articles published per year (Park et al., 2011). This increasing and specialized emerging
699 literature is attracting a higher number of foundation studies.

700 Finally, the findings allow to indicate which are the new areas of inquire and which have
701 become stagnant. To identify the trends, we have excluded the first period of time, given the limited
702 amount of papers. In the first group (emerging topics) there are the studies related to human resource
703 management, performance measurement and especially marketing. The rise of human resource
704 management is considerably a recent phenomenon; in fact, in 2001-2005 this theme is not recorded
705 by the clusters. The performance measurement stream signals a strong rise in the last period of time.
706 Marketing is the largest and increasing area of inquire. This trend is favored by the tendency of this

discipline to include many topics, as service quality, customer satisfaction and more recently (2011-2015) also environmental management and a mixture of methodological papers (as previously presented). By contrast the stagnation topics are represented by management and environmental management and methodological articles. Finally, efficiency is in a stable area neither rising, neither reducing. This whole picture is coherent with the hospitality industry, where revenue (and therefore marketing) plays a pivotal role, given the fixed structure of costs. Therefore, an increase in revenue generates a rise in the economic margins.

Despite it is difficult to forecast the future research trends, this study permits to formulate some possible directions. The foundation studies will probably continue to be strongly related to the hospitality industry and even more less linked to the broad management and marketing disciplines. This trend is triggered by the increasing attention of authors and reviewers to the hospitality specificities. Therefore, the role of hospitality (and tourism) journals will continue to increase their market share in term both of papers and citations. Focusing on topics, human resource management and marketing will gain a more centrality, given, on one side, the rising key role played by personnel, and on the other, the relevance of revenue for the hotel performance. Probably the significant changes introduced by the new technology wave can attract more interest to the performance measurement streams.

This study opens some practical implications for young researchers. Despite the actual trend is to rely the foundation papers to the hospitality (and to some extent tourism) field, it is important to maintain a strong focus on the broad management and marketing studies. The ability to merge these areas could open new insights and increase the efficacy of the hospitality frameworks. However, young researchers cannot ignore the wide hospitality literature and the increasing effort made by hospitality researcher to incorporate the key hospitality characteristics. In term of hospitality disciplines, there is a clear trade-off. On one side, young researchers can work on the emerging topics previously identified. By contrast, these themes are often well guarded by the senior researchers and

732 therefore there can have high “entry barriers”. On the other side, young researchers can choose niche
733 topics and completely new areas of research. A promising area could be represented by new
734 performance measurement frameworks based on the technology advancements.

735 *5.1 Limitations and further research*

736 This work presents some limitations that are identified primarily to suggest future research
737 agendas. First, the study uses the Scopus database which, despite being authoritative, will result in
738 some research being inaccessible because of their unavailability at the time of this research. The
739 Scopus database is not exhaustive of all the possible publications relating to hotel performance
740 measurement, and the researchers did not include books in this sample. Second, the study focuses
741 only on foundation papers identified using co-citations and network cluster analysis. Given how the
742 sample overlaps with the work of Sainaghi et al. (2018), a relationship between the visible (cluster
743 analysis based on cross-cited papers) and the architectural structure (co-citation) can be traced.
744 However, given the space constraints, this topic requires a separate paper.

745
746

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