



BIBLIOMETRIC ANALYSIS OF HUMAN RESOURCE MANAGEMENT (HRM) IN THE HOSPITALITY AND TOURISM INDUSTRY

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Abstract

Tourism industry and hospitality is one of the most labour-intensive industries and it is also one of the fast-growing industries in the world. It has contributed immensely to job creation globally. For instance, the industry accounted for one out of every ten job openings, raising the total number of people depending on the sector for their livelihood to a staggering 319 million in 2018. It also contributed about 8.8 trillion USD to the world's economy indicating 10.4 percent of the world's aggregate Gross Domestic Product (GDP). Human resource departments play crucial role in the hospitality and tourism industry. This is because the success of this sector depends mostly on the competencies and attitudes of employees. Human resource managers must understand and be very mindful of the different characteristics and elements of the individuals who comprise the labor force in this industry in order to formulate and implement policies and practices that would motivate the employees in the sector towards commitment and high performance in their respective duties and responsibilities. This study analyzes international scientific literature in the Web of Science on human resource management in the tourism and hospitality industry using bibliometric analysis to determine the relationships among co-authorship, countries, keywords, citation networks, and journals in the chosen field. VOSviewer is a strong software for scientific study network analysis and this software was used to provided clustering, mapping, and visualization of bibliometric networks for the study. Longitudinal thematic analysis for human resource in the hospitality industry was also done using strategic diagram mapping and performance analysis approach to identify and visualize the role played by specific and general thematic areas in the study. The most frequent keywords, keywords network and keyword clustering were used for the investigation on the content of the literature. It was found that there was some collaboration among most of the countries. When it comes to the study of human resource management in the hospitality and tourism sector, the Peoples Republic of China is the largest contributor followed by the United States of America. However, the number of coauthors was few. With regard to intellectual structures, the Peoples Republic of China and the United States of America could generally be termed as the same. The differences could be found in the number of authorships per country. The bibliographic coupling visualization also revealed collaborative clusters among the countries. The most important key words identified in the visualization of the study were "performance," "Commitment," "Job-satisfaction" and "Antecedent" - these words form an integral part of human resource management. A thematic map is intended to demonstrate a particular subject, contrary to a broad map which has a range of trends occurring together, for example settlements, railways etc. In this study, the themes evolution map gives a broader context to human resource and tourism scholars.

KEY WORDS: Tourism and Hospitality Industry; Literature; Bibliometric Analysis; Content Analysis; New Agenda.

Introduction

The hospitality and tourism sector is one of the fastest growing sectors across the globe. It is a major contributor to the gross domestic product (GDP) of many countries and employs up to 10 percent of the labor force globally (Burke and Hughes, 2018). According to the World Travel and Tourism Council (WTTC, 2019), travel and tourism accounted for US\$8.9 trillion (10.3%) of the World's GDP in 2019. In the same year, tourism created 330 million jobs globally. It is worth noting that hospitality forms an integral part of tourism and is primarily a service industry. Madera et al. (2017) reiterated that products offered by organizations in the hospitality and tourism industry present service experiences, which are mainly unquantifiable and extremely reliant on person-to-person interactions between employees and customers. As a service sector, providing high quality of service is central to its success. The human resource in the hospitality and tourism sector is expected to provide high quality service to all customers and clients particularly in this era of advanced technology, by increased use of social media and mobile technologies. Meeting customer needs and satisfaction is crucial in promoting customer loyalty, which may lead to a competitive

advantage. Burke and Hughes (2018) state that it is necessary for human capital in this sector to acquire skills, knowledge, experience, ability, attitudes and values, behaviors, and relationships, both inside and outside their work area. Most of these traits are influenced by human resource management policies and practices of organizations and the behaviors of supervisors and managers.

Although the hospitality and tourism sector is an exceptional labour-intensive and a considerable source of employment, globally, it creates employment for youth, women and migrant workers due to its demand for different levels of skills and competencies (Baum et al., 2010). Human resource management/department is critical in the hospitality and tourism sector because of the role they play in the industry. They perform the following functions: design job specification, job description, conduct recruitment and selection, training, and development, handles compensation, employee relations and work structure. The HR departments perform these functions in collaboration with line managers, supervisors, and employees. However, most small organizations in this industry do not have human resource departments. Their HR functions are performed by a general manager or the owners of the establishment. Managing human capital in the

hospitality and tourism industry varies compared to other sectors because of the cultural diversity of most of their clients. Globalization has enhanced traveling; many people travel frequently for business, leisure, pleasure, and many other reasons. Human resource departments would have to design practices, policies and procedures that would equip employees with the requisite skills to meet the varying clients' needs. The objective of this study is to analyze human resource management in the hospitality and tourism industry using bibliometric reviewed literature in the selected study to analyze data from the Web of Science Clarivate Analytics. Bibliometric analysis is an emerging useful analytical method for the demonstration and identification of both past and future trends and potentials in research fields (Abdi Khalife et al., 2020).

Longitudinal thematic analysis for human resource in the hospitality industry was also done using strategic diagram mapping and performance analysis approach to identify and visualize the role played by specific and general thematic areas in the study (Cobo et al., 2011). The SCIMAT software used allows for quantifying and visualizing the thematic evolution of the hospitality and tourism industry, using identified keywords within the stipulated period. Performance analysis adapts diverse bibliometric measures that estimated the effect of the detected specific themes and thematic areas.

This article is structured as follow: the second section is literature review, followed by the research method. In the research method, details of the used method in this study were described. The fourth section is data gathering. The analysis of the results was displayed in the fifth section. The discussion could be found in the sixth part and lastly, the conclusion.

Literature Review

Pritchard (1969) defined bibliometric as "the application of mathematical and statistical methods to books and other communication medium". Glänzel, Moed, Schmoch, and Thelwall (2019) also indicate that "bibliometric is designed to deal with the more general information processes." Merediz-Solá and Bariviera (2019) state that the use of bibliometric as a method for analyzing and summarizing bibliography, results and other relevant issues in scientific data has increased over time. Apostoaie et al. (2015) emphasized that bibliometrics has gained popularity as a tool for evaluating research trends and performance in areas like the number of citations, geographic origins, and authorship. In the study of Patra, Bhattacharya and Verma (2006), in which they sought to determine the growth pattern, core journals, authorship pattern and productive authors in bibliometric, they concluded that bibliometric is a crucial field of scientific information due to its distinct array of methods for analyzing and monitoring resources of information and management of database in social and organizational settings. It was

emphasized that bibliometric techniques have been applied in several fields of study, which include "studies of properties and behavior of recorded knowledge, study of the constructs of systematic review, evaluation of research activity and administration of scientific information."

O'riordan (2017) defines human resource management as "the process through which management builds the workforce and tries creating the human performances that the organization needs". Armstrong and Taylor (2020) described HRM as a philosophy of management of workforce supported by theories of individuals and organizations behavior. The aim of HRM is to enhance organizational effectiveness through individuals and how people should be handled in the organization.

The human factor in tourism and hospitality organizations is crucial for service quality, consumer satisfaction and dedication, competitive edge, and organizational performance (Kusluvan et al., 2010). HRM includes a sequence of actions and decisions involving "planning of workforce, job design and analysis, recruitment and selection, orientation, training and development, team building, compensation and benefits, promotion, motivation, employee involvement and participation, empowerment, performance appraisals, health and safety, job security, employee and labor relations and terminations" (Kusluvan et al., 2010). HRM again supports its organization with profound communication and provides the requisite training and development for employees to acquire relevant skills that would allow contributions toward the organization's competitiveness in the service market. It is the responsibility of HR department to develop sound employee management programs, policies, and practices.

The HR department ensures that their organizations comply with labor laws particularly meeting occupational safety and health administration standards and sexual harassment. The department also helps managers and employees understand their rights and obligations under the law (Sampson, 2018). Hospitality workers are often union members. HR department sees that employers comply with National Labor Act, for instance, Ghana's Labor Act 2003 Act 651. The act prevents employers from barring workers from joining unions or taking part in union activities while off duty. HR has a chief role in union-contract negotiations between bargaining unit leaders and management over pay, benefits, hours and working conditions (Sampson, 2018).

According to Nasurdin, Ahmad and Ling (2015), HRM practices in the hospitality industry were categorized as "underdeveloped" in relation to other industries. Kusluvan et al. (2010) reiterated that there were insufficient data when it comes to acceptance and application of great performing HRM practices in the hospitality and tourism industry. They emphasized the need for more study to be conducted on HRM practices customized to different hospitality

organizations because there has not been any specific approach to HRM practices in the said industry. This argument was based on the immense contribution being made by hospitality and tourism industry toward the world economies.

Boella and Gosss-Turner (2020), indicate that there is the need for HR specialists and line managers in the hospitality and tourism industry to understand the elements and characteristics of employees in their respective organizations. This would help in the formulation of HR policies and practices that would motivate individual employees and teams to use their full potential and be dedicated to their jobs.

HRM Best Practices

The following outline are suggested best HR Practices in the hospitality industry:

- a. **Recruitment and Selection:** Various evaluations in the recruitment and selection process should be keenly followed to select candidates with the right attitude, values, competencies, interpersonal and problem-solving abilities fit to the industry. This idea was supported by Nasuridin, Ahmad and Ling (2015), when they argued that recruitment selectively involves many activities, which entail carefully fitting job applicants with its requirements and making a deliberate attempt to entice the best talent from the labor market. This leads to getting employees who would buy into the organization's values and goals.
- b. **Retention:** The need to avert attrition among employees by introducing retention bonuses.
- c. **Teamwork:** Promotion of team culture.
- d. **Training and Development:** It is important to train and develop employees particularly, those at the operational level with team spirit and human relation skills to enhance their "service orientation". For managers to also develop additional facilitating and coaching style of leadership.
- e. **Appraisal:** The shift from traditional top-down methods of appraisal system to modern evaluations system like the 360 or 720 that supports customer evaluation, peer, team-based performance, and the appraisal of managers by subordinates. The focus should be on quality service to clients. Ultimately, performance management system should be introduced.
- f. **Rewarding quality:** An innovative system of incentives for employees who achieves quality service targets should be established.

