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Leadership research in the root of hospitality scholarship: 1960-2020

Abstract

This study presents a perspective and conspectus about the intellectual structure and progress

of hospitality leadership research over the past sixty years. The authors use text mining analysis

to explore prominent topics and how they have shifted over time. Leadership development and

approaches have predominated in the knowledge domain followed by contemporary leadership

behaviors. Of the eight leadership domains revealed by both co-citation and text mining

analyses, four are associated with leadership styles, with each having effects on employees.

LMX is the leading theme in hospitality leadership research, while abusive supervision is a

growing domain - the darker side of leadership. The current study contributes to the hospitality

literature by considering coverage of leadership issues since the 1960s. Furthermore, it

encompasses the evolution of hospitality leadership research from the development of theory

to a focus on impacts, thereby providing crucial insights for industry professionals to lead their

organizations more effectively and efficiently.

Keywords: Leadership; hospitality scholarship; intellectual structure; citation; co-citation;

text mining

1. Introduction

The leadership domain has played an active part in research and theory building, providing scholars and practitioners with more scientific and evidence-based background for the further development of this long-standing concept. For over sixty years, scholars have been struggling to identify leadership features that improve firm performance, notably in hospitality and tourism (Arasli, Altinay, & Arici, 2020; Chon & Zoltan, 2019). Substantial research has been conducted over the past half-century to determine why some leadership styles have been more effective for organizations. However, definitive evidence remains elusive and the identification of key leadership issues is ongoing (Gordon & Yukl, 2004). Since review studies have not provided a complete picture of the development of hospitality leadership research, academic understanding of evolving patterns is still in its infancy. Review studies have sought to present an overview, though have nevertheless considered only a specific leadership style (e.g., Bavik, 2020; Chon & Zoltan, 2019; Gui, Luo, Zhang, & Deng, 2020; Gui, Zhang, Zou, & Ouyang, 2020) or individual hospitality journals (e.g., Brownell, 2010). Bavik (2020), for instance, conducted a systematic review of the hospitality management literature and addressed the role of servant leadership practices on firm-level and employee-level outcomes. Chon and Zoltan (2019) reviewed 38 papers in the hospitality field to generate a framework of servant leadership and provided several suggestions for further investigation. Gui, Luo, et al.'s (2020) quantitative meta-analysis drew upon 62 studies to provide conceptual relationships around transformational leadership and its consequences for hospitality. Whilst important contributions in their own right, the preceding endeavors have not provided the "big picture" of hospitality leadership research because more extensive bibliometric and co-citation analyses offer the prospect of more definitive outcomes (Köseoglu, Mehraliyev, Aladag, & King, 2021). The previous publications fall short of offering a clear and complete evaluation of the maturity of intellectual connections in hospitality leadership research. It is our intention to supplement the existing hospitality literature reviews by identifying influential studies and clusters of source knowledge across the leadership domain.

Köseoglu et al. (2021) suggested that the mapping of intellectual structure contributes substantially to the process of developing theories. Study domains with an important knowledge accumulation take advantage of identifiable intellectual connections that direct future studies. There is evidence of progress in the scholarly development of leadership in hospitality with the transformation of earlier classic leadership theories (e.g., trait and behavior theories) into contemporary approaches that prompt scholars to address various scholarly questions (Brownell, 2010; Pittaway, Carmouche, & Chell, 1998). Scientific insights into developments may help scholars to address the influence of leadership theories and approaches on industry practice. Reviewing leadership in the roots of hospitality also offers the potential of expanding hospitality practitioner knowledge about relationships between leadership approach and outcomes at organizational- and employee-level. These include turnover intentions, employee satisfaction, organizational commitment, organizational performance, and profitability.

Despite the plentiful and developing research on leadership, previous studies have included little longitudinal-based content, namely comprehensive insights into disciplinary evolution over an extended period (Köseoglu et al., 2021). This in turn hampers the development of a comprehensive understanding of progress in hospitality leadership over the longer term. Countless questions remain about the roots of hospitality leadership research, including its source knowledge, knowledge fields and intellectual connections. These merit further attention from scholars and practitioners. For current purposes the authors view the root as a congruity of theories, subfields, and connections that constitute the fundamentals of a discipline (Koseoglu, 2020). Meanwhile, insights can be gathered into the development of

scientific models via the databases of various leading hospitality journals. The current study attests that research into the root of hospitality leadership merits scholarly attention.

Consistent with this background, we address questions about the leadership phenomenon in the hospitality literature and overcome the aforementioned limitations by exploiting a quantitative analysis of articles published in top-tier hospitality journals. We present an in-depth understanding of intellectual structure in hospitality leadership research by adopting citation analysis, document co-citation analysis via network analysis, and text mining via machine learning. In outlining such links, the work has the following objectives:

- To identify influential studies and clusters of source knowledge in hospitality leadership by mapping intellectual connections,
- To pursue intellectual connections by exploring the origins, evolution, and themes of leadership research in hospitality sources,
- To provide emergent topics about hospitality leadership as a potential framework for future studies.

The current investigation contributes to the hospitality literature in a number of ways. First, given the prominent role for leaders in hospitality and tourism (Arasli et al. 2020), it is important to undertake comprehensive investigations of the foundations, progress, and effectiveness of hospitality leadership research. The current study adopts a new bibliometric approach, namely co-citation and LDA as a text-mining analysis called advanced intellectual structure analysis (AISA) (Koseoglu, 2020). This is a complementary methodology that can be deployed to explore the intellectual structure of the discipline. Through such means, the researchers research provide a complete picture and clarify key opportunities for hospitality leadership research, setting a future research agenda, and prospectively guiding theory development. Second, and relative to its predecessors, the research includes a larger number of hospitality journals over a longer period. This approach should provide hospitality scholars

with a comprehensive picture of the leadership domain and its scholarly progress. Lastly, though several hospitality and tourism studies have used citation and co-citation analysis, to the authors' best knowledge, the current investigation is amongst the first to apply the AISA method, including LDA and text-mining. This potentially minimizes the limitations of citation and co-citation analysis in terms of reality, generalization, reliability, and validity. Thus, our study can potentially unearth intellectual connections in hospitality leadership research.

The study is structured as follows. We first discuss leadership research as one of the most popular streams within the business and management discipline, and then present hospitality-specific leadership literature. Second, we present our methodology. The detailed results are then presented and discussed, followed by a conclusion and recommendations for further investigation together with limitations.

2. Literature review

2.1. What is Leadership?

Many recent and longer standing studies have been shaped by the "what is leadership" question (Kort, 2008). Defining this phenomenon has challenged both scholars and practitioners (De Pree 1998). In their pioneering work, Vroom and Yetton (1973) proposed the process of influence as an essential component of any definition of leadership. Leadership has been investigated by scholars for more than a century and definitions have evolved constantly over this period (Northouse, 2016). There are several influences on definitions - politics, foreign affairs, and views about the discipline of focus.

Initial attempts to provide a definition focused on leaders' heroic features. In 1847, Thomas Carlyle indicated that the work of great men or heroes is at the heart of the human achievement (Carlyle, 1993). In his "great man theory" the author claimed that leaders are born (i.e., are not made) and that only those with heroic characteristics can lead. From the

early 1900s to the 1930s, leadership definitions focused on control, centralization, and domination of power. Mumford (1906) claimed that possessing property is important for leaders because it enhances confidence about exercising the function. The author also argued that leaders should possess traits such as great courage, persistence, and endurance, and the ability to organize and control followers. They should "... form decisions rapidly, yet carefully, and then to act promptly, forcefully, and efficiently" (p. 370) to dominate power. Later, Murphy (1941) defined leadership as "that element in a group situation which, when made conscious and controlling, brings about a new situation that is more satisfying to the group as a whole" (p. 677). At the start of the 1960s leadership was defined as individual actions that affect others in a common direction (Seeman, 1960). During this period, most leadership styles dealt with relations between subordinates and superiors within an organization, e.g., employee oriented or job-oriented leadership (Blake & Mouton, 1964), boss or subordinate-centred leadership (Tannenbaum & Schmidt, 1973). Barnard (1971) supported the view that leadership concentrates on leader-follower relations, contending that organizations synthesize human emotions, needs, and expectations. Based upon this view, a leader should reconcile conflicting employee interests, ideals, needs, and expectations within an organization. Tannenbaum and Schmidt (1973) also viewed each employee as possessing needs and expectations about how a leader should behave relative to him or her. Ouchi's (1981) Theory Z suggested that leaders must balance corporate goals with those of individual employees to ensure the survival of the organization.

Many studies since the 1970s have centered on transformational and transactional leadership. Tichy and Ulrich (1984) exemplified the importance of leaders in transforming companies from bankruptcy to profitability. The leader's main role is creating a vision of organizational success. Bass's (1985) conceptualization of transactional and transformational leadership involved several determinants - charisma, inspirational, intellectual stimulation,

individualized consideration, contingent reward, management-by-exception and laissez-faire leadership. According to Bass and Riggio (2006), transformational leaders are likely to see objectives as more crucial than avoiding the violation of procedures. Such leaders can also transform procedures, policies, and even culture over time.

Researchers have recently embraced several new styles, such as authentic leadership (Gardner, Lowe, Moss, Mahoney, & Cogliser, 2010; Walumbwa, Hartnell, & Oke, 2010), spiritual leadership (Benefiel, 2005; Fry, 2003), servant leadership (Greenleaf, 1977; van Dierendonck, 2011), and adaptive leadership (DeRue, 2011; Heifetz, Heifetz, Grashow, & Linsky, 2009). Following years of dispute, researchers now broadly agree that it is unrealistic to arrive at a commonly accepted definition of leadership (Northouse, 2016). For reasons such as increasing worldwide impacts and intergenerational difference, leadership has different meanings for different people. The concept is complex, and a common definition seems out of reach in the short term. Nevertheless, Gandolfi (2016), proposed four dimensions as constituting an effective definition of leadership: there should be a leader and followers, it must be operations led with a legitimate course, and organizational goals.

Noting that this background dates back over a century, leadership can be broadly defined as the ability to influence others to accomplish organizational goals (Arasli et al., 2020). To become successful, there are things that leaders must BE, KNOW, and DO (Araslı & Arıcı, 2019). A good leader focuses on what s/he is (leadership characteristics), what s/he knows (leadership skills and knowledge), and what s/he does (leadership behaviors and attitudes) (Arasli et al., 2020). Further academic debate about the phenomenon concerns potential differences between leadership and management. Many scholars view leadership as entirely different from management, though many management activities are consonant with leadership practice and its definition. Kotter's (1998) comparison of management and leadership viewed the two as dissimilar in their functions. While order and consistency are

dominant management functions, change and movement are the distinct functions of leadership. Management strives for order and stability, whereas leadership pursues adaptive and constructive change (Northouse, 2016). Several leadership scholars have suggested that planning, implementing, and evaluating strategy in organizations requires good leadership, rather than management (Ateş et al., 2020; Tawse, Patrick, & Vera, 2019). Only leaders can formulate a vision that will energize/motivate employees (Rowsell & Berry, 1993).