HRM Challenges and Recommended Solutions:

According to Burke (2018), HRM problems seem to be the most challenging confronting senior managers in the hospitality industry. A study was conducted by Enz (2001 and 2009) on 170 hospitality managers in 25 countries and 243 hospitality managers in 60 countries respectively, at different periods. The results revealed that the most challenging issues faced by organizations in the hospitality and tourism industries in relation to HR were how to attract and retain qualified employees, employee training, boosting employee morale and opportunities for career development.

The International Society of Hospitality Consultants (ISHC) also mentions the dearth of labor and skills as being part of the industry's top 10 challenges. In their 2007 report, they observed high employee turnover in the industry and identified poor remuneration as a disincentive to enticing and maintaining skilled employees. Additionally, long hours, with nights and weekends, make jobs in the industry unattractive career choices for college-educated Gen-Xers, Gen-Yers and millennials, who want more flexibility and excellent job prospects. Inadequate attention on employee training and satisfaction also has hampered the industry (ISHC, 2007). Another problem is that most positions in the hospitality and tourism industry had no written job descriptions. To solve this problem, written job description should be provided for each job position. Furthermore, HR should recommend rewards and employee recognition programs to reduce attrition and increase retention (as indicated in the best practices).

To solve the problems of lack of skilled employees and high turnover, the ISHC advises internal professional advancement programs that presents hospitality jobs as sustainable careers. This would attract and assure potential employees of career success in the industry (Sampson, 2018). HR assists in setting wages and salaries in the hospitality industry based on regional market rates. Hospitality employees earn much of their extra income through tips. HR's payroll knowledge helps employers handle tips as required. According to the ISHC, giving employees shared cash bonuses for raising productivity has been successful in this labor-intensive industry (Sampson, 2018). As emphasized by Jagminas and Piktunaitė (2009), that human resources are very important means for organizations to have a competitive advantage.

Research Methods

For this study, research questions shaped the methodology. The research questions are as follows:

- **Research question one:** How many articles have been published in this field of study, and who are the main players?

- **Research question two:** How are countries collaborating in human resource management in hoteling study?
- **Research question three:** Which are the top-cited articles and the hot topics in this field of study?
- **Research question four:** What is the main content of the publications?

The growth trend and the number of publications show how much researchers are interested in the topic and it is a valuable indicator for the growth of the field of study (Ahmed and Huang, 2019; Xie, Zhang and Duan, 2019). The top contributors' countries and the social network of these countries show the center of focus of study (Zou et al., 2018; Peng et al., 2019). Systematic thinking helps with visualization and the network (Pauna et al., 2019). VOSviewer is a strong software for scientific study network analysis and this software was used in this study (Lawal et al., 2019; Yıldız, 2019). The software used natural language processing (NLP) and VOSviewer provided clustering, mapping, and visualization of bibliometric networks (Van Eck and Waltman, 2010).

The top-cited articles, which were the most influenced article in the subject area are essential to know the direction of the research in the topic (Hernández-Torrano, and Ibrayeva, 2019; Zhang and Duan, 2019; Veloutsou and Ruiz Mafe, 2019; Martínez-López et al., 2019). To go deeper into the content of publications, this article used keyword analysis. Keywords are valuable representatives of the context of the articles (Veloutsou and Ruiz Mafe, 2019; Zhang et al., 2015). Top used keywords and the keywords network are used for analyzing the situation of the subject. The top occurred keywords showed the topic's top topic, and the network shows how these topics are related to each other. To find the study development potential, the keyword correlation matrix was identified. In this matrix, the relationship between top occurred keywords were also identified. The correlation number shows the number of times the two keywords appeared together. If the number is low, it shows that there is a high potential for future development.

Moreover, bibliometric information maps a field of science to show intellectual evolution in that science (Garfield, 1994). To review the intellectual property of the literature of science, different methods could be used. The co-word analysis or keyword analysis is one of the main tools to determine the content of a research area (Callon et al., 1991). Keywords in publication could play a role in DNA or fingerprints of research (Börner et al., 2003). The degree of similarity in keywords in publication could show the similarity of publications (Börner et al., 2003). Cobo et al. (2011) introduced strategic diagram

mapping, thematic network stability between periods, and thematic evolution techniques to display the main themes and content of the literature of the science field for analyzing the conceptual structure of a topic the co-word analysis used by scholars. Co-keyword analysis is used for mapping the science and clusters of keywords and their interconnections are identified (López-Robles et al., 2019; Aparicio et al., 2019; Sharifi, 2020; Santana and Cobo-Martín, 2020; Xie et al., 2020). Cobo et al. (2011), called this cluster the theme of the research. The strategic themes diagram is two-dimensional with four quadrants. In this two-dimensional diagram, the centrality is the x-axis, and the density is the y-axis. This strategic diagram demonstrates the position of different themes in the science in four quadrants. The analytical result part of this article is explaining what the position of each theme in each quadrant means. The most significant keyword in each theme selected is the name of those themes.

Cobo et al. (2011), again in their article after the illustration of the strategic diagram of themes demonstrated the network of themes. They called this network, a thematic network, and the network represents the frequency and relation of the themes in the study field. The size of the spheres represents the number of documents with those themes and the thickness of the connection lines shows the correlation.

Two other analysis in science themes can help better understand the subject. These two analyses are the stability between periods and thematic evolution. Both are analytical indicators of the evolution of themes of the subject in the past. For this analysis, the time interval was selected, the evolution and changes of the subject can be analyzed by these two graphs (Cobo et al., 2011). Cobo and colleagues tried introducing the systematic approach for understanding the content of the research in the past.

Data Acquisition

As Merediz-Solá and Bariviera (2019), indicate bibliometric analysis relies on a database, hence, the data for this study were retrieved from the Web of Science Core Collection (WoS), Clarivate Analytics. The following keywords were used to get the needed information: tourism, industry, antecedents, performance, commitment, attitudes, gender, emotional labor, service quality, work etc. To get the precise results, the words were linked with the Boolean operator "OR" and were searched in the title on October 13, 2020 (Leite et al., 2012). In all, 788 articles, books and conference proceedings were retrieved. Additional search standards are detailed in Table 1 below.

Table 1. Search Standards

No.	Item	Criteria
1	Language	English
2	Publication type	Articles, book chapters and conference proceedings
3	Timeframe	From 1977– 2021
4	Filtered Areas	Human Resource Management and Hospitality and Tourism Management

Data for this study were gathered from Web of Science (WoS) Clarivate analytics. 788 peer-reviewed papers/documents relating to HRM in the hospitality and tourism industry published from 397 sources were retrieved. All the downloaded documents were saved using “other file formats,” selecting all the options in the field content (Authors/Editors, Title, Source, Conference Information, ISSN/ISBN, Time cited, Accession numbers, Authors Identifiers and Pubmed ID).

Research Results and Discussion

Number of Publications

Fig. 1 gives a comprehensive survey of the selected papers. It shows that the yearly publications using

bibliometric have progressed consistently. The observed trend (the details indicated in **Table 2**) in publication could be attributed to the rising interest in the hospitality and tourism industry due to its contribution to the global economy and the quest to publish scientific information. It further stated that the increase in publication is the perception of human capital as an asset to organizations; therefore, research into the development of human resource could help reduce the turnover and other challenges in this human-intensive industry. **Table 2** has one article scheduled to be published in 2021. However, (Merediz-Solá and Bariviera, 2019), cautioned that the Web of Science database contains additional information on more recent publications, due to an increased propensity for academics to publish.

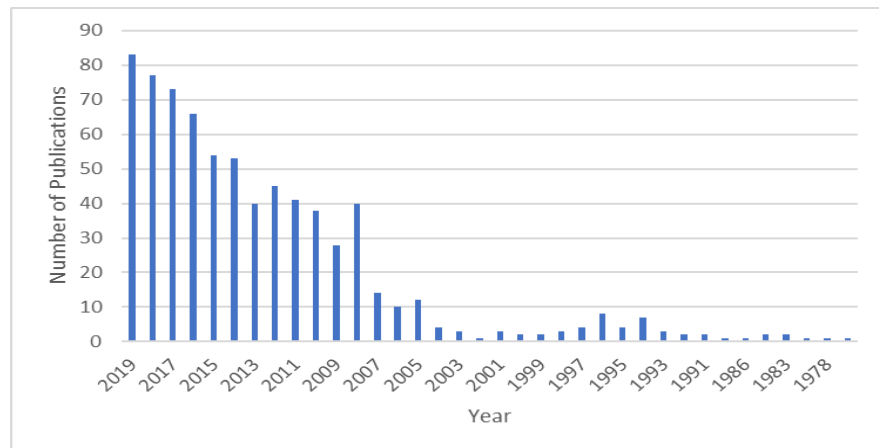


Fig. 1. Total number of publications per year from 1977–2019

Table 2. Total number of Publications Per Year

Publication year	Records	Percentage of 788	Publication year	Records	Percentage of 788
2021	1	0.127	2002	1	0.127
2020	56	7.107	2001	3	0.381
2019	83	10.533	2000	2	0.254
2018	77	9.772	1999	2	0.254
2017	73	9.264	1998	3	0.381
2016	66	8.376	1997	4	0.508
2015	54	6.853	1996	8	1.015
2014	53	6.726	1995	4	0.508

2013	40	5.076	1994	7	0.888
2012	45	5.711	1993	3	0.381
2011	41	5.203	1992	2	0.254
2010	38	4.822	1991	2	0.254
2009	28	3.553	1989	1	0.127
2008	40	5.076	1986	1	0.127
2007	14	1.777	1985	2	0.254
2006	10	1.269	1983	2	0.254
2005	12	1.523	1980	1	0.127
2004	4	0.508	1978	1	0.127
2003	3	0.381	1977	1	0.127

Source: Own compilation

Publication Citation

The most cited article (with 230 citations) was published in 2008 in the International Journal of Hospitality Management. The top-cited article emphasized diversity and importantly divergent labor force in the hospitality industry, and it explains its citation frequency. All the top 15 cited papers focus on relevant aspects of HRM in the hospitality sector. Details of the top 15 cited papers are indicated in Table 3. The citation analysis findings are a

manifestation of topics relating to gaps in managing human resource in the hospitality and tourism industry, challenges, HR best practices, recommended interventions and leadership styles. Majority of the top 15 most cited papers were published in the International Journal of Hospitality Management. It shows the focus of the journal to the topic under study. Top cited articles are a capable measure to identify the direction of the study in the field of research and show how popular the articles are among the researchers.