Scholarly leadership definitions date back over a century (Bass & Riggio, 2006; Day, 2012; Gardner, 1993; Kouzes & Posner, 2006; Rost, 1991; Spillane, 2012; Zaccaro, Rittman, & Marks, 2001). The earlier focus was on heroic traits and being "born not made" (Carlyle, 1993). Subsequently, traits have been proposed as the main element of leadership, including charisma (Ekvall & Arvonen, 1991). However, some have adopted the situational or contingency approach (e.g., Fiedler, 1967). Process leadership theories emerged subsequently with Greenleaf's (1977) servant leadership being amongst the most popular. This theory posits that leaders first serve others and sacrifice their own needs. It received particular attention towards the end of the 20th century. Since the 1970s, much research has focused on transformational and transactional leadership (Bass, 1985), and on charismatic leadership (Conger & Kanungo, 1987). Recent studies during the "post-transformational period" have investigated novel styles and theories, including authentic leadership (Avolio & Gardner, 2005), spiritual leadership (Fry, 2003), servant leadership (Van Dierendonck, 2011), and paradoxical leadership (Zhang et al., 2015). Such recent attempts better explain how leadership approaches are mirrored in individual, group, and organization performance. This phenomenon has been studied through its history using multiple methods and approaches, including quantitative, qualitative, and/or mixed methods. Investigations have been conducted in various settings, such as small work units, large companies and across different

industries, including tourism and hospitality. The following section overviews leadership studies from the literature.

2.2. Overview of Leadership Studies

The history of leadership theory and research spans over a century (Avolio, Walumbwa, & Weber, 2009; DeRue, 2011; Dinh et al., 2014; Ling, Lin, & Wu, 2016; Lord & Day, 2017; Lyu, Zhu, Zhong, & Hu, 2016; Tracey & Hinkin, 1994; van Dierendonck, 2011). Systematic examinations of leadership commenced in earnest over the past several decades at different research centers, including at Iowa during the 1930s and at Michigan and Ohio from the 1940s to 1950s (Avolio et al., 2009). While early studies concentrated on leader attributes that concerned effectiveness measures (Gibb, 1947), later studies focused more on personal features to related skills (Luthans, 2002). Likert (1961) compared job-centered with employee-centered management, while Mouton and Blake (1964) distinguished concern for production from concern for people. At the beginning of the 1960s, contingency approaches arose with Fiedler's contingency theory with leadership styles being influenced by conditional variables (Fiedler, 1967; Huber, Northcraft, & Neale, 1990). This theory asserted that leadership is contingent (Vroom, 1976). Nebel and Stearns (1977) used contingency theory to consider the variables of task structure, position, group atmosphere, and employees' need for independence. They deduced that leadership efficiency depends on the situation and organizational style. Hersey and Blanchard (1972) proposed the situational leadership approach. This categorizes followers into four groups according to their maturity (i.e., ability, experience, and willingness to get the job done). A leader could become more effective when he or she adapts his or her style to the maturity and motivation levels of subordinates.

Through the following three decades, leadership has concentrated more on the nature of leader-follower relations, the constituents of leader and subordinate understanding, sense and attribution procedures moderating the impacts of leadership, leading styles, task and goal

orientations, team and shared leadership, and transformational/transactional leadership. Bass and Avolio (1992) suggested a focus on developing transformational leaders who respond positively to change and generate momentum for change within organizations. The authors also stated that transactional leaders do not concentrate on development, but on satisfying the requirements of the transaction between themselves and employees.

During the late twentieth century serious endeavors were made to combine different leadership approaches with the so-called "full-range theory of leadership" (Avolio, 1999). Other post-transformational theories include authentic leadership, servant leadership, spiritual leadership, and paradoxical leadership. Avolio and Gardner (2005) suggested that authentic leadership derives from the concept of authenticity rooted in Greek philosophy - "to thine own self be true." Luthans and Avolio (2003, p. 243) defined authentic leadership as "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development."

Another popular approach – Greenleaf's (1977) servant leadership - has experienced a resurgence with the work of van Dierendonck (2011). Compared with other leadership approaches which focus on the well-being of the firm, a servant leader serves the followers (van Dierendonck, 2011). Servant-leaders concentrate more on their employees by generating circumstances that increase employee wellbeing. Fry (2003) suggested the spiritual leadership theory that could be considered as a subdomain within the context of workplace spirituality. It is defined as "comprising the values, attitudes, and behaviors that are necessary to intrinsically motivate one's self and others so that they have a sense of spiritual survival through calling and membership" (Fry, 2003, p. 711). More recently, Zhang et al. (2015) developed paradoxical leadership theory. The authors suggested that this simultaneously and dynamically adheres to structural and follower demands in managing people over time and

paradoxically oriented leaders could position themselves more effectively in complex work settings.

As outlined in Table 1, leadership has been analyzed critically in many reviews across the wider business literature (Antonakis, Day, & Schyns, 2012; Avolio et al., 2009; Dinh et al., 2014; W. L. Gardner et al., 2010; Lowe & Gardner, 2000). Tseng, Tung, and Duan (2010) mapped the intellectual structure of leadership research by reviewing 2,322 articles from two leadership-related journals published between 1997 and 2006. Gardner, Cogliser, Davis, and Dickens (2011) conducted review research on authentic leadership by analyzing 92 articles, focusing on authentic leadership. Day, Fleenor, Atwater, Sturm, and McKee (2014) reviewed the conceptual and empirical literature on leadership development published over the past 25 years in The Leadership Quarterly, and Dinh et al. (2014) reviewed leadership theories published in ten top-tier journals between 2000 and 2012. Lord and Day (2017), on the other hand, reviewed leadership studies published in the Journal of Applied Psychology between 1917 and 2015. During the same period, Batistič, Černe, and Vogel (2017) used a document co-citation analysis to review the leadership literature published between 1980 and 2013, followed by Zhu, Song, Zhu, and Johnson's (2019) bibliometric review of 6528 leadership studies gathered from the Web of Science database between 1990 and 2017. Further, Eva, Robin, Sendjaya, van Dierendonck, and Liden (2019) provided a comprehensive review of 285 articles on servant leadership covering 20 years (1998-2018), while Scheffler and Brunzel (2020) conducted a bibliometric analysis utilizing co-citation and pathfinder analysis to identify the intellectual origins of destructive leadership. Recently, Melo, Martins, and Pereira (2020) conducted a bibliometric analysis on leadership and accountability by reviewing 37 articles from the Web of Science database. These existing reviews have helped researchers to understand the progress of the leadership domain; however, the substantial literature and the diversity of conceptual approaches accelerates the need for stocktaking

reviews, allowing leadership researchers to guide the domain (Zhu et al., 2019). Limited effort has been made to document the evolution of leadership in several areas, including business and economics, management, organizational psychology, and social psychology (e.g., Melo et al., 2020; Scheffler & Brunzel, 2020; Zhu et al., 2019). However, to the authors' best knowledge none has analyzed leadership research in the root of hospitality scholarship. The present study reviews leadership studies published in hospitality-focused journals.

Insert table 1 about here

2.3. The study of leadership by hospitality scholars

Suitable leadership models for a changing and dynamic environment have been identified within the hospitality and tourism literature with a focus on cultural effects (Testa, 2007), the impacts of leadership on knowledge sharing (Yang, 2007), and the approaches and paradigms that help scholars to develop leadership models (Pittaway et al., 1998). Previous studies also examined leadership styles in the hospitality and tourism context, including transformational leadership (A. S. Gill, Flaschner, & Shachar, 2006; Kara, Uysal, Sirgy, & Lee, 2013; Tracey & Hinkin, 1994), servant leadership (Koyuncu, J. Burke, Astakhova, Eren, & Cetin, 2014; Ling et al., 2016; L.-Z. Wu, Tse, Fu, Kwan, & Liu, 2013; Zou, Tian, & Liu, 2015), authentic leadership (Arici, 2018; Ling, Liu, & Wu, 2017), charismatic leadership (Tuan, 2019), ethical leadership (W. G. Kim & Brymer, 2011; Minett, Yaman, & Denizci, 2009; Qin, Wen, Ling, Zhou, & Tong, 2014), and transcendental leadership (Alexakis, 2011). Several scholars have also pointed out leadership basics to ensure the competitiveness and success of the firm in today's ever-changing hospitality business environment (Huang, Li, Qiu, Yim, & Wan, 2016) due to its seasonality, dynamic and fluctuating environment, and high turnover (Arasli et al.,

2020; Araslı & Arıcı, 2019; Testa, 2007). Furthermore, past decades of leadership theory have revealed the need to consider changing situations, such as temporary determinants, the effects of these determinants on teams and organizations over time, and characteristics of the hospitality industry, to develop a contemporary leadership model (Brownell, 2010; Crawford & LePine, 2013; Tracey & Hinkin, 1994).

Pittaway et al.'s (1998) review argued that most hospitality research has been confined to identifying the importance of leadership and contributes minimally to better understanding the concept. They proposed using four research paradigms to develop leadership models within hospitality: the existential headship paradigm, influential leadership paradigm, strategic headship paradigm, and situational leadership paradigm. The situational leadership paradigm is the most remarkable of the existing studies (Pittaway et al., 1998). This paradigm asserts that a leader is restrained by the external and internal environment where he or she performs and can adapt his/her leadership style to diverse situations.

Bavik (2020) reviewed 106 articles published from 1970 to 2018 in hospitality and the broader management literature. He found that the hospitality industry and servant leadership are mutually inclusive, with both including qualities like trust, integrity, honesty, care, servant behavior, listening, and community focus. Similarly, Gui, Zhang, et al.'s (2020) meta-analysis examined servant leadership in the hospitality literature. They synthesized previous investigations and analyzed different moderators between servant leadership and employee outcomes. They found that servant leadership significantly effects employee satisfaction, organizational commitment, service quality, work engagement, service climate, creativity, and psychological capital, respectively. Gui, Luo, et al. (2020), on the other hand, conducted a meta-analysis of transformational leadership in the hospitality literature based on 62 primary studies and found that transformational leadership has significant effects on relational perceptions, employees' attitudinal and behavioral outcomes. Furthermore, in their

systematic review of research on abusive supervision in hospitality and tourism, Yu, Xu, Li, and Kong (2020) reviewed 36 articles concerning abusive supervision in hospitality and provided recommendations for a future investigation related to abusive supervision in hospitality organizations. In aggregate, the prior review studies have focused on specific approaches (e.g., servant and transformational leadership) in the hospitality literature. Table 2 presents a list of the previous review studies on leadership in hospitality, dating back to the late 20th century.

Insert table 2 about here

The aforementioned leadership reviews contribute to the literature and present future scholarly directions. However, much leadership review research has adopted a qualitative method using content analysis. This calls for further quantitative review research to acquire detailed information on the evolution of leadership development (Zhu et al., 2019). Recent review studies have adopted bibliometric methods of citation analysis and co-citation analysis to show the big picture and the evolution of different scholarly treatments (e.g., Köseoglu et al., 2021; Zha, Melewar, Foroudi, & Jin, 2020; Zhu et al., 2019). Hospitality leadership review research might usefully adopt a quantitative approach to demonstrate the big picture and progress of the literature complementing and validating what has been deduced by qualitative researchers, and it could also provide a quantification of future avenues for the leadership domain (Kozlowski, Chen, & Salas, 2017). Unlike its qualitative predecessors, this review research could reveal the big picture and evolution of the hospitality leadership domain. Furthermore, recently developed visualization methods, like text mining could present a quantitatively robust approach to show the progress and development of leadership research through a comprehensive review of the hospitality literature.

Recent researchers have suggested the need for a hospitality industry-specific leadership style because it encounters unique factors and challenges such as seasonality and high turnover rate (Arasli et al., 2020). Scholars have recently called for more research on developing hospitality-specific leadership styles to not only motivate and keep employees more effectively and efficiently, but also to diminish the detrimental effects of high turnover on organizations. At this point, bibliometric research covering a broad range of leadership publication history in the hospitality literature could benefit from providing a direction for leadership theorists to propose and develop a novel industry-specific leadership approach.

This study draws upon the discussion to seek a quantitative description of the intellectual connections across leadership research and the evolution of leadership mainstream in the hospitality literature by adopting a broader strategy spanning all leadership studies published in hospitality-focused journals from 1960 to 2020.

3. Methodology

Scholars adopt two main approaches when unlocking the intellectual structure of a knowledge domain. They initially rely on a qualitative method, namely their personal experiences, judgements, and interpretations (Zupic & Čater 2015). However, sharing of experiences, judgments, and opinions can be unsystematic, lack transparency, and/or reproducibility thereby undermining the reliability and validity of findings based on such qualitative methods (Cook, Mulrow, & Haynes, 1997). Adopting quantitative methods can eliminate such drawbacks and scholars can undertake document bibliometric co-citation analysis to complement qualitative components (Köseoglu, 2020; Zupic & Čater 2015). Document co-citation analysis clarifies intellectual structures using mathematical and statistical procedures to consider citations or references of studies as data (Hou, Yang, & Chen, 2018).

The authors deployed three bibliometric analyses in the current study – citation analysis, co-citation analysis via network analysis, and text mining via latent dirichlet allocation (LDA). These approaches strengthen objectivity by analyzing big datasets over the longer term. Within bibliometrics, citation analysis involves counting references to clarify key articles in a given study domain over a defined period (Köseoglu, Sehitoglu, & Craft, 2015). Citation analysis can provide meaningful insights into the past, present, and future of a study domain. Scholars may chart progress by following the development of main references over an extended period and discovering the importance of useful articles (Köseoglu et al., 2021). Advanced citation analysis (or co-citation analysis) examines associations amongst influential references by mapping intellectual connections in the study area. It generates similarities amongst bibliographies of cited articles using data such as the number of co-cited authors, articles, or journals. Previous hospitality studies have adopted co-citation analysis to explore the intellectual connections of domains (e.g., Köseoglu et al., 2015; Shin & Perdue, 2019).

Though co-citation analysis allows scholarly elicitation of growing subdomains and their interrelationships, the reliability and validity of inquiries and findings confronts two challenges (Köseoglu, 2020). The first is dataset representativeness and the second derives from the primary consideration given to dated documents. Köseoglu (2020) argued that these technical restrictions hinder visualization of a bigger picture within a field. He also noted that the absence of a commonly accepted threshold value has prompted bibliometric analysts to try various cut-off points to generate the best interpretable dataset, resulting in problematic representativeness of the dataset. For instance, Batistič et al.'s (2017) co-citation analysis used 4,920 out of a total of 178,854 references in their research about multilevel leadership. However, the representativeness of their dataset is low (2.75%), due to their chosen threshold value. Concerning the second technical challenge, Köseoglu (2020) alleged that co-citation

data consists primarily of previously published documents because they are cited more repeatedly than the more recent. Because of this, recently published documents have less opportunity to be included in co-citation analyses. Hence, conducting a co-citation analysis may hinder visualization of the big picture of a study domain, undervalue recent academic studies, and provide incomplete scope and insight.

Köseoglu (2020) addressed these limitations by suggesting the deployment of LDA and text mining analyses (AISA), using content analysis for a document. The AISA, including LDA and text-mining, can reinforce and extend the limitations of co-citation analysis in terms of reality, generalization, reliability, and validity. It can unlock the intellectual connections of the study domain through citations of the documents by eliminating the two technical restrictions. The current bibliometric analysis adopts the AISA workflow, including 15 steps to enhance validity and reliability. This serves to: display the intellectual connections of a study domain: identify the purpose, determine limitations of the content, select document types, decide on data sources, decide a strategy, download the bibliographies of relevant documents, shape the sample, extract all references from the sample, decide reference types, select a content type of selected references, extract the selected content, clean the dataset, perform analysis, visualize and interpret findings (Köseoglu, 2020). The current paper fills a gap in hospitality bibliometrics by using cocitation analysis via network analysis, and text mining via LDA of leadership research in the root of hospitality scholarship published since the 1960s.

3.1. Data Collection

To achieve the study objectives, we used references of leadership related articles published in seven hospitality-focused journals. These were: Cornell Hospitality Quarterly (CHQ), International Journal of Contemporary Hospitality Management (IJCHM), International Journal of Hospitality and Tourism Administration (IJHTA), International

Journal of Hospitality Management (IJHM), Journal of Hospitality Marketing and Management (JHMM), Journal of Hospitality and Tourism Management (JHTM) and Journal of Hospitality and Tourism Research (JHTR). These have been indexed in relevant databases (Social Science Citation Index and Scopus) and were also considered in previous bibliometric studies by Gursoy and Sandstrom (2016), Köseoglu (2020), and Köseoglu et al. (2021). Second, we downloaded bibliometric information about applicable articles, including their references. We considered all articles published from the first issue of the journals through to the most recent (December 2020). A total of 8,713 articles were obtained from the seven hospitality-focused journals. The articles included 342,500 references after cleaning the dataset in Excel. The authors excluded consideration of books, book chapters, theses, reports, and online addresses in the references. Cleaning data included manual corrections to match any inconsistent names of the same author, title, or journal in the data set.

Third, our study brings a new perspective to the utilization of bibliometric analysis. In traditional bibliometric analyses researchers first collect articles within the given field, then implement bibliometric tools. However, in this study, we looked at references of articles of the given field to discover related articles in the given topic. From this perspective, we scanned studies related to leadership in the references of all articles in the prepared dataset. To identify leadership studies in hospitality research's references we vetted several keywords such as "*leadership*, *leader*, *supervision*, *supervisor*, *manage*, and *administrat*. This yielded 33,137 leadership-related titles' appearances out of 342,500 reference appearances. In this step, to maintain the reliability and validity of the current study one author of this study reviewed 33,137 leadership-related titles as references in the dataset to make sure these titles are directly related to leadership topics. One of the current authors checked 20% of the coded dataset to ensure validity and

reliability. To reach 100% consensus in the coding process two authors discussed inconsistencies. In the end, these steps yielded 6,721 leadership-related titles' appearances. All analyses were employed on these references to examine leadership research in hospitality scholarship.

3.2. Analysis

The authors used three analyses - citation analysis, co-citation analysis, and text mining analysis. For citation analysis, we conducted frequency analysis in Excel to identify the most cited 20 articles. Second, to conduct co-citation analysis we first determined a cut-off point to generate the co-citation data. We followed previous studies (see Köseoglu, 2020) to decide the cut-off point. For co-citation data in the current study this was the most cited 100 articles. A total of 103 articles that were cited on at least 10 occasions were generated for prospective analysis. Appendix A (online supplement) shows our new perspective to conduct co-citation analysis. We used VOSviewer identifying clusters using modularity-based clustering (Van Eck, Waltman, Dekker, & Van den Berg, 2010) to utilize co-citation analysis via network visualization to elucidate the academic foundations as clusters for the period. The researchers deployed the association strength approach in their analysis of the articles for purposes of normalization. In the network view, circles represent nodes, and lines show the links amongst the nodes. The colors identify the clusters where the nodes are located. The size of the nodes indicates how frequently a specific article was used as a reference.

4. Findings

4.1. Influential leadership studies in hospitality

4.1.1. Results of citation analysis

Influential articles were defined by counting citation documents (i.e., articles) available in the reference lists of the articles published in the journal set. As shown in Table

3, influential hospitality articles were categorized, including the 20 most cited. Analysis of the top ten references generated several insights. The most cited article concerns the future of hospitality leadership (Chung-Herrera, Enz, & Lankau, 2003), followed by studies of the effects of leadership styles on hospitality employee work outcomes, including commitment (Clark, Hartline, & Jones, 2009 - 2nd most cited), and job performance (Li, Sanders, & Frenkel, 2012 - 4th cited). Furthermore, the employee outcomes most frequently investigated by hospitality leadership research were managerial employee satisfaction and behavioral outcomes (Kim & Brymer, 2011), stress and burnout (Gill et al., 2006), and employee creativity (Wang, Tsai, & Tsai, 2014; Zhang & Bartol, 2010).

Regarding theory, three of the ten most cited articles adopted Leader-Member-Exchange Theory (LMX) (Brownell, 2010; G. B. Graen & Uhl-Bien, 1995; Wayne, Shore, & Liden, 1997). The most cited leadership styles were, respectively, ethical leadership (W. G. Kim & Brymer, 2011), relationship-based approach (G. B. Graen & Uhl-Bien, 1995), transformational leadership (A. S. Gill et al., 2006; Wang et al., 2014), and empowering leadership (Zhang & Bartol, 2010). As seen from the aforementioned citation analysis, it is evident that employee outcomes are main themes in hospitality leadership research and that Leader-Member-Exchange is the most important.

Insert table 3 about here

4.2. Clusters of leadership studies in hospitality

4.2.1. Co-citation analysis

Based on the co-citation analysis, Figure 1 illustrates five different clusters, each indicating a domain of hospitality leadership research. Appendix B (online supplement)

includes data about the clusters and their components. A qualitative analysis of the citations for all clusters has been conducted to ensure proper labeling of these clusters.

Insert Figure 1 about here

4.2.1.1. Leadership styles and employee outcomes

Leadership styles such as transformational leadership and employee outcomes including commitment are the largest field (illustrated in red) with the highest weightings. The cluster name includes two subclusters that present the concentration of hospitality leadership studies. The largest cluster with the highest weightings concentrates on leadership styles and approaches. Articles within this cluster focus on transformational leadership though some have a lesser effect including those by Gill et al. (2006), Wang et al. (2014), Tracey and Hinkin (1994), Podsakoff, MacKenzie, Moorman, and Fetter (1990), and Kara et al. (2013). The intellectual map demonstrates article R1 on developing a leadership competency model for the lodging industry and article R6 focusing on the effects of ethical leadership on hotel middle manager's outcomes, filling the center of the map. Besides contributing to the cluster, these studies link heavily to other points within the entire map (see Figure 1). Among the most influential ten articles in leadership research, the study with the highest weighting concentrated on theory-development research. Chung-Herrera et al.'s (2003) study proposes a hospitality leadership competency model including selfmanagement, strategic positioning, implementation, critical thinking, and interpersonal communication. These results endorse that hospitality leadership research has mostly concentrated on leadership approaches and styles and their outcomes on employees.