Table 3. Fifteen (15) most frequently cited papers

Citation	Year	Source	Authors	Title
230	2008	International Journal of Hospitality Management	Gursoy, Dogan; Maier, Thomas A.; Chi, Christina G.	Generational differences: An examination of work values and generational gaps in the hospitality workforce
228	1996	Journal of Business Research	Hartline, MD; Jones, KC	Employee performance cues in a hotel service environment: Influence on perceived service quality, value, and word-of-mouth intentions
165	2007	Work Employment and Society	Warhurst, Chris; Nickson, Dennis	Employee experience of aesthetic labor in retail and hospitality
150	2008	International Journal of Hospitality Management	Kim, Hyun Jeong	Hotel service providers' emotional labor: The antecedents and effects on burnout
145	2013	International Journal of Hospitality Management	Karatepe, Osman M.	High-performance work practices and hotel employee performance: The mediation of work engagement
128	1999	British Journal of Industrial Relations	Hoque, K	Human resource management and performance in the UK hotel industry
124	2014	Tourism Management	Wang, Chung-Jen; Tsai, Huei-Ting; Tsai, Ming-Tien	Linking transformational leadership and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity
122	2012	International Journal of Hospitality Management	Lee, JungHoon (Jay); Ok, Chihyung	Reducing burnout and enhancing job satisfaction: Critical role of hotel employees' emotional intelligence and emotional labor
120	2011	International Journal of Hospitality Management	Chang, Song; Gong, Yaping; Shum, Cass	Promoting innovation in hospitality companies through human resource management practices

97	2006	Tourism Management	Chu, Kay Hei-Lin; Murrmann, Suzanne K.	Development and validation of the hospitality emotional labor scale
91	2015	International Journal of Hospitality Management	Paek, Soyoon; Schuckert, Markus; Kim, Taegoo Terry; Lee, Gyehee	Why is hospitality employees' psychological capital important? The effects of psychological capital on work engagement and employee morale
89	2013	International Journal of Hospitality Management	Kim, Taegoo Terry; Lee, Gyehee	Hospitality employee knowledge-sharing behaviors in the relationship between goal orientations and service innovative behavior
88	2011	Annals of Tourism Research	Ladkin, Adele	Exploring Tourism Labor
88	2010	International Journal of Hospitality Management	Chiang, Flora F. T.; Birtch, Thomas A.; Kwan, Ho Kwong	The moderating roles of job control and work-life balance practices on employee stress in the hotel and catering industry
81	2012	International Journal of Hospitality Management	Lam, Wing; Chen, Ziguang	When I put on my service mask: Determinants and outcomes of emotional labor among hotel service providers according to affective event theory

(Source: Own Compilation)

Source Citation Visualization

Source here means the name of the journal or publication body. **Fig. 2** was generated from VOSviewer (version 1.6.15), it allowed the creation of a visualization map of the source of most cited journals. From the map, the most cited journal is

the International Journal of Hospitality Management, followed by International Journal of Contemporary Management. It could be observed that all journals cited are related to the study (tourism and hospitality industry).

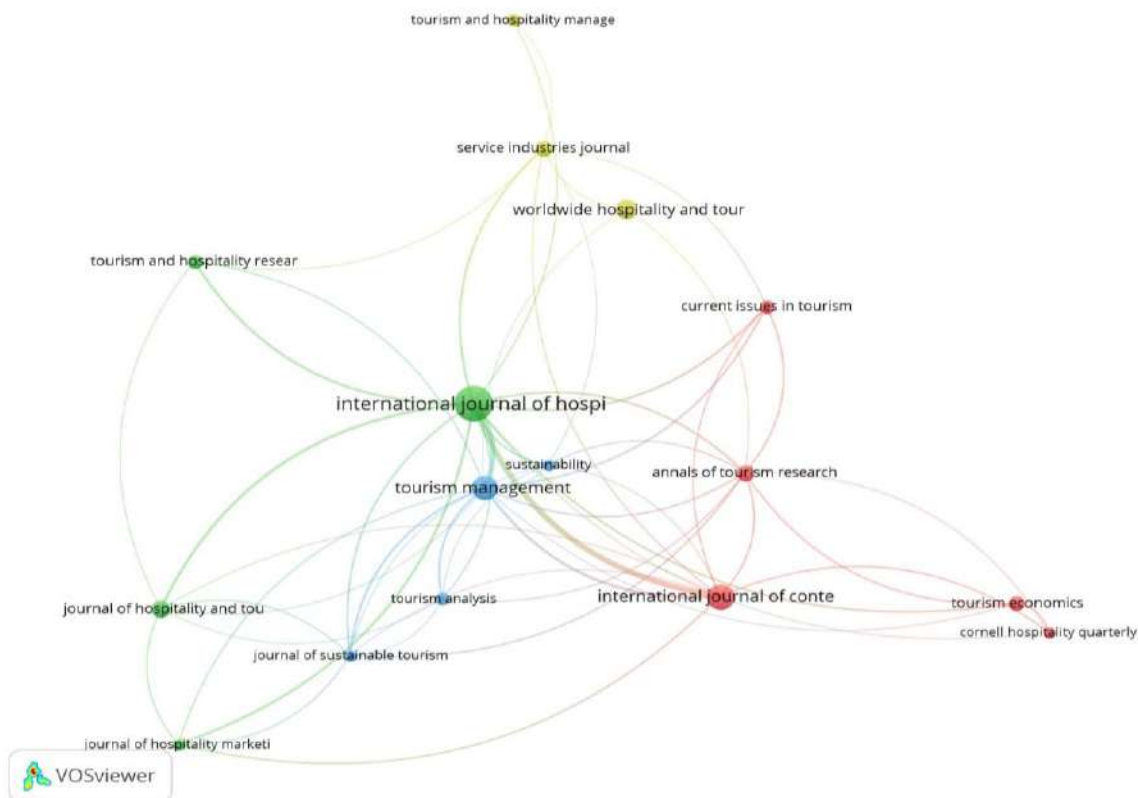


Fig. 2. Source Citation Visualization

Countries Co-Authorship

From **Fig. 3** and **Table 4**, 18 countries' authors have publication collaboration in HRM in the hospitality industry. This could be due to the less attention of publishers about HRM in the hospitality and tourism industry. Out of the 18 countries, the United States of America has the largest co-authorship network. The visualization map also reveals a strong collaborative relationship between China and the United States of America. This is evident by the nearness of their nodes and both share the same network cluster (blue). Also in this cluster are Taiwan and Thailand. Authors from England, Scotland, Nigeria, and Canada also have close collaboration

with each other and are in the same cluster (green). Authors in similar clusters that have close collaboration are Australia, India, Malaysia, New Zealand, and Croatia on one hand (red), Russia and Turkey on the other hand (purple). There is some level of co-authorship collaboration between China, US, Taiwan, and Thailand (blue). Although authors from Spain, Germany and South Korea found themselves in the same cluster (yellow), they were mutually exclusive to each other. Their collaboration seems distant. The nodes for Nigeria and Germany were not visible on visualization maps but could be found in the countries' co-authorship table.

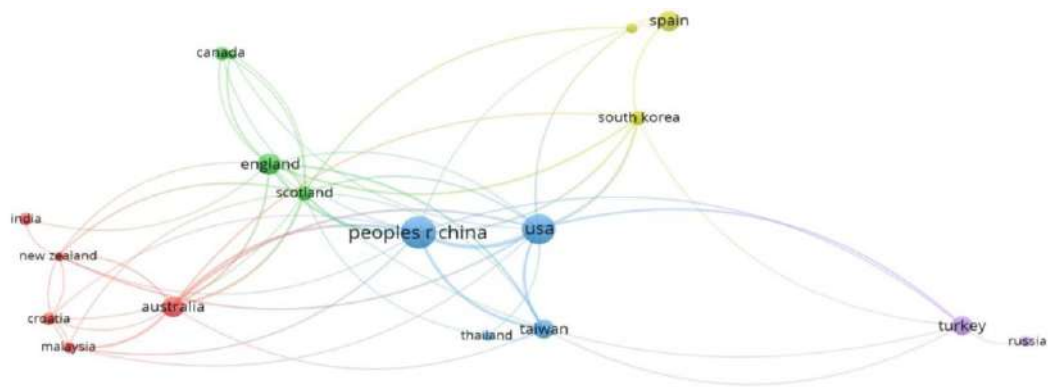


Fig. 3. Countries with Co-Authorship Network Visualization

Table 4. Shows the number of countries co-authorship

ID	Name of Country	Cluster	Weight of Document	Weight of Citations
3	Australia	1	51	786
15	Croatia	1	21	70
32	India	1	20	90
46	Malaysia	1	16	96
52	New Zealand	1	12	160
11	Canada	2	24	123
22	England	2	60	706
53	Nigeria	2	11	35
66	Scotland	2	27	656
58	Peoples R China	3	136	1335
77	Taiwan	3	44	723
79	Thailand	3	12	107
83	USA	3	113	2285
28	Germany	4	13	44
72	South Korea	4	26	511
73	Spain	4	51	352
64	Russia	5	13	23
80	Turkey	5	47	657

(Source: Own Compilation)

Countries Citation

The 788 cited articles were distributed in 80 countries. **Fig. 4** shows the 17 top countries citation network. It further indicates the relationship between the nodes and network clusters. The country with the top-cited articles is the US, followed by the People's

Republic of China. The top contributors' countries and the social network of these countries show the center of focus of the study. It was observed that apart from the top seven countries that had most publications and are frequently cited, the remaining countries had low citations.