Employee outcomes-focused studies comprise the other sub-cluster. Studies in the root of hospitality scholarship examine leadership as an antecedent of different employee

outcomes. Clark et al.'s (2009) work suggested that management commitment to service quality has a significant effect on frontline employees' work outcomes, such as commitment to service quality, job satisfaction, role clarity, and shared values. Another highly cited article on employee outcomes - Asree, Zain, and Rizal Razalli (2010) - demonstrated the significance of leadership competency and organizational culture for accomplishing responsiveness, generating financial performance for hotel organizations. Cichy, Cha, and Kim (2009) also proposed a model in private club settings and used structural equation modeling (SEM) to analyze the data collected through online questionnaires from the chief operating officers (COOs) and club managers. They found that club leaders' affective commitment significantly affected interpersonal facilitation and job dedication, while their continuous commitment had a significant effect on job dedication.

4.2.1.2. LMX theory

The *LMX theory* label was appointed to the second cluster that is illustrated in green and is located towards the upper right side of the intellectual map (see Figure 1). This cluster involves articles, which theorize, review, and empirically test the hypothesized relations between various constructs associated with reciprocal exchange relations between leader and follower. LMX theory is the fundamental theme in this cluster. Wayne et al.'s (1997) study on perceived organizational support and leader-member exchange is an influential reference.

These scholars suggested that positive exchange relationships between leaders and employees in organizations lead to employees' enhanced commitment and OCBs as well as reduced turnover intention. Li et al.'s (2012) empirical study presents viewpoints about the association between LMX and employee job performance. An integrative framework including engagement and human resource management consistency, described as the extent to which different management implications have been considered as consistent with one other, was proposed to clarify the hypothesized relationship. Graen and Uhl-Bien's (1995) conceptual

research identified the understanding of LMX and provided novel insights about where the theory is headed. They also proposed a "Leadership Making" concept and identified challenges in conventional conceptualizations of leadership. Gerstner and Day (1997) used meta-analysis to review the LMX literature. They found significant associations between LMX and job performance, satisfaction with supervision, commitment, role conflict, role clarity, member competence, and turnover intention. This meta-analysis also demonstrated that LMX is consonant with many empirical associations related to transformational leadership. Another meta-analytic study by Ilies, Nahrgang, and Morgeson (2007) focused on the relationship between the quality of leader-member exchanges (LMX) and citizenship behaviors performed by employees, resulting in a strong relationship between these two variables.

Moreover, some studies such as Settoon, Bennett, and Liden's (1996) concentrated on longitudinal and multi-level methodologies. They tested the relationship between social exchange and reciprocity by investigating the relative contribution of indicators of employee-organization exchange and subordinate-supervisor exchange. They found that perceived organizational support is associated with organizational commitment, while leader-member exchange relates to citizenship and in-role behaviors. Similarly, Kim, Lee, and Carlson (2010) examined the relationship between Leader-Member-Exchange (LMX) and turnover intention within distinct organization levels, resulting in a U-shaped curvilinear relationship for non-supervisory employees. Scandura and Graen (1984) studied leadership intervention based on the LMX model against a control condition. Comparing the leadership intervention condition to the control condition, the initially low-LMX group posed significant gains in productivity, job satisfaction, and supervisor satisfaction compared to the initially high-LMX group. Kim, O'Neill, and Cho (2010) contributed another rare example of an influential study on LMX theory and hospitality employee OCBs. They found that employees having low-

quality LMX associations were more likely to display envy, and higher levels of envy reduced employee OCBs in hospitality work settings. There were two influential studies within this cluster - on innovative behaviors and creativity. Dhar (2016) revealed that LMX plays a mediator role in the relationship of ethical leadership and hotel employee service innovative behaviors. Wang (2016) found that LMX has a significant positive effect on employee performance and creativity. This author also suggested task motivation as an intervening variable between LMX and creativity.

Four influential articles within this cluster focused on analyzing the consequences of LMX (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Graen, Novak, & Sommerkamp, 1982; Hofmann, Morgeson, & Gerras, 2003; Lee, Murrmann, Murrmann, & Kim, 2010). These studies provided common results showing the importance of the LMX approach in enhancing positive employee outcomes and decreasing negative outcomes. Lee et al. (2010) found that the LMX relationship decreases employee turnover intention via intervening roles of distributive and procedural justice. In their meta-analysis, Dulebohn et al. (2012) investigated potential antecedents and consequences of the LMX approach in organizations. They concluded that follower characteristics, leader characteristics, and interpersonal relationships are the main antecedents affecting LMX quality, which in turn results in some outcomes, including turnover intentions, OCB, job performance, commitment, satisfaction, perceived justice, and empowerment. Hofmann et al.'s (2003) example adopted safety climate revealed that the association of LMX and employee safety citizenship role definitions was moderated by safety climate. Graen et al (1982) included 106 form-processing employees of various service companies in their examination of the effects of four treatment conditions, namely LMX, job design, a combination of LMX and job design, and a placebo control, on satisfaction and productivity. They found that only the LMX condition leads to significant increment in satisfaction and productivity.

4.2.1.3. Servant leadership

The third cluster - leadership studies focusing on servant leadership - is illustrated in blue, at the upper left of the map. About half of the articles were each published in psychology and in hospitality-focused journals. Brownell (2010) proposes that servant leadership is important in hospitality since the industry strives to develop new ways of establishing an ethical climate in the wake of abuses and corrupt implications. The researcher indicates that servant leadership provides important solutions for the future leadership of hospitality organizations. It is recommended that developing leadership understanding and skills to guide the future of the hospitality industry invites a reconsideration of leadership training around servant leadership. Ehrhart (2004) suggested a study model considering leadership and procedural justice as antecedents of employee OCBs. This author found that servant leadership has a significant positive effect on both helping and conscientiousness dimensions of unit-level OCB. This study also suggested that procedural justice climate had a mediation effect on the relationship between servant leadership and employee OCBs. Servant leadership was not treated as an individual variable, but as a unit-level construct instead. Wu et al.'s (2013) research analyzed the relationship of servant leadership and frontline employee OCBs by concentrating on the intervening effect of LMX and the moderating role of employee sensitivity to others' positive treatment. Walumbwa et al. (2010) examined the effect of servant leadership on employee attitudes and OCBs using 815 employee and 123 supervisor-rating surveys. They found that supervisor commitment, self-efficacy, justice climate, and service climate have intervening roles in the association of servant leadership and employee OCBs. Like its predecessors, this study considered servant leadership as a group-level construct.

Two articles compared servant leadership with other contemporary leadership approaches. Gregory Stone, Russell, and Patterson, (2004) examined transformational

leadership and servant leadership to identify similarities and differences between the two approaches. They concluded that the main distinction is the concentration of the leader. The transformational leader's concentration is directed toward the organization, and supports employee commitment toward organizational goals, whereas the servant leader's concentrates on employees, and the accomplishment of firm objectives is an employee outcome. Ling et al. (2016), on the other hand, compared the role of servant versus authentic leadership in hospitality organizations by analyzing associations with trust and employee outcomes, such as commitment, work engagement, and job performance, and their affecting mechanisms via trust climate. They found that in comparison with authentic leadership, servant leadership plays a more significant role in generating a work atmosphere of trust and has a more direct influence on followers' favorable job outcomes, including organizational commitment, engagement, and job performance.

There are five highly cited and noteworthy articles within this cluster. Koyuncu et al. (2014) concluded that frontline employees with longer organizational tenure report lower levels of servant leadership and that the latter has a significant effect on frontline employees' service performance. Van Dierendonck (2011) developed a conceptual model of servant leadership. He proposed culture, motivation, and individual characteristics as triggering factors affecting servant leadership characteristics including empowering and developing people, humility, authenticity, interpersonal acceptance, providing direction, and stewardship. According to the proposed model, servant leadership leads to high-quality leader-follower association, trust and fairness climate, positive outcomes, such as commitment, satisfaction, and engagement at the employee level as well as sustainability and corporate social responsibility at the organizational level. Meanwhile, Liden, Wayne, Liao, and Meuser's (2014) pioneering study developed and tested a model proposing that servant leaders spread servant behaviors among employees by generating a serving culture. They revealed that

serving culture was positively associated with job performance, employee creativity, and service behaviors, and negatively associated with intention to quit, directly and indirectly via follower identification. Hsiao, Lee, and Chen, (2015) examined the influences of servant leadership on customer value co-creation via main intervening roles of hotel employees' psychological capital and service-oriented organizational citizenship behaviors. Zou et al. (2015) also found that LMX and team-member exchange mediated the effect of servant leadership on employees' helping behavior in hospitality organizations.

The cluster includes two scale development studies. Utilizing an organizational sample of 182 individuals, Liden, Wayne, Zhao, and Henderson (2008) confirmed the 7-factor 28-item scale of servant leadership by regressing results on the servant leadership components, controlling for transformational leadership and LMX in a multi-level analysis. Ling et al. (2016) developed and analyzed a servant leadership scale at top and middle levels in the hospitality industry. This involves 24 items for hotel general managers' servant leadership practices and 27 items for measuring department managers' servant behaviors. Interestingly, there are two studies on authentic leadership in this cluster. Clapp-Smith, Vogelgesang, and Avey (2009) examined the relationship of authentic leadership and psychological capital, and Walumbwa, Avolio, Gardner, Wernsing, and Peterson (2008) developed a 16-item scale of authentic leadership.

4.2.1.4. Abusive supervision

The main focus of articles in this yellow-colored cluster (towards the right of the map) relates to abusive supervision This knowledge field draws from Tepper's (2000) pioneering study on the consequences of abusive supervision. Based on justice theory, the author found that employees under abusive supervision have more intention to leave the job. For employees who remain, abusive supervision was strongly related to lower levels of overall satisfaction, commitment, and higher continuance commitment, work-family conflict, and

psychological distress. Utilizing time-lagged data from 12 hotels in China, Lyu et al. (2016) analyzed the effect of abusive supervision on hotel employees' customer-oriented OCBs by focusing on the intervening role of work engagement and the moderating role of hostile attribution bias. Another influential article within this cluster conceptualized abusive supervision as a type of aggression (e.g., Mitchell & Ambrose, 2007). The authors hypothesized the link between abusive supervision and employee workplace deviance including supervisor-directed deviance, organizational deviance, and interpersonal deviance.

Two articles focused on employee performance as an antecedent of abusive supervision. Drawing on social identity theory, Lyu, Zhou, et al (2016) examined the effects of abusive supervision on followers' proactive customer service performance in hospitality. They found that abusive supervision has a significant negative effect on employees' service performance, via the intervening role of organizational identification, and followers' collectivistic value orientation triggers the negative association of abusive supervision and organizational identification. Similarly, Jian, Kwan, Qiu, Liu, and Yim (2012) tested the relationship of abusive supervision and followers' service performance through the intervening role of organization-based self-esteem and the moderator effect of relational-interdependent self-construal.

Within this cluster, Zellars, Tepper, and Duffy (2002) tested the relationship between abusive supervision and employee OCBs. As predicted the negative association of abusive supervision and OCB was stronger among employees who described OCB as extra-role behavior, and the procedural justice had an intervening role in this moderated relationship. Surprisingly, there is only one review research on abusive supervision. Tepper's (2007) review paper showed antecedents (i.e., psychological contract breach, supervisors' authoritarianism, subordinates' negative affectivity) and consequences (i.e., aggressive and deviant behaviors, psychological distress, family wellbeing) of abusive supervision and

provided a future research agenda. The author suggested that abusive supervision is a multilevel concept and so the domain should move beyond individual-level study.

Surprisingly, other influential references in this cluster do not relate directly to abusive supervision. Wu and Chen (2015) examined psychological contract fulfillment in the hotel work setting. Rank, Carsten, Unger, and Spector's (2007) work focuses on proactive customer service performance. Also present in this cluster are Qin et al.'s (2014) study on ethical leadership in the Chinese hotel industry and Eisenberger et al.'s (2010) conceptualization of supervisor's organizational embodiment, its relationship with LMX, and employee commitment. This result may derive from the potentially similar outcomes investigated, such as psychological contract fulfillment, proactive service performance, employee commitment that are all potential consequences of abusive supervision. A recent research review revealed that abusive supervision correlates with behavioural and psychological outcomes, such as employees' turnover intention, job satisfaction, service performance, OCBs, organizational commitment and capacity to satisfy customers, psychological contract breach (Yu et al., 2020). The appearance of these studies within the "abusive supervision" cluster could relate to the outcomes studied that may also be listed as potential consequences of abusive supervision.

4.2.1.5. Empowerment

The cluster in light violet at the bottom of the map assembles articles on empowerment. Brymer (1991) suggested that employee empowerment is an all-inclusive management philosophy that allows line employees the authority to decide to resolve guest problems and complaints on the spot. This author concluded that empowerment starts with the general manager's operational approach and spreads downward into the ranks.

Three articles within this cluster provide guidelines for the interrelationship between empowering leadership, employee outcomes, such as creativity, satisfaction, and

performance, as well as customer satisfaction (Ahearne, Mathieu, & Rapp, 2005;
Namasivayam, Guchait, & Lei, 2014; Zhang & Bartol, 2010). Zhang and Bartol (2010), in their empirical work, attempted to link empowering leadership to employee creativity. They also examined the interrelationships among psychological empowerment, intrinsic motivation, and creative process engagement. Namasivayam et al (2014) tested the role of psychological empowerment and employee satisfaction in the association between leader empowering behaviors and customer satisfaction and employees' organizational commitment. Their structural equation modeling including a serial mediation mechanism between leader empowering behaviors and organizational commitment and customer satisfaction, shows that psychological empowerment and employee satisfaction play intervening roles linking the leader empowering behaviors to two outcome variables (i.e., employee commitment and customer satisfaction). Similarly, Ahearne et al.'s (2005) work focuses on the influence of leader empowering behaviors on customer satisfaction and sales performance. The authors found that leader empowering behaviors indirectly affect customer satisfaction and employee job performance via mediating roles of self-efficacy and adaptability.

Two studies within this cluster focus on transformational leadership and its outcomes, such as employee voice and desire for empowerment (Detert & Burris, 2007; Gill, Fitzgerald, Bhutani, Mand, & Sharma, 2010). Detert & Burris's (2007) findings from 3,149 workers and 223 supervisors from the restaurant industry show that leadership behaviors have a significant influence on the employees' voice behaviors. Gill et al.'s (2010) comparative study, on the other hand, demonstrated that development at the level of employee desire for empowerment is significantly and positively associated with the development at the level of perceived transformational leadership practices in both India's and Canada's hospitality industry. However, the degrees of both variables are significantly lower in India than in Canada. Finally, Arnold, Arad, Rhoades, and Drasgow (2000) developed a new valid scale for

measuring empowering leadership behaviors. Through cross-validation of the measurement scale in a sample of five organizations, the authors produced the empowering leadership questionnaire, including 38 items, across the 5 factors (i.e., coaching, informing, leading by example, showing concern/interacting with the team, and participative decision-making).

4.2.2. Text mining analysis

Four figures are used to illustrate the LDA outputs. Figure 2 provides the most frequently repeated words. Unsurprisingly, "leadership" is the most repeated in the intellectual structure of hospitality leadership research. Other terms include "leader," "transform," and "mber exchang". This analysis addresses transformational leadership as the main contemporary leadership approach amongst hospitality scholars. LMX derived from the word "mber exchang", "servant," "abusive," "ethic," "authent," and "mediating rol" also appear as outstanding terms in our shortlist. These show that hospitality scholars have concentrated on leadership styles and approaches, as well as their impacts on several employee outcomes through performing a mediation mechanism. This supports Whetten (1989) that researchers should identify causal relations in a phenomenon by adopting a mediating variable between independent and dependent variables.

Insert Figure 2 about here

Drawing on LDA, this study generated five topics to compare distinctions against cocitation analysis. Figure 3 shows the distribution of the topics over the comprehensive collection. The probability of each topic to be involved in all collections is 20 percent. Topics 2 and 3 are more likely than other three (i.e., 1, 4, and 5) to be in the general collection. Figure 4, on the other hand, provides the word dispersal of the five topics. The diameter and shade of the balloons in the outline illustrate the probability of a provided word in a topic.

Words appearing across various clusters within this Figure (e.g., leadership, leader, servant, role) reflect dominant terminologies adopted by hospitality leadership scholars. The figure displays the term offering maximum probability. "Leadership" is a fundamental term used in Topic 1. Other terms include transform, development, theory, servant, research, and transaction. This topic could be labelled as "leadership theory." Topic 2 emphasized the behaviors and leadership practices of contemporary leadership approaches, including transformational, servant, and authentic leadership. Topic 2 may be labelled "contemporary leadership behaviors." Topic 3 indicates leadership effect because the chart consists of effect, role, ethic, organization, culture, innovation, competitiveness, firm performance, service, outcome, and impact, which are main leadership outcomes on employees and organizations. In Topic 4, leader-member exchange is the main word that relates "relationships" between employee "work" "groups" (i.e., "teams") and "leaders." Other prominent words in this topic are "mediating role," "effect," "moderating," and "social exchange." Topic 5 intensifies "abusive supervision" and its role in affecting employee-level consequences in the hospitality service setting, such as "work engagement," "job satisfaction," and "job performance." Thus, this topic is inherently named "abusive supervision."

Insert Figures 3, 4, and 5 about here

Figure 5 demonstrates the proportion of the topics studied over time. This timeline presents a meaningful framework for scholars and practitioners. The charts reveal the highest point for Topic 2 in the 1990s, while it fell to the lowest level at the beginning of the new millennium. However, despite fluctuations it keeps rising after 2005. Similarly, Topic 5 was studied extensively in the 1980s, though with lesser popularity during the 1990s. It regained its positive momentum after 2010. Topics 1 and 4 grew substantially in the early period,

though tended to moderate later. Topic 3 has declined in the intellectual framework of hospitality leadership research since 2005. These timelines are helpful to clarify the record of leadership research in hospitality. According to Yu, Xu, & Martínez (2020), the leader-follower relationship is fundamental to the intellectual structure of leadership, and the importance of conducting good relationships encourages future researchers to study abusive supervision. Our LDA results endorse the recent research agenda into the future, highlighting abusive supervision and its employee-level outcomes, and by showing its growing popularity. Contemporary leadership behaviors are another trending topic. Consonant Vogel, Reichard, Batistič, and Černe's (2020) recent bibliometric analysis of general leadership behaviors, transformational leadership is a frequently adopted style by scholars of hospitality leadership behaviors. Leadership development and LMX studies in hospitality ground the research at their early stage by focusing on individual and team level outcomes, though still far from achieving fame.

5. Discussion and conclusion

This study has revealed the intellectual structure of hospitality leadership research. First, citation analysis results display that the remarkable characteristics of the most cited leadership studies in hospitality include leadership styles and employee outcomes as well as future leadership. The study domain has been particularly dominated by topics of ethical leadership and employee commitment. LMX theory is at the heart of the most cited articles. The results reveal that leadership researchers in hospitality have mainly covered what may be described as thematic issues. This implies that leadership research is thematically driven and depends on leadership topics drawn from "mainstream" business disciplines. This in turn leads to two main directions for future researchers. First, this trend should be progressed by hospitality researchers through analyzing leadership-related themes and their potential outcomes in hospitality settings. For example, knowledge of the leadership domain in

hospitality could benefit from a comparative perspective that contrasts and elaborates various leadership styles and their impacts on outcomes at the level of both the firm and the employee. Second, scholars could also expand this field by adopting new methodologies. Leadership can be treated as group or organization level construct, because leaders are mostly engaged in attitudes not addressed to individuals but to a work unit (Avolio et al., 1999; Arici, 2018). It implies that scholars can more adopt hierarchical linear modelling (HLM) to examine cross-level impacts of leadership in hospitality context. Methodology-focused studies could also provide insights into the search for a sound basis of leadership research in hospitality.

Second, we have provided the theoretical contributions of our study for the eight research clusters generated by co-citation and text mining analyses. The findings of cocitation analysis proposed five knowledge domains: leadership styles and employee outcomes, LMX theory, servant leadership, abusive supervision, and empowerment. A first and important trait of the highly cited hospitality studies is the prevalence of leadership styles and approaches. Specifically, the following question is attempt highlighted. "What is the most prevalent phenomenon in hospitality leadership research?" We have shown that leadership theory and approaches are the prominent topics of interest. This suggests that hospitality leadership research focusses mainly on such contemporary leadership styles as ethical and transformational and their effects on employee outcomes from other "mainstream" topics. Also, the main consequences of leadership practices are employee outcomes. In support of the conceptualization of the service profit chain model (e.g., Heskett & Sasser, 2010), our results reveal that commitment, service quality, job satisfaction, and firm performance are the leading leadership outcomes. It is noted that text mining analysis has been particularly valuable for generating hospitality-specific leadership outcomes that can be usefully examined in future studies. Predominant outcomes in the hospitality context have included

transformation, ethic, culture, and innovation (see Figure 4, Topic 3). Considering the volatility and unpredictability of how global challenges such as COVID-19 will impact on the hospitality sector, scholars may place additional emphasis on examining the role of leadership to transform the structuring of hospitality services in the face of the "new normal". This will involve attention to the role of leadership in ensuring innovation and creating a corporate culture that supports practitioners and policy makers in the face of future crises. Finally, it will be beneficial to examine the contributions of leadership practice to ethical issues in hospitality businesses.

Another important question is "what is the most popular leadership theme in the hospitality literature?" Our findings have contributed to the discussion on main theories in hospitality leadership research with LMX being the most extensively adopted theory. The pervasiveness of LMX citations confirms the centrality of the exchange relationship between leader and employees as a topic of the hospitality leadership domain. Another question concerns whether LMX theory is recognized similarly in tourism and its subsectors (airlines and transportation) as well as in other knowledge domains, such as organizational behaviors, human resources management, or whether its fame in hospitality leadership research is unrivalled. Business performance in the labor-intense hospitality sector has relied on highly motivated and satisfied employees. In other words, leaders should devote special attention to employee needs and expectations with a view to motivating and retaining them and delivering service excellence. The job performance of employees is highly dependent on leaders and LMX explains this dyadic relationship between leaders and employees that is so important in hospitality settings. The authors suggest that hospitality researchers should continue to examine LMX in the leadership domain because of the fundamental importance of exchange relationships between leaders and followers in hospitality. The role of employees in delivering service quality, customer satisfaction, and ultimately firm performance is undiminished.