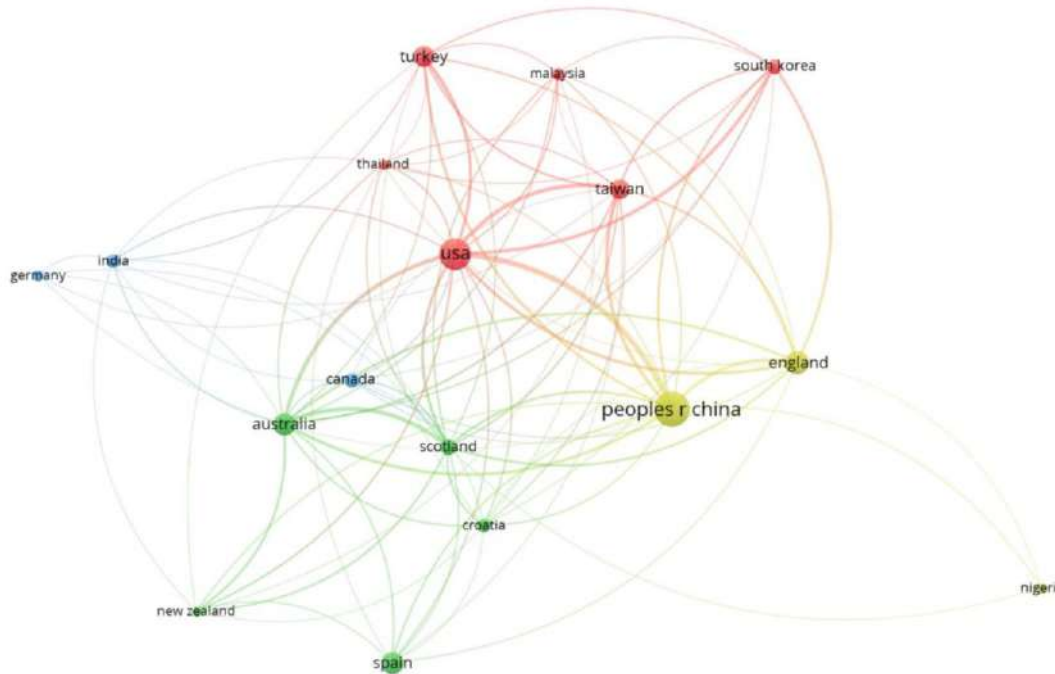


Fig. 4. Countries Citation Network

Countries Bibliographic Coupling

Yang et al. (2016) described bibliographic coupling "as two documents sharing one or more of the same items in their reference lists." Meaning the two papers mutually contribute to a research topic, which is overlapping. From this definition, countries bibliographic coupling implies that the countries in the visualization map share the same intellectual structure. Comparing **Figs. 3** and **4** indicates that the intellectual structures shown by the Peoples Republic of China and that of the United States of America could be termed as the same and strong. The differences could

be found in the number of authorships per country. The bibliographic coupling visualization also reveals collaborative clusters among countries. The three main country clusters – red cluster had seven countries, green equally had seven and blue, four countries. Different countries use different references when writing papers of the same topics. The countries again manage to increase the intellectual variety among them, which would be in turn increase the total variance among countries. The countries would use more references from their respective countries and less from countries across the globe that explains the clusters.

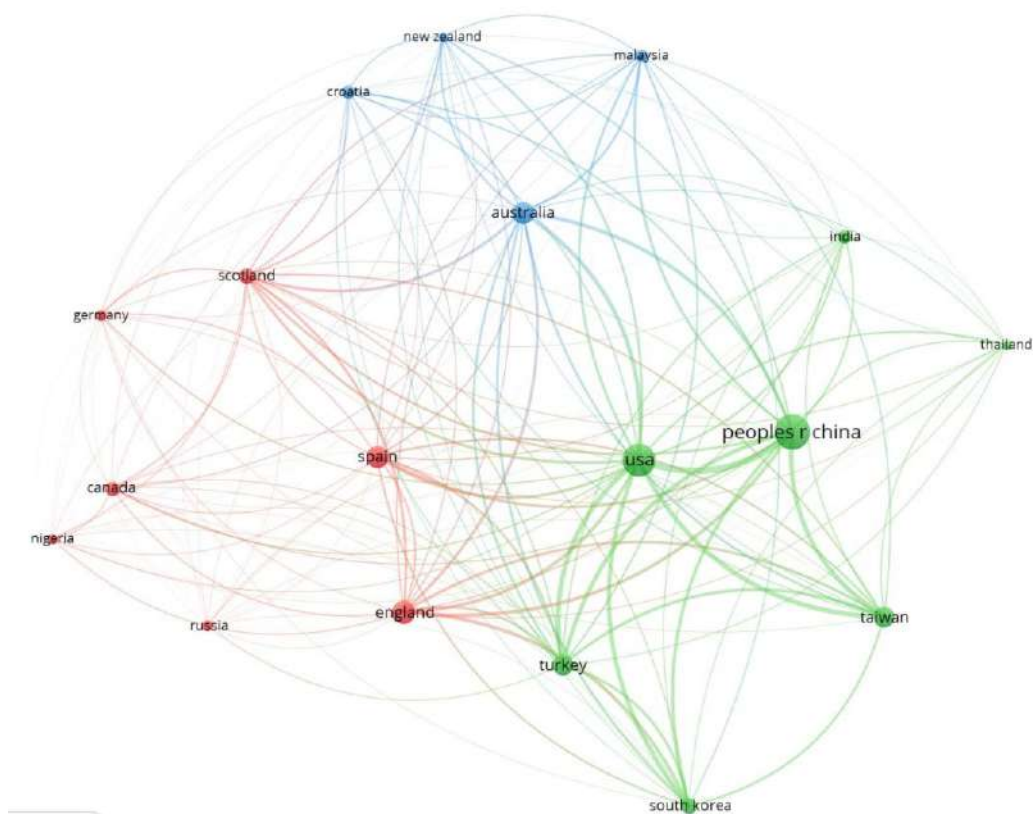


Fig. 5. Countries Bibliographic Coupling Visualization

Web of Science Categories

According to (Martín-Martín et al., 2018), the Web of Science scheme consists of 252 subject categories in science, social sciences, arts, and humanities. The Web of Science categorization is deemed the best for detailed bibliometric analysis as its granularity allows

the user to objectively measure performance against papers similar in scope and citation characteristics (Research Area Schemes, 2018). **Table 5** shows the top twenty papers on the Web of Science as far as the hospitality and tourism industry study is concerned.

Table 5. Top Twenty (20 Web) of Science Categories in descending order by subject

Web of Science Categories	Records	Percentage of 788 (%)
Hospitality Leisure Sports Tourism	397	50.381
Management	210	26.65
Business	78	9.898
Economics	72	9.137
Environmental Studies	48	6.091
Education Educational Research	35	4.442
Sociology	32	4.061
Social Science Interdisciplinary	31	3.934
Industrial Relations Labor	22	2.792
Geography	19	2.411
Environmental Studies	18	2.284
Green Sustainable Technology	18	2.284
Regional Urban Planning	14	1.777
Public Environmental Occupational Health	13	1.65
Psychology Applied	12	1.523
Area Studies	11	1.396
Business Finance	11	1.396
Computer Science Information Systems	10	1.269
Computer Science Theory Methods	9	1.142
Development Studies	6	0.761
Total	788	100%

(Source: Own compilation)

Analysis of Keywords

Analysis of keywords is shown in **Fig. 6**. The network of 20 keywords are the important words used in the study. The frequency of the appearance of words is indicated by its visibility. The word "Performance" is the most visible meaning it was the most frequently used. Other visible words are "Tourism," "Job-satisfaction," "Commitment" and "Antecedent". The network of keywords shows their relationship in the articles used for analysis. The top occurred keywords also reveal the top topic in the area, and the network of the keywords indicates the collaboration of the keywords and topics.

The thickness of the lines between the keywords shows their frequency of the utilization by the authors. The major finding is that the map of keywords could be divided into two parts. Blue and green depict employee work and performance. Red and Green illustrate performance, tourism and issues relating to management in the area of study. Blue focus on employee behavior, attitude, satisfaction, and labor relational issues. These indicate that employees' commitment, behavior, attitude, performance, and service quality are crucial to human resource management in the hospitality and tourism industry.