"Do we know popular leadership styles and directions for future studies?" This investigation has contributed to discussion about the scope and future directions of hospitality leadership research. Of the five theme clusters clarified by co-citation analysis, four can be categorized as leadership styles and future directions (i.e., leadership styles and employee outcomes, servant leadership, abusive supervision, empowerment). This important finding is consistent with Vogel et al (2020) - that as the largest and most influential cluster, including 40 of the top 100 articles, most studies concentrate on leadership styles, specifically transformational and transactional leadership, charismatic leadership, and authentic leadership development, in the knowledge domain. These scholars also claimed that only 9 of the top 100 articles focused on the dark side of leadership, while abusive supervision, one such example, appears as an influential cluster in our analysis. Is this result surprising? Yu et al. (2020) recently suggested that centralized and hierarchical systems of the hospitality sector result in more abusive supervision. They also argued that abusive supervision is prevalent in the industry because of its high volume of seasonal and temporary employees and that aggrieved individuals with job insecurity tend to respond negatively. This background makes it unsurprising that abusive supervision is amongst the most influential leadership styles studied in the hospitality literature along with other contemporary leadership approaches.

Our analysis has answered the question "what are the gaps in the leadership research in the hospitality scholarship?" The findings confirm that future leadership research could concentrate more on authentic leadership development because this approach can enhance employees' social identification by generating a deeper feeling of high moral values and demonstrating high levels of honesty and integrity in their dealings with employees

(Walumbwa et al., 2008). Supporting this claim, previous work has suggested that authentic leadership, with its relational transparency and perception of fairness, could become a suitable path for hospitality leaders and managers to retain workers in the firm and to improve employers' leadership understanding and quality in managing their businesses effectively and efficiently (Arici, 2018). Vogel et al (2020) identified authentic leadership as an influential cluster, through perhaps surprisingly, our analysis showed that this leadership development has not yet received adequate attention from hospitality scholars. Hence, the future of hospitality leadership research could take more interest in analyzing authentic leadership and its role in hospitality. Researchers could, for instance, develop an industry-specific scale of authentic leadership for the benefit of both practitioners and scholars.

Text mining analysis has added an extra dimension to co-citation analysis by revealing three additional topics: leadership theory and contemporary leadership behaviors, and leadership effects. Importantly, these findings expand knowledge about leadership research because in text mining analysis, via LDA analysis, the whole sample is represented in the analysis, while co-citation analysis provides a very small piece of the sample. Moreover, in text mining analysis, all references are conceived and thus, there is no query about whether past or early published articles have been included in the sample. With text mining analysis, we can also discover unseen patterns in intellectual connections across the knowledge domain, unlike co-citation analysis. In our text mining analysis, we revealed that theorizing leadership and modeling leadership effects bolster the intellectual structure of leadership research. However, co-citation analysis cannot capture such formations so far in either our research and previous reviews of leadership. The LDA analysis also provides the evolution of the leadership domain in hospitality, with the appearance of abusive supervision and contemporary leadership behaviors being new and growing fields. Transformational leadership is popular amongst contemporary leadership styles and its longevity is notable

with the most effective references forming a current basis for best practice. It is important to note the prospects for deep inquiry of abusive supervision and contemporary leadership behaviors. Do these topics have potential to guide the mainstream discipline, or will they potentially lose popularity over time?

This paper offers several contributions to hospitality leadership research. First, the authors have sought intellectual connections by conducting an extensive study, comprising different leadership styles and approaches in hospitality. Taking account of the inadequacies of existing literature in emphasizing intellectual structure across leadership approaches and their progress over an extended period, our research can contribute to developing hospitality leadership research. Second, the authors have considered a great number of hospitality journals over an extended period, thereby enabling a deeper understanding of the phenomenon and its progress. Finally, this research has particularly focused on journal articles, leading to a more reliable examination and outcomes. Through bibliometric analysis including citation, co-citation, and text mining analyses, we have revealed that hospitality leadership research exhibits precise transforming features. Leadership theory and approaches have dominated the scientific debate within the knowledge domain. Most of the illustrated study fields have identified leadership styles and are associated with their effects on employees. Some study fields rely considerably on the "mainstream" literature (e.g., LMX), with the emerging domain of abusive supervision derived substantially from management and psychology journals, such as the Academy of Management Journal and Journal of Applied Psychology. Our research contributes to the literature by incorporating major leadership topics over six decades. It also pursued the evolution in leadership research within hospitality from its theoretical root to an intense practical focus.

5.1. Limitations and future research directions

Though providing an intellectual structure of hospitality leadership research over a 60-year period, our work has several limitations. First, the bibliometric analysis does not enable scholars to determine the reasons behind an article's citation. Authors could cite a study deliberately to support their main arguments and theories. Though such themes are outside the current scoping, further investigations should continue. Second, this study has focused on hospitality journals and has excluded articles published in other fields, such as tourism, management, and marketing. We have not considered leadership-related articles published outside our chosen journals. Thus, including all leadership-related articles published in different fields might pay dividends. Third, like its counterparts, this bibliometric analysis has relied on subjective interpretation of findings that could introduce some bias. Besides its theoretical contributions, our study provides future research directions. It recommends that the dark side of leadership, theory development, leadership behaviors, and contemporary leadership approaches may become important study effects.

Is has been shown that the largest cluster consists of articles on leadership and hospitality employees. Most items in this cluster focus on leadership approaches with the remainder occupying the employee outcomes sub-cluster. Topics of interest include transformational leadership, leadership competency, ethical leadership, employee commitment, job satisfaction, employee responsiveness, hotel financial performance and innovation management. Despite wide ranging topics, no transformative-specific feature of transformational leadership has received significant attention. Bass and Riggio (2006) defined transformational leadership as a strong approach stimulating long-lasting organizational transformation and it may be timely to conduct studies on transformative outcomes of such leadership. Considering the unprecedented impacts on hospitality firms of the COVID-19 pandemic, there is added impetus for scholars to generate evidence-based knowledge that can inform the importance of transformational leadership to tackle with the

detrimental impacts of the pandemic. An increased emphasis on transformational leadership and crisis management is needed to help practitioners cope with future crises.

Among the ten most influential leadership research articles, theory-development research has the highest weighting. The dominant work proposes a hospitality leadership model consisting of self-management, strategic positioning, implementation, critical thinking, and interpersonal communication. A field for prospective future studies could be investigating these factors, or characteristics of hospitality leadership models in work settings. Future researchers might develop a new hospitality leadership model concentrating on the development of leadership characteristics, traits, and behaviours that are needed to lead hospitality organizations more effectively post-pandemic. There might be a prospective hospitality focus for theory building, since industry-specific leadership might be needed to better motivate and keep employees in hospitality organizations for longer in a disrupted era.

Servant leadership has been extensively studied as a knowledge domain and offers an alternative to transformational leadership. Multiple investigations have endorsed the influence of both leadership approaches on employee outcomes and organizational performance. In the longer run, servant leadership approach might dominate the field due to its focus on serving others first (i.e., hospitality employees) and sacrificing one's own needs. Boundary conditions may have a substantial role in determining the more effective leadership approach in hospitality work settings. Future investigations may seek to reveal boundary conditions of the leadership effects.

Another area for future researchers may be examining abusive supervision in hospitality organizations - the knowledge domain in the dark side of leadership that has grown in hospitality journals over recent years. To date, the knowledge domain has been dominated by positive leadership approaches and their positive outcomes. In future there

could be more focus on negative leadership and supervision - exploring the negative outcomes of dark leadership styles on hospitality employees and organizations.

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 Table 1. Review research in the leadership literature

Author	Title	Research Design	Findings
Lowe & Gardner (2000)	Ten years of The Leadership Quarterly: Contributions and challenges for the future	Reviewed 188 articles published in The Leadership Quarterly.	Findings showed that the number of publications has increased from 17 in the founding year of 1990 to 37 in volume 10, and higher numbers of articles (55%) were empirical as opposed to theoretical (46%) articles.
Brown & Treviño (2006)	Ethical leadership: A review and future directions	Reviewed the relevant social scientific literature about ethics and leadership to clarify similarities and differences between ethical leadership and other leadership constructs.	The results showed that ethical leadership remains largely unexplored, and thus future studies could focus on discovering this leadership style and its effectiveness.
Avolio, Walumbwa, & Weber (2009)	Leadership: current theories research, and future directions	Examined authentic leadership and its development by reviewing leadership literature	The literature review reveals several important trends in leadership research. The field of leadership takes a more holistic view of leadership.
Gardner et al. (2010)	Scholarly leadership of the study of leadership: A review of The Leadership Quarterly's second decade: 200-2009	Reviewed 353 articles published in The Leadership Quarterly using citation and content analyses	Results showed that the number of articles per volume has grown from 34 in 2000 to 62 in 2009, for an increase of 82%. Also, 80% were journal articles, with the remainder consisting of editorials, book reviews, interviews, brief special issue/section introductions, and theory letters.
Tseng et al. (2010)	Mapping the intellectual structure of modern leadership studies	Used co-citation analysis and social network analysis and analyzed 31,232 cited references	Four factors revealed in this study: effectiveness of leadership style, leadership concept and

		of 2,322 articles from two leadership journals between 1997-2006.	development, leadership classification, and recent topics in leadership study.
Gardner et al. (2011)	Authentic leadership: A review of the literature and research agenda	Adopted content analysis of 91 articles that focus on authentic leadership.	This study shows that the number of authentic leadership's studies has sharply increased with the publication of George's Authentic Leadership and Luthans and Avolio's call for scholarly research in 2003. The findings point out that 2005 is the watershed year for
IIII 1 (2011)		D. 1	work in this area.
Hiller et al. (2011)	Searching for Outcomes of Leadership: A 25- Year Review	Reviewed 1,161 empirical studies over 25 years by using content analysis.	Results showed that past studies used subordinate, self, peer, and superior ratings to examine leadership; nearly two thirds of research has measured leadership using surveys; and most commonly studied outcomes are attitudes, such as job satisfaction;
Dinh et al. (2014)	Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives	Conducted an extensive qualitative review of leadership theory across 10 top-tier academic journals between 2000 and 2012.	The results showed that neo-charismatic theories, emerging from charismatic leadership theory, received the most attention from scholars in the new millennium with transformational leadership and charismatic leadership.
Day et al. (2014)	Advances in leader and leadership development:	Reviewed the theoretical and empirical literature	This study suggests that leadership development
	A review of 25 years of research and theory	on leader and	represents a dynamic process involving
		leadership development published over the past 25 years, in The Leadership Quarterly.	multiple interactions. The leadership development process tends to start at a young age and is partly influenced by parental modeling. It includes the application of various skills (wisdom and creativity) and is formed

			by several factors such as personality.
Lord et al. (2017)	Leadership in applied psychology: Three waves of theory and research	Reviewed leadership articles published in the Journal of Applied Psychology between 1917 and 2015.	This review shows increases in sophistication from early study concentrating on employee issues related to World War I to contemporary multi- level frameworks and meta-analyses on teams, shared leadership, LMX, gender, ethical, abusive, charismatic and transformational leadership.
Batistič et al. (2017)	Just how multi-level is leadership research? A document cocitation analysis 1980–2013 on leadership constructs and outcomes	Analyzed the extent of literature published between 1980 and 2013 using a document cocitation analysis and invisible colleges' framework.	This study found an important fragmentation of the leadership domain, with the utilization of multi-level leadership theorization mostly adopted by more peripheral clusters.
Zhu et al. (2019)	Visualizing the landscape and evolution of leadership research	Used bibliometric analysis and a scientific visualization tool CiteSpace to analyze 6528 leadership studies from 1990 to 2017.	Findings showed that transformational and charismatic leadership styles represent a major stream of leadership study over the past 30 years.
Eva et al. (2019)	Servant Leadership: A systematic review and call for future research	Provided an integrative and comprehensive review of the 285 articles on servant leadership from 1998 to 2018.	Since 2004, research on servant leadership has increasingly been published in top-tier journals, such as Academy of Management. The majority has been conducted in the business/organizational psychology discipline.
Scheffler & Brunzel (2020)	Destructive leadership in organizational research: a bibliometric approach	Conducted a bibliometric analysis utilizing cocitation and pathfinder analysis to define and portray the intellectual origins of destructive leadership.	Results suggest that heightened emphasis on single dark traits including narcissism whereas other factors like psychopathy receive little attention.