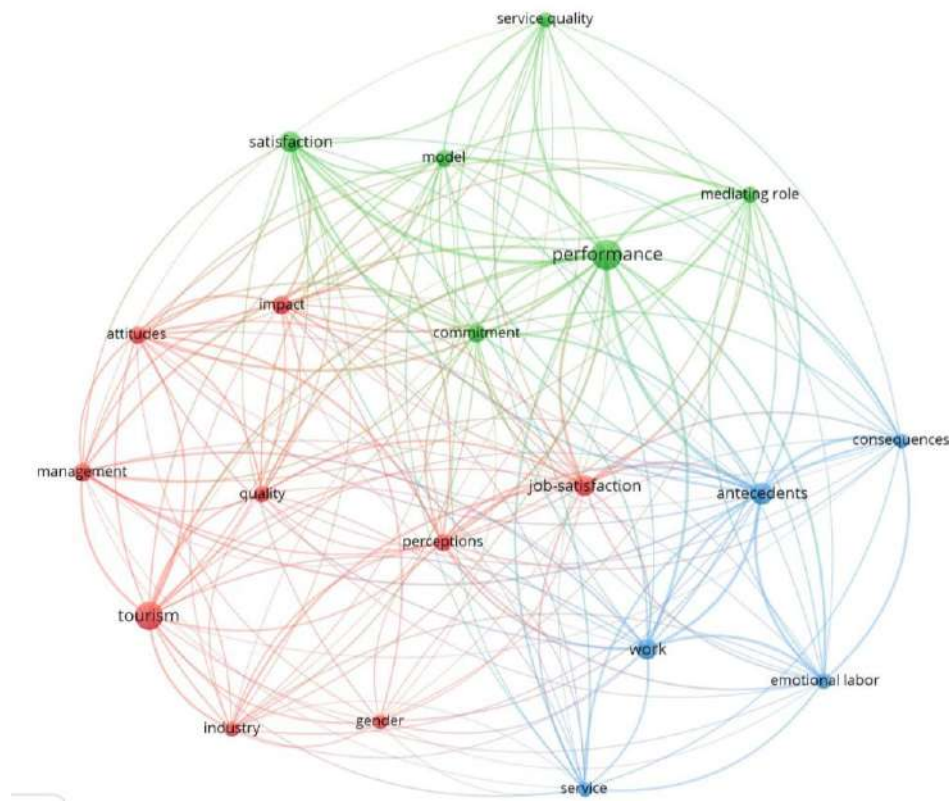


Fig. 6. Cloud map of Keywords

Furthermore, collected publications from 1977 to 2020 were dispatched in four periods of time. First, from 1977 to 2008 with 133 publications, second, from 2009 to 2012 with 152 publications, third, from 2013 to 2016 with 213 publications, and fourth, from 2017 to 2020 with 271 publications. **Fig. 7** shows the overlapping map for four periods of time, in this figure the first circle in the left side is representing the first period, which is from 1977 to 2008. The number in the middle of circle is the number of identified keywords. For the first period 354 keywords identified. The number on horizontal arrows that are connecting the circle of different periods of time shows the number of similarities of keywords between

two periods of time, and the number in parentheses shows the similarity index. Numbers on upper outgoing arrows are the number of keywords which are not transferred to the next period. For example, in the first period 240 keywords did not transfer to the second period. Numbers on upper incoming arrows show the number of new keywords on that specific period. Here, the number of new keywords is 470 keywords. Refer to **fig. 7**, the rate of similarity increased throughout the time, but the increase is not significant and at the last surveyed period (from 2017 to 2020) around the third quarter of the keywords are new keywords to the topic. It shows the high rate of changes and evolution in the subject.

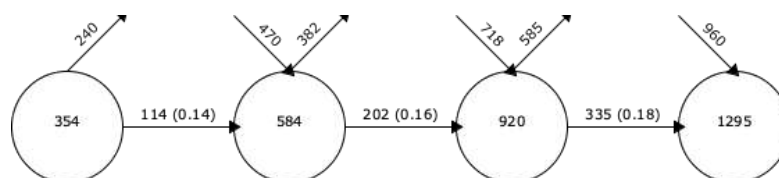


Fig. 7. Overlapping map for four periods of time, first to fourth period from left to right
(Source: own compilation)

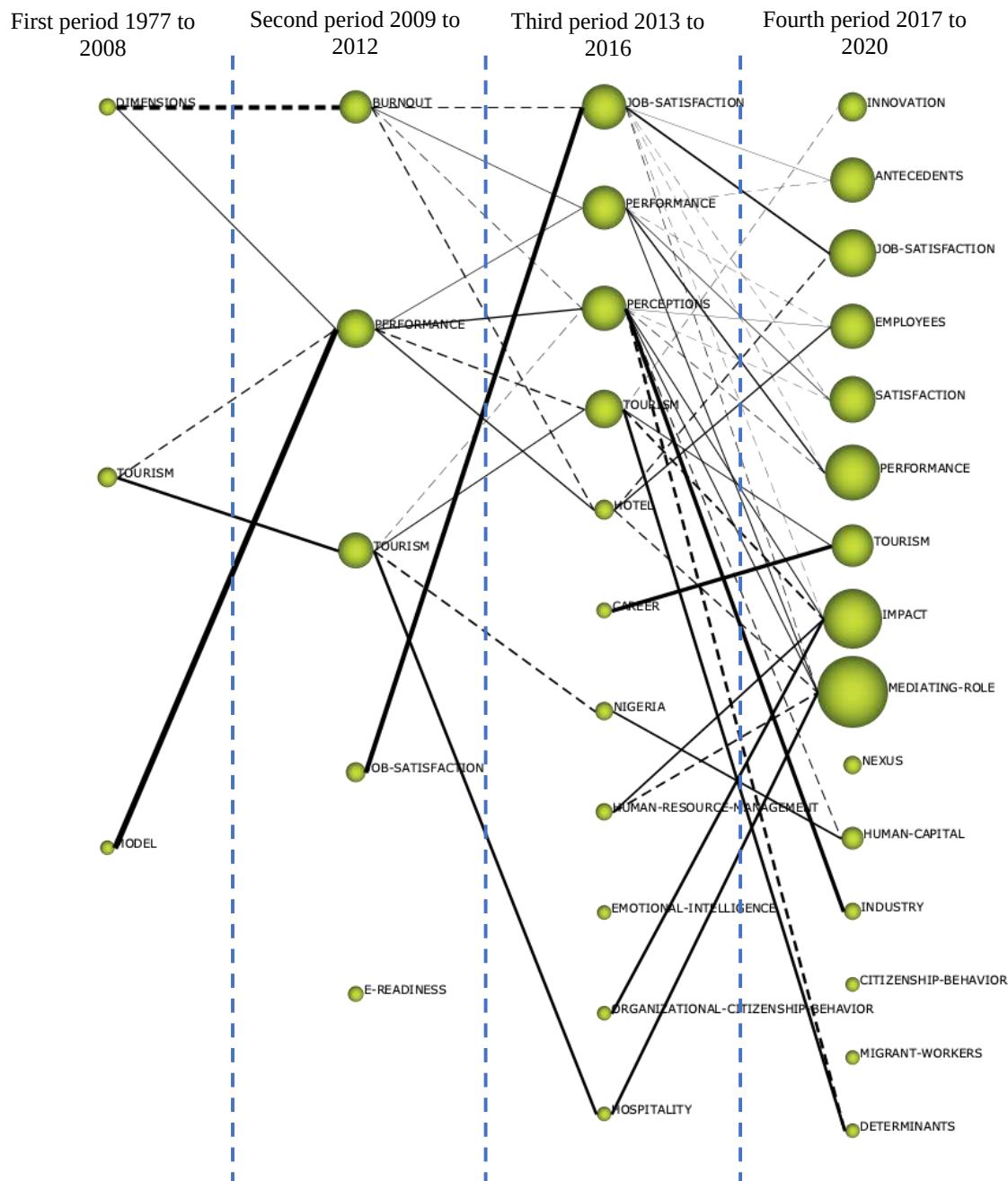


Fig. 8. Evolution map for four period of time based on documents count (size of each circle is based on document count) (Source: Own compilation)

Keywords of publications play the role of a fingerprint of publications and it can characterize the theme of publications. The SCIMAT software used for longitudinal thematic analysis and the result of the analysis shows in **Fig. 8** (Cobo et al., 2011). **Table 6** shows the identified themes in different periods of time. The first period started with three main themes. These themes are “Dimension, Tourism and Model.” In the second period, two new themes were added; these are “Job-satisfaction and E-readiness.” The other three themes in the second period linked to previous period keywords. For example, performance connected to all three themes from the previous period and it developed based on

those themes. To move forward in the time, in third period, seven themes inherited from the previous period and four new themes were introduced. Totally, eleven themes are in the third period from 2013 to 2016. The last period, which is covering recent years’ study consist of 15 themes. Three of these themes are new subjects in study - “Nexus, citizenship-behavior and migrant-workers.” Two of these themes are related to migration and mobility of human resources. The migration topic became a considerable subject in recent years specially in the tourism and hospitality industry. Themes evolution map in the study subject could give a broader context to human resource and

tourism scholars. Some highlights were introduced in the following bullet points:

- The increase in the number of themes in a different time shows the progress in the study.
- “Mediating-role” in the last period has six connections to previous themes, which is the highest amount of connectivity with previous themes. Refer to **Table 6**; this theme is also a significant number of documents count and it is in the top document in that case. “Job-Satisfaction, Performance, Perceptions, Hotel, Human-resource-management (HRM) and Hospitality” are the six contributed themes to the “Mediating-role” theme.
- “Impact” is in the second most linked to previous period themes, and this theme is linked to “Job-Satisfaction, Perceptions, Tourism, Human-resource-management, and Organizational-Citizenship-Behavior.”
- Theme “Innovation” comes from “Tourism” theme in three previous periods. It shows the important role of innovation in recent years in the tourism sector and innovation directly connects to tourism.

- “Nigeria” is the only theme with the name of country. It comes in the third period and then dissolved in “Human Capital.”
- “E-Readiness and Emotional Intelligence” are two themes, which appeared and disappeared in a period and the themes did not continue and did not contribute to the succession period. “E-Readiness” was topic for the second period of time and “Emotional intelligence” was topic for the third period.
- “Job-Satisfaction and Performance” are two highlighted topics to Human resource management in the tourism industry from 2008.

More bullet points can be identified, refer to longitudinal thematic evolution map and it is valuable visualization of what has been happened in a research subject.

Table 6. Themes in different period of time

Serial number	1 st period: 1977 to 2008		2 nd period: 2009 to 2012		3 rd period: 2013 to 2016		4 th period: 2017 to 2020	
	Theme	Document count	Theme	Document count	Theme	Document count	Theme	Document count
1	Dimensions	9	Burnout	37	Job-satisfaction	53	Innovation	42
2	Tourism	15	Performance	61	Performance	60	Antecedents	48
3	Model	5	Tourism	42	Perceptions	83	Job-satisfaction	60
4			Job-Satisfaction	19	Tourism	60	Employees	69
5			E-Readiness	4	Hotel	30	Satisfaction	78
6					Career	10	Performance	80
7					Nigeria	10	Tourism	71
8					HRM	22	Impact	118
9					Emotional-intelligence	5	Mediating-role	138
10					Organizational-citizenship-behavior	7	Nexus	11
11					Hospitality	15	Human-capital	28
12							Industry	19
13							Citizenship-behavior	7
14							Migrant-workers	9
15							Determinants	15

* Document count is primary document count plus secondary document count (**Source:** own compilation).

Strategic Diagrams

The SCIMAT software develops the strategic diagram for each period of time. The strategic diagram has two dimensions' centrality as the x-axis and density as the y-axis. Density shows each theme internal development and centrality represents the

external link of a theme with other themes. There are four quadrants in strategic diagram and Cobo et al. (2011), chose a name for each quadrant. **Fig. 9a.** shows the strategic diagram for the first period of study from 1977 to 2008. **Fig. 9b.** represents the strategic diagram for the second time from 2009 to 2012. The strategic diagram of studies from 2013 to

2016 is **Fig. 9c.** and **Fig. 9d.** is for the last period of study, which is from 2017 to 2020.

“**Motor-themes**” are the upper-right quadrant developed in both dimensions. Themes in this quadrant are the main back bones of the research field theme “model” is the only motor theme in the first period. The second period introduced two themes; “burnout and performance” Moving to the third period “performance” is still among motor themes, and “job-satisfaction” moved up and came to upper right quadrant and become the research filed motor theme. The third theme in the third time on the upper-right quadrant is “career”. “Career” is a new theme in this period. The last period, which is the most recent period in the analysis, shows five themes in the upper-right quadrant. These themes are “Job satisfaction and performance” same as pervious period, plus, “employees, antecedents, and innovations.”

Upper-left quadrant shows the themes with high internal strength and low external linkage. “**high developed and isolated themes**” are the phrases used by Cobo et al. (2011) to describe this quadrant. The phrase is self-explanatory. “Dimensions” in the first period of time, “E-readiness” in the second period of time, and “Nigeria Emotional intelligence and Organizational citizenship behavior” in the third period of time are in the upper-left quadrant. All these themes are highly developed but isolated themes. In the fourth period of time “Nexus, citizenship behavior, and Migrant workers” are in this quadrant. Based on the observation of this study all themes in the upper-left quadrant in the first three periods of time did not move to another period. It seems these themes highly became concern for a period and then the topic shifted after a while. It might be the case for themes on the upper-left quadrant in the fourth period.

“**Basic and transversal themes**” are themes with high level of connectivity to other topics and low level of development. These themes are placed in the lower-right part of strategic diagram. “Tourism” in the first

period was in this category, and it moved to lower-left part in the second period of time, then, moved back to lower-right part of the diagram in the third period of time, and again went back to the lower-left part of the diagram. “Tourism” is a special theme and keyword because it is the search keyword for this study and such change in the main search keyword does not give any meaningful analysis.

“Job satisfaction” is the only theme in the lower-right part of the diagram in the second time. After that “Job satisfaction” theme became major player in the “tourism human resource” studies. As mentioned, the theme “Tourism” is in the lower-right part of the diagram in the third period along with “Hotel and perceptions” themes. “Hotel” themes are another search keyword and it preceded three themes, these three themes are “Employees, job satisfaction, and mediating role.” As discussed, “employees and job satisfaction” are well developed internally and externally, and the “mediating role” is a new theme which is the successor of six themes in the third period of time. “Impact, satisfaction and mediating role” are three themes in the fourth period of time in the lower-right quadrant. These themes have high potential for development.

The last quadrant is the lower-left quadrant with low level of centrality and density. The themes in this quadrant are either emerging or declining, hence, the name “**emerging or declining themes.**” Name for this quadrant has been selected (Cobo et al., 2011). There is no theme in the first period of time, and there is just “Tourism” in the lower-left quadrant in the second period of time. In the third period of time “hospitality and human resource management” are two themes in this quadrant. In the fourth period of time “industry, tourism, human capital, and determinants” are the themes. All the themes in the lower-left quadrant in all periods of times are either this study keywords or general terms except “determinants” in the last period. The “determinants” theme can be an emerging topic and it has potential for future development.

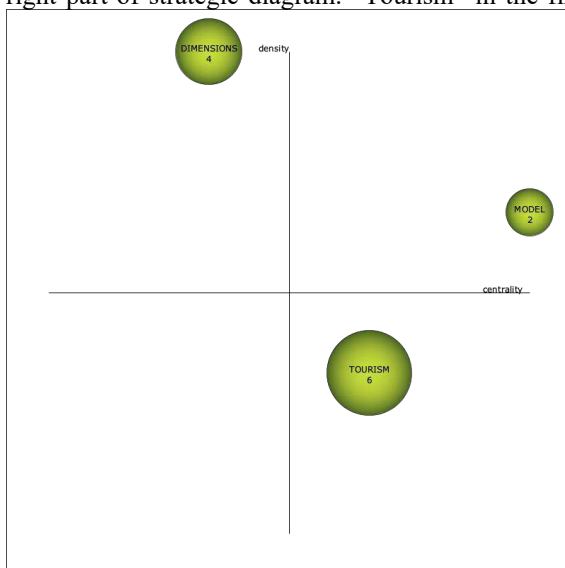


Fig. 9a. First period strategic diagram

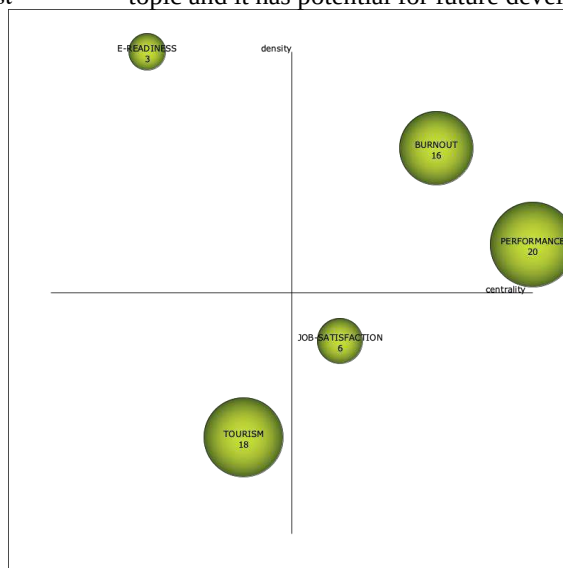


Fig. 9b. Second period strategic diagram

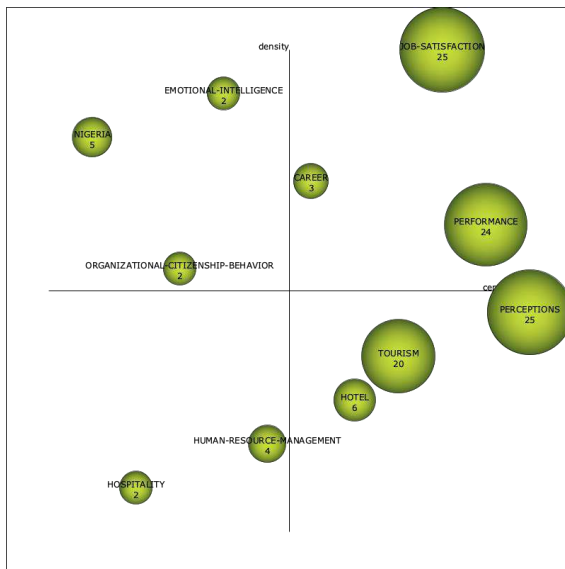


Fig. 9c. Third period strategic diagram

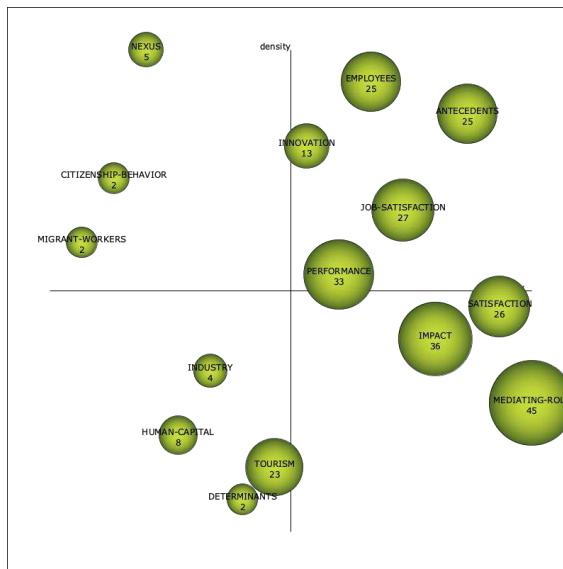


Fig. 9d. Fourth period strategic diagram

(Source: Own compilation)

Thematic Network

After the thematic strategic diagram is thematic network. The thematic network for each theme shows the connection of that theme with the other themes and subject. For example, the thematic network comes in Fig. 10. for illustration of what thematic network demonstrates. These four samples were selected from the last period of time. From upper-right quadrant “Antecedents” theme was selected because it has a high level of density and centrality. From upper-left quadrant “Nexus” was selected because this theme has the highest level of density, but the centrality is lower than the average. From lower-right quadrant “meditating-role” was selected because it has the highest level of centrality and the density is the lowest in its quadrant’s members. From the last quadrant, lower-left, “determinants” theme was selected. This them has the lowest density.

In the thematic network the size of each circle for the theme shows the number of documents on that theme, and the thickness of the connection lines shows the strength of connection of those themes with other themes. As it shows in Fig. 10a, some of those themes around the main theme are also connected to each other, for example “exhaustion” is connected to “resource” theme. Fig. 10b shows an example of very well external connected theme with other themes, but this theme; “nexus” did not develop internally very well. Fig. 10c demonstrates high developed themes with a lot of connections, but the connections were not as strong as “nexus” themes; And the last but not least, the lowest connected theme which is “Determinants.” The Fig. 10d illustrates the low connected and low developed theme in the “emerging or declining themes” quadrant. All the thematic network for the period of time could be found in Appendix A.

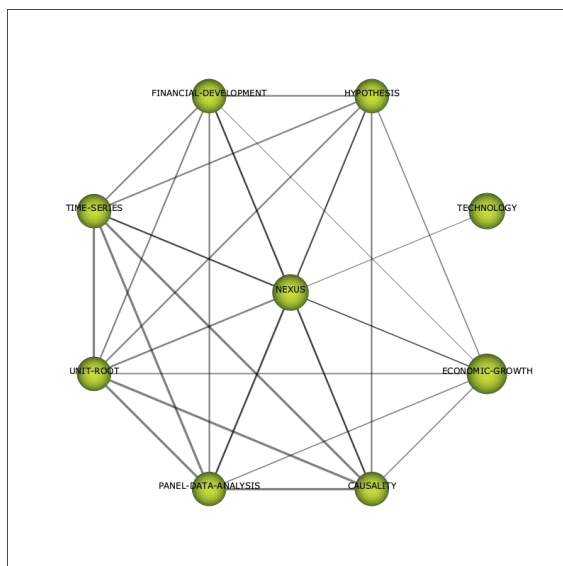
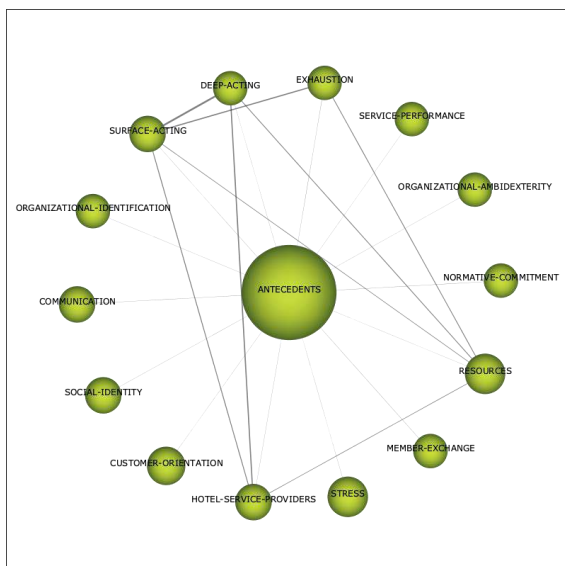


Fig. 10a. Thematic network of “Antecedents”

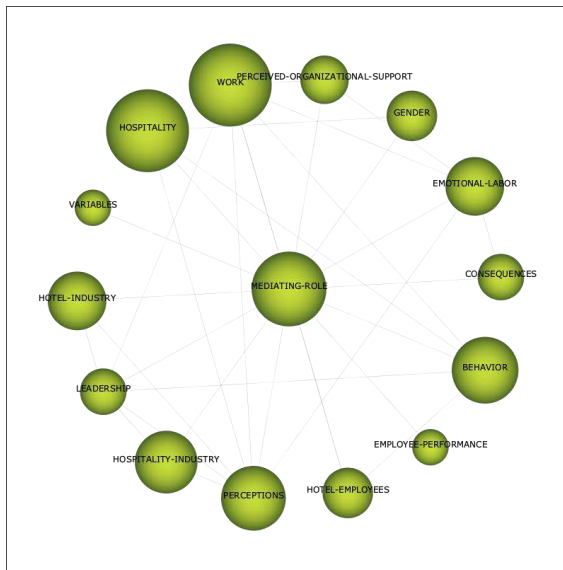


Fig. 10b. Thematic network of “Nexus”

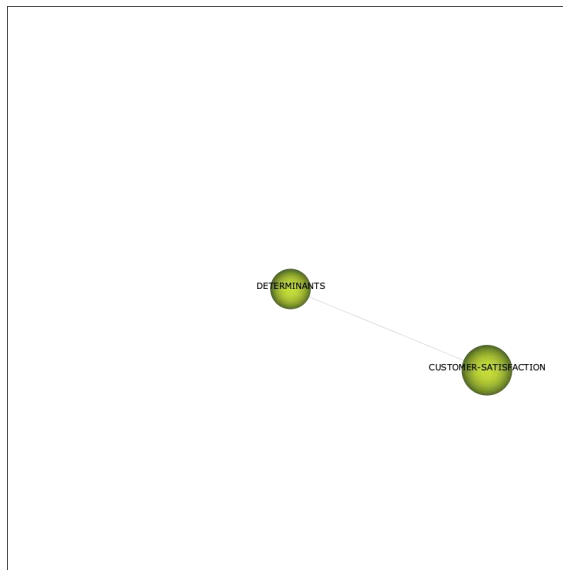


Fig. 10c. Thematic network of “Mediating-role”

Fig. 10d. Thematic network of “Determinants”

Conclusion

This study revealed the importance, best practices, and challenges of human resource management in the hospitality and tourism sector. The tourism and hospitality industry is one of the leading industries in the world, contributing one tenth of the world's GDP. Skripak (2016), state that in 2014, there were more than 1.1 billion international tourists across the globe, contributing a significant economic influence and movement of goods and services. Hotels are springing up rapidly and so managing employees in this service sector is critical. Boella and Goss-Turner (2019), reiterate that HR policies form and integral part of a contemporary organization's overall business policy and planning. It also came to light that the use of bibliometric techniques for analysis is increasing day by day.

The paper focused on bibliometric study of human resource management in the hospitality and tourism literature consisting of 788 articles indexed in the Web of Science from 1977 to 2020. The following information was deduced from the data gathered: The number of publications and citations in a year, source citation visualization, publishing countries, Web of Science categorization, main journals, and keywords of this integrative field of research. It was found that there was some collaboration among most of the countries. When it comes to the study of HRM in the hospitality and tourism sector, the Peoples Republic of China is the largest contributor followed by the United States of America. Other contributing countries worth mentioning are the United Kingdom, Spain, and Australia.

About intellectual structures, the United States of America and that of the Peoples Republic of China could generally be termed as the same. The differences could be found in the number of

authorships per country. The bibliographic coupling visualization also reveals collaborative clusters among countries. Furthermore, the most important key words identified in the visualization of the study were “performance”, “Tourism”, “Commitment”, “Job-satisfaction” and “Antecedent” these words form an integral part of HRM. The top occurred keywords also showed the topic's top topic, and the network shows how these topics are related to each other. The correlation number shows the number of times the two keywords appeared together. If the number is low, it shows there is a high potential for future development.

For deeper analysis, the SCIMAT software was used to analyze the keywords and extracted the studied themes in the subject. The main outputs of this software are, longitudinal thematic diagram, strategic diagram, and the thematic networks. The longitudinal thematic diagram shows the evolution of the topic in the study files. This diagram project the main context as themes on the timeline of the study. The second diagram is strategic diagram with two axes, the x-axis and y-axis, which are represents the centrality and density of the themes' clusters, respectively. The centrality shows the themes connectivity to the other themes, and it is external measure for development of the themes. The density shows the themes internal development, and it is the internal measure for themes development. At the end, the thematic network shows the related network of each theme.

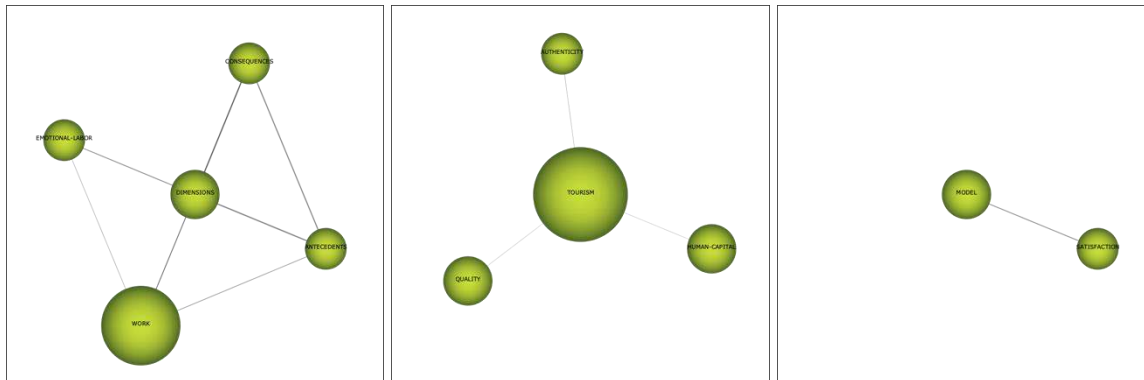
It is interesting to see the “citizenship behavior and migrate workers” become new attractive themes. Also, the study shows “determinants” is emerging theme in this field of study. “Nexus” is the other keyword, which is very well internally developed, and it needs to be connected to the other keywords in this field of study. On the other hand, “Antecedents” is new theme, which is well developed, internally, and externally.

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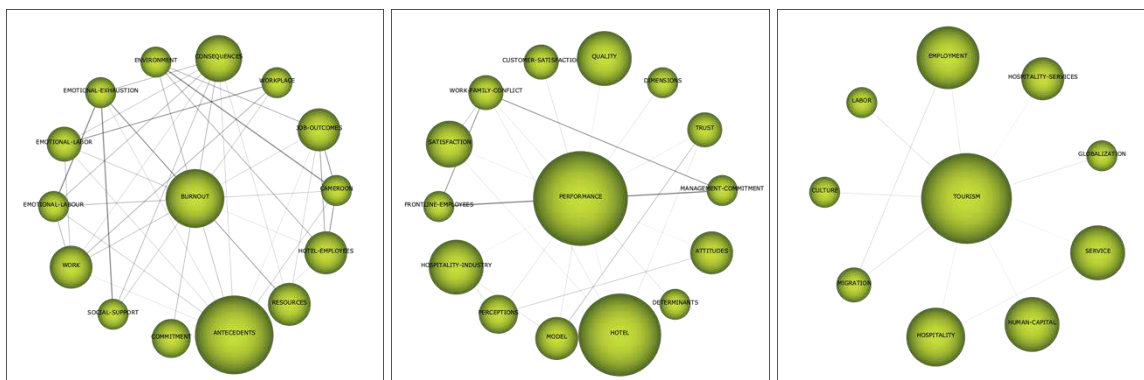
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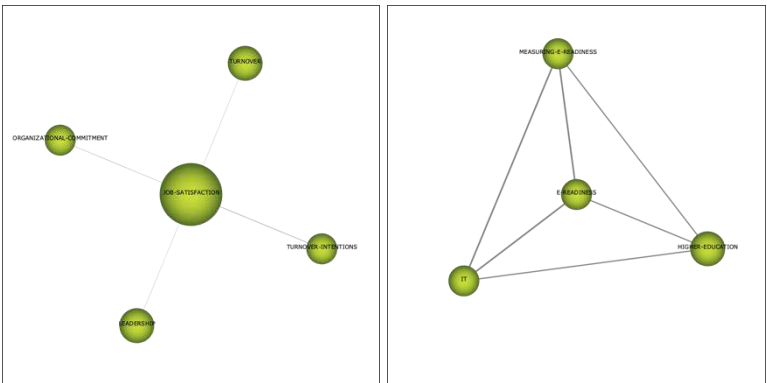
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Appendix A.

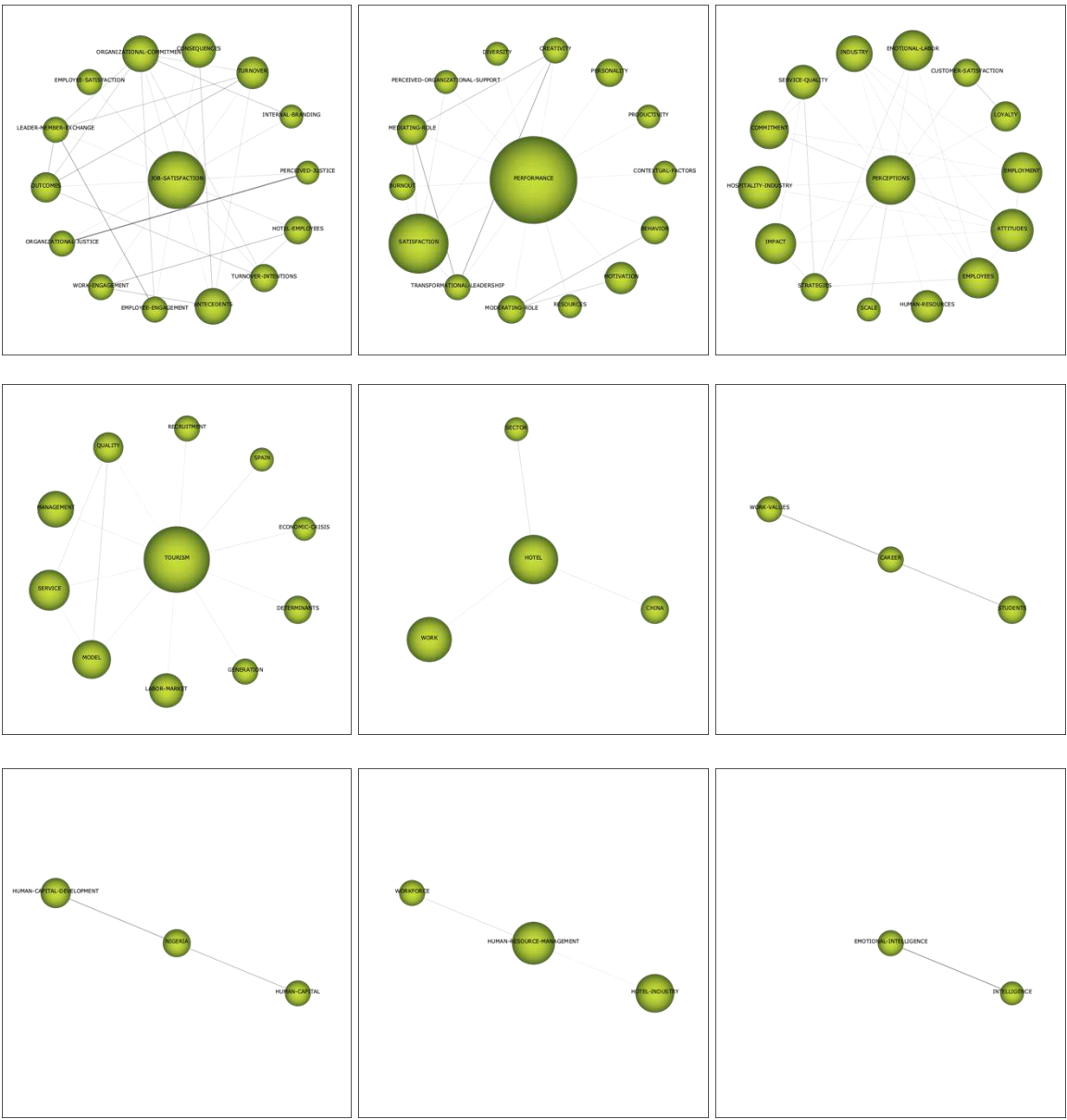


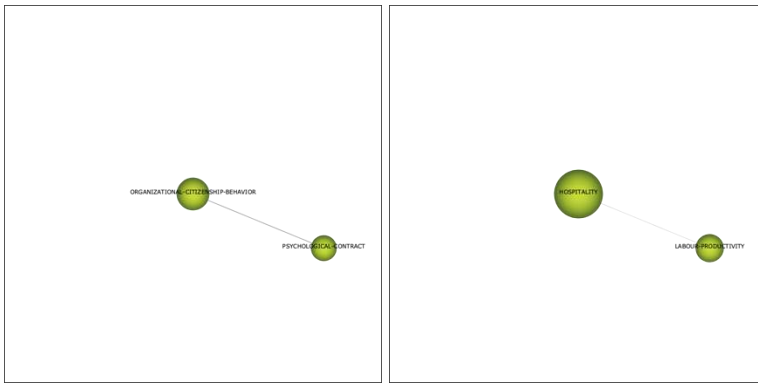
Thematic network of themes in the first period of time



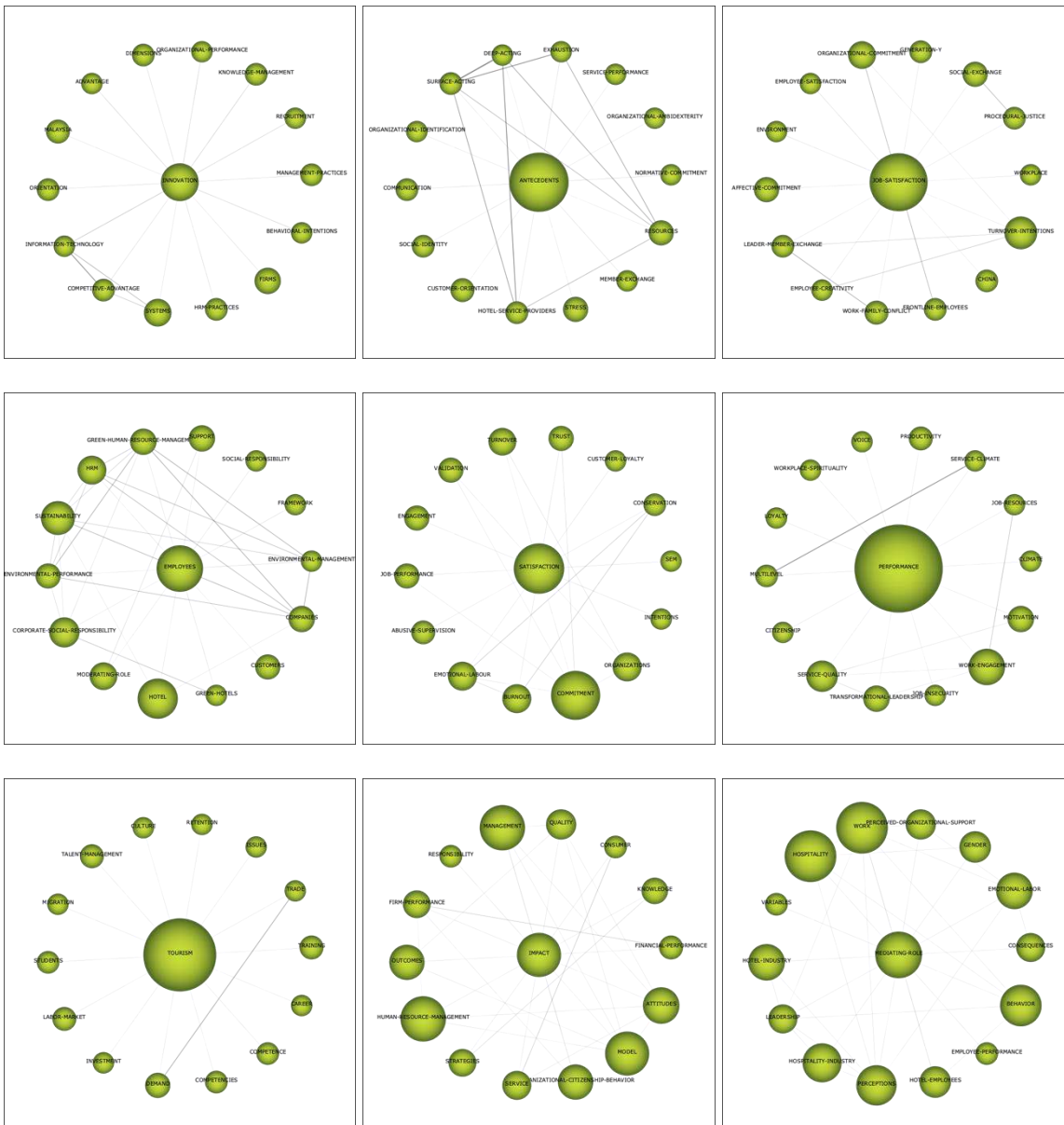