Melo et al. (2020)

The Relationship between leadership and accountability: A review and synthesis of the research Used bibliometric review of 37 articles on leadership and accountability in the business and economics area.

This study concluded that despite evidence linking the adoption of an association of leadership and accountability, adoption is very low, particularly in the field of business and economics.

 Table 2. Leadership review research in the hospitality literature

Author	Title	Research Design	Findings
Pittaway et al. (1998)	The way forward: Leadership research in the hospitality industry	This study reviews past approaches to hospitality leadership concerning two dimensions: human nature and leadership type.	This study constructed four paradigms in hospitality leadership research: the existential headship paradigm, influential leadership paradigm, strategic headship paradigm, and situational leadership paradigm.
Bavik (2020)	A systematic review of the servant leadership literature in management and hospitality	This study reviewed 106 articles published between 1970 and 2018 in hospitality and management literature.	The findings showed that features of the hospitality industry and servant leadership were mutually inclusive, both including qualities such as trust, integrity, honesty, care, servant behavior, listening and community focus.
Gui et al. (2020a)	Servant leadership in hospitality: a meta- analytic review	This meta-analysis synthesized past investigations and analyzed different moderators between servant leadership and employee outcomes.	This study found that the strongest effect of servant leadership was on employee satisfaction, followed by commitment, service quality, work engagement, service climate, creativity, psychological capital, OCB, and performance.
Gui et al. (2020b)	A meta-analysis of transformational leadership in hospitality research	This paper conducted a meta-analysis drawing on 62 primary investigations, including 66 independent samples (N = 23,037).	The findings showed that transformational leadership has the strongest effect on relational perceptions, employees' attitudinal and behavioral outcomes. This study also revealed that cultural differences, rating sources and time lag partially moderate the association of transformational

Yu et al. (2020)

A systematic review of research on abusive supervision in hospitality and tourism Using EBSCO, Scopus, Web of Science, and Google Scholar databases, content analysis was performed to review and examine previous investigations about abusive supervision in the hospitality industry. In total, 36 articles were reviewed.

leadership and employee outcomes.

This review research shows that abusive supervision has negative effects on employee service performance, OCB, and psychological well-being, while it has positive effects on employee workplace deviant behaviours and burnout.

Table 3. The most cited 20 leadership articles in the hospitality research

Code	Leadership article as Reference	Citations
R1	Chung-Herrera, B. G., Enz, C. A., & Lankau, M. J. (2003). Grooming future hospitality leaders: A competencies model. The Cornell Hotel and Restaurant Administration Quarterly, 44(3), 17-25.	45
R2	Clark, R. A., Hartline, M. D., & Jones, K. C. (2009). The effects of leadership style on hotel employees' commitment to service quality. Cornell Hospitality Quarterly, 50(2), 209-231.	36
R3	Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. Academy of Management journal, 40(1), 82-111.	35
R4	Li, X., Sanders, K., & Frenkel, S. (2012). How leader—member exchange, work engagement and HRM consistency explain Chinese luxury hotel employees' job performance. International Journal of Hospitality Management, 31(4), 1059-1066.	33
R5	Brownell, J. (2010). Leadership in the service of hospitality. Cornell Hospitality Quarterly, 51(3), 363-378.	32
R6	Kim, W. G., & Brymer, R. A. (2011). The effects of ethical leadership on manager job satisfaction, commitment, behavioral outcomes, and firm performance. International Journal of Hospitality Management, 30(4), 1020-1026.	32
R7	Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. The leadership quarterly, 6(2), 219-247.	31
R8	Gill, A. S., Flaschner, A. B., & Shachar, M. (2006). Mitigating stress and burnout by implementing transformational-leadership. International Journal of contemporary hospitality management.	28
R9	Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. Academy of management journal, 53(1), 107-128.	27
R10	Wang, C. J., Tsai, H. T., & Tsai, M. T. (2014). Linking transformational leadership and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity. Tourism management, 40, 79-89.	27
R11	Tracey, J. B., & Hinkin, T. R. (1994). Transformational leaders in the hospitality industry. Cornell Hotel and Restaurant Administration Quarterly, 35(2), 18-24.	27
R12	Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. Personnel psychology, 57(1), 61-94.	26

R13	Wu, L. Z., Tse, E. C. Y., Fu, P., Kwan, H. K., & Liu, J. (2013). The impact of servant leadership on hotel employees' "servant behavior". Cornell Hospitality Quarterly, 54(4), 383-395.	26
R14	Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. The leadership quarterly, 1(2), 107-142.	26
R15	Tepper, B. J. (2000). Consequences of abusive supervision. Academy of management journal, 43(2), 178-190.	25
R16	Lyu, Y., Zhu, H., Zhong, H. J., & Hu, L. (2016). Abusive supervision and customeroriented organizational citizenship behavior: The roles of hostile attribution bias and work engagement. International Journal of Hospitality Management, 53, 69-80.	24
R17	Asree, S., Zain, M., & Razalli, M. R. (2010). Influence of leadership competency and organizational culture on responsiveness and performance of firms. International Journal of Contemporary hospitality management, 22(4), 500-516.	24
R18	Walumbwa, F. O., Hartnell, C. A., & Oke, A. (2010). Servant leadership, procedural justice climate, service climate, employee attitudes, and organizational citizenship behavior: a cross-level investigation. Journal of applied psychology, 95(3), 517.	24
R19	Cichy, R. F., Cha, J., & Kim, S. (2009). The relationship between organizational commitment and contextual performance among private club leaders. International Journal of Hospitality Management, 28(1), 53-62.	24
R20	Gerstner, C. R., & Day, D. V. (1997). Meta-Analytic review of leader–member exchange theory: Correlates and construct issues. Journal of applied psychology, 82(6), 827.	23
R21	Kara, D., Uysal, M., Sirgy, M. J., & Lee, G. (2013). The effects of leadership style on employee well-being in hospitality. International Journal of Hospitality Management, 34, 9-18.	23

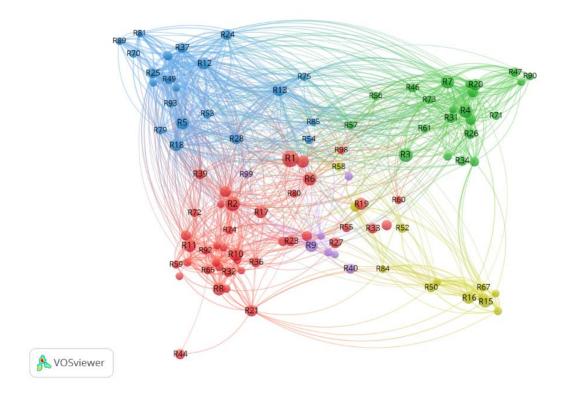


Figure 1. Network visualization of leadership research in the hospitality scholarship

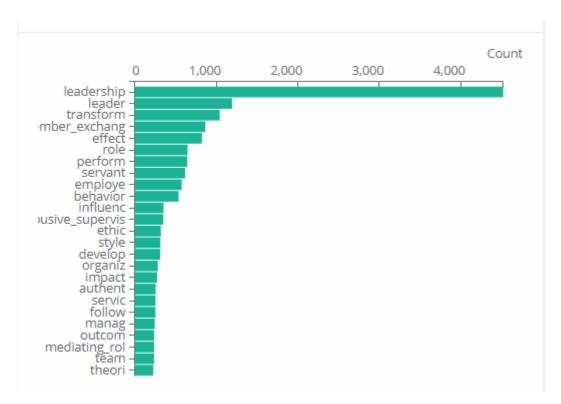


Figure 2. Most frequent words in the analysis

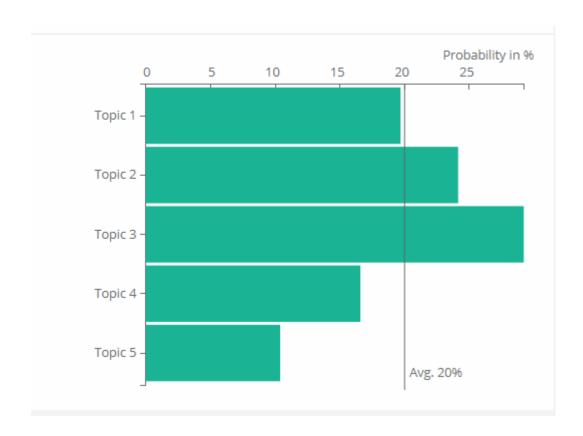
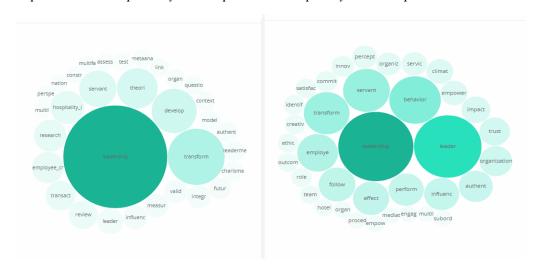


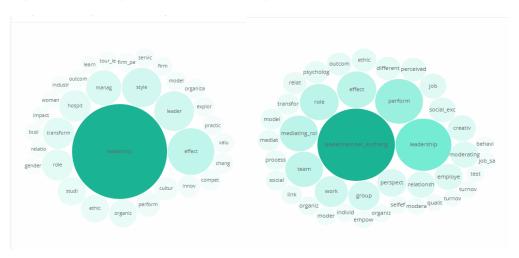
Figure 3. Distribution of topics over the complete collection

Topic 1: Leadership theory Topic 2: Contemporary leadership behaviors



Topic 3: Leadership effect

Topic 4: Leader-member exchange



Topic 5: Abusive supervision

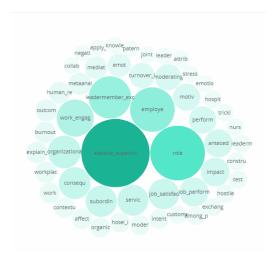
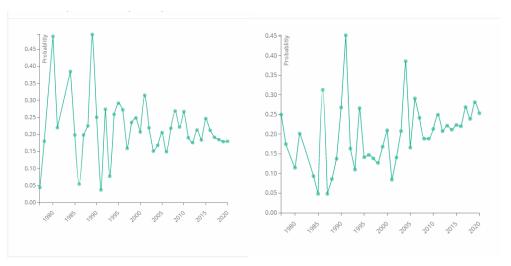


Figure 4. Topic word distribution by LDA in leadership's intellectual structure

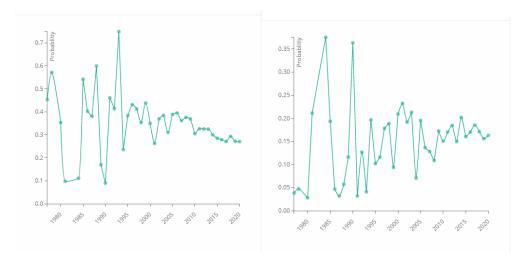
Topic 1: Leadership theory

Topic 2: Contemporary leadership behaviors



Topic 3: Leadership effect

Topic 4: Leader-member exchange



Topic 5: Abusive supervision

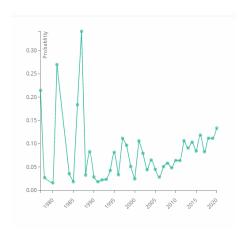


Figure 5. Topic timeline in leadership's intellectual structure from 1960 to 2020.

Appendix A. Co-citation analysis procedure employed in this study **First Step-**

Find articles related to the given field. In our study, we obtained all hospitality articles' information from the SCOPUS database.

Article 1	Article 2	Article 3	Article 4	Article n
Reference 1	Reference 8	Reference 13	Reference 17	Reference 21
Reference 2	Reference 9	Reference 14	Reference 10	Reference 22
Reference 3	Reference 10	Reference 4	Reference 18	Reference 23
Reference 4	Reference 11	Reference 15	Reference 12	Reference 4
Reference 5	Reference 1	Reference 5	Reference 19	Reference 6
Reference 6	Reference 12	Reference 6	Reference 20	Reference 17
Reference 7	Reference 6	Reference 16	Reference 3	Reference 13

Second Step-

Find related articles for the given field in the reference list of the articles. In our study, we found leadership-related articles in the reference list of all hospitality articles. For example, as seen below bold red colors are articles related to leadership.

Ī	Article 1	Article 2	Article 3	Article 4	Article n

Reference 1	Reference 8	Reference 13	Reference 17	Reference 21
Reference 2	Reference 9	Reference 14	Reference 10	Reference 22
Reference 3	Reference 10	Reference 4	Reference 18	Reference 23
Reference 4	Reference 11	Reference 15	Reference 12	Reference 4
Reference 5	Reference 1	Reference 5	Reference 19	Reference 6
Reference 6	Reference 12	Reference 6	Reference 20	Reference 17
Reference 7	Reference 6	Reference 16	Reference 3	Reference 13

Third Step-

Generate new data set including articles with references that are related given topic or field. In our study, we created a new dataset including articles with references related to leadership as seen below. In other words, in the following table while the Articles are related to hospitality the references are related to leadership. In the co-citation analysis red articles are used.

Article 1	Article 2	Article 3	Article 4	Article n
Reference 2	Reference 9	Reference 4	Reference 17	Reference 22
Reference 4	Reference 11	Reference 15	Reference 12	Reference 23
	Reference 12		Reference 19	Reference 4
			Reference 20	

Fourth Step-

Utilize co-citation analysis (see Koseoglu, 2020)

Appendix B. The most cited 100 leadership articles in the hospitality scholarship

Cluster	Label	Article	Weight
1	R1	Chung-Herrera, B. G., Enz, C. A., & Lankau, M. J. (2003). Grooming future hospitality leaders: A competencies model. <i>The Cornell Hotel and Restaurant Administration Quarterly</i> , 44(3), 17-25.	45
1	R2	Clark, R. A., Hartline, M. D., & Jones, K. C. (2009). The effects of leadership style on hotel employees' commitment to service quality. <i>Cornell Hospitality Quarterly</i> , <i>50</i> (2), 209-231.	36
1	R6	Kim, W. G., & Brymer, R. A. (2011). The effects of ethical leadership on manager job satisfaction, commitment, behavioral outcomes, and firm performance. <i>International Journal of Hospitality Management</i> , <i>30</i> (4), 1020-1026.	32
1	R8	Gill, A. S., Flaschner, A. B., & Shachar, M. (2006). Mitigating stress and burnout by implementing transformational-leadership. <i>International Journal of contemporary hospitality management</i> , 18(6), 469-481	y 28

1	R10	Wang, C. J., Tsai, H. T., & Tsai, M. T. (2014). Linking transformational leadership and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity. <i>Tourism Management</i> , 40, 79-89.	27
1	R11	Tracey, J. B., & Hinkin, T. R. (1994). Transformational leaders in the hospitality industry. <i>Cornell Hotel and Restaurant Administration Quarterly</i> , 35(2), 18-24.	27
1	R14	Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. <i>The Leadership Quarterly</i> , <i>1</i> (2), 107-142	26
1	R19	Cichy, R. F., Cha, J., & Kim, S. (2009). The relationship between organizational commitment and contextual performance among private club leaders. <i>International Journal of Hospitality Management</i> , 28(1), 53-62	24
1	R17	Asree, S., Zain, M., & Razalli, M. R. (2010). Influence of leadership competency and organizational culture on responsiveness and performance of firms. <i>International Journal of Contemporary hospitality management</i> , 22(4), 500-516	24
1	R21	Kara, D., Uysal, M., Sirgy, M. J., & Lee, G. (2013). The effects of leadership style on employee well-being in hospitality. <i>International Journal of Hospitality Management</i> , <i>34</i> , 9-18.	23
1	R22	Liao, H., & Chuang, A. (2007). Transforming service employees and climate: A multilevel, multisource examination of transformational leadership in building long-term service relationships. <i>Journal of applied psychology</i> , <i>92</i> (4), 1006.	21
1	R23	Morhart, F. M., Herzog, W., & Tomczak, T. (2009). Brand-specific leadership: Turning employees into brand champions. <i>Journal of Marketing</i> , 73(5), 122-142	20
1	R27	Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. <i>The leadership quarterly</i> , 13(3), 243-274	20
1	R32	Lee, Y. K., Son, M. H., & Lee, D. J. (2011). Do emotions play a mediating role in the relationship between owner leadership styles and manager customer orientation, and performance in service environment?. <i>International Journal of Hospitality Management</i> , 30(4), 942-952.	19
1	R33	Yang, J. T. (2007). Knowledge sharing: Investigating appropriate leadership roles and collaborative culture. <i>Tourism management</i> , 28(2), 530-543.	19
1	R36	Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. <i>Academy of management Journal</i> , <i>52</i> (4), 765-778.	18
1	R39	Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. <i>Journal of applied psychology</i> , 87(4), 611	18
1	R38	Testa, M. R., & Sipe, L. (2012). Service-leadership competencies for hospitality and tourism management. <i>International journal of hospitality management</i> , <i>31</i> (3), 648-658	18
1	R35	Zhao, W., & Ritchie, J. B. (2007). An investigation of academic leadership in tourism research: 1985–2004. <i>Tourism management</i> , 28(2), 476-490.	18
1	R42	Worsfold, P. (1989). Leadership and managerial effectiveness in the hospitality industry. <i>International Journal of Hospitality Management</i> , 8(2), 145-155.	17
1	R44	O'neill, J. W., Harrison, M. M., Cleveland, J., Almeida, D., Stawski, R., & Crouter, A. C. (2009). Work–family climate, organizational commitment, and turnover: Multilevel contagion effects of leaders. <i>Journal of Vocational Behavior</i> , 74(1), 18-29.	17

1	R45	Terglav, K., Ruzzier, M. K., & Kaše, R. (2016). Internal branding process: Exploring the role of mediators in top management's leadership—commitment relationship. <i>International Journal of Hospitality Management</i> , 54, 1-11	16
1	R55	Liaw, Y. J., Chi, N. W., & Chuang, A. (2010). Examining the mechanisms linking transformational leadership, employee customer orientation, and service performance: The mediating roles of perceived supervisor and coworker support. <i>Journal of Business and Psychology</i> , 25(3), 477-492	14
1	R59	Tracey, J. B., & Hinkin, T. R. (1996). How transformational leaders lead in the hospitality industry. <i>International Journal of Hospitality Management</i> , <i>15</i> (2), 165-176.	13
1	R63	Hinkin, T. R., & Tracey, J. B. (1994). Transformational leadership in the hospitality industry. <i>Hospitality Research Journal</i> , <i>18</i> (1), 49-63.	13
1	R65	Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. <i>The leadership quarterly</i> , 15(1), 33-53.	13
1	R64	Patiar, A., & Mia, L. (2009). Transformational leadership style, market competition and departmental performance: Evidence from luxury hotels in Australia. <i>International Journal of Hospitality Management</i> , 28(2), 254-262.	13
1	R62	Patiar, A., & Wang, Y. (2016). The effects of transformational leadership and organizational commitment on hotel departmental performance. <i>International Journal of Contemporary Hospitality Management</i> , 28 (3), 586-608	13
1	R60	Testa, M. R. (2009). National culture, leadership and citizenship: Implications for cross-cultural management. <i>International Journal of Hospitality Management</i> , 28(1), 78-85.	13
1	R74	Bono, J. E., & Judge, T. A. (2003). Self-concordance at work: Toward understanding the motivational effects of transformational leaders. <i>Academy of management journal</i> , 46(5), 554-571	12
1	R78	Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. <i>Journal of Management</i> , 22(2), 259-298	12
1	R72	Schuckert, M., Kim, T. T., Paek, S., & Lee, G. (2018). Motivate to innovate: How authentic and transformational leaders influence employees' psychological capital and service innovation behavior. <i>International Journal of Contemporary Hospitality Management</i> , 30(2), 776-796.	12
1	R80	Wong, A., & Chan, A. (2010). Understanding the leadership perceptions of staff in China's hotel industry: Integrating the macro-and micro-aspects of leadership contexts. <i>International Journal of Hospitality Management</i> , 29(3), 437-447.	12
1	R92	Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative validity. <i>Journal of applied psychology</i> , 89(5), 755.	11
1	R87	Minett, D., Yaman, H. R., & Denizci, B. (2009). Leadership styles and ethical decision-making in hospitality management. <i>International Journal of Hospitality Management</i> , 28(4), 486-493	11
1	R91	Erkutlu, H. (2008). The impact of transformational leadership on organizational and leadership effectiveness. <i>Journal of management development</i> , 27(7), 708-726	11
1	R88	Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. <i>Journal of occupational and organizational psychology</i> , 72(4), 441-462.	11

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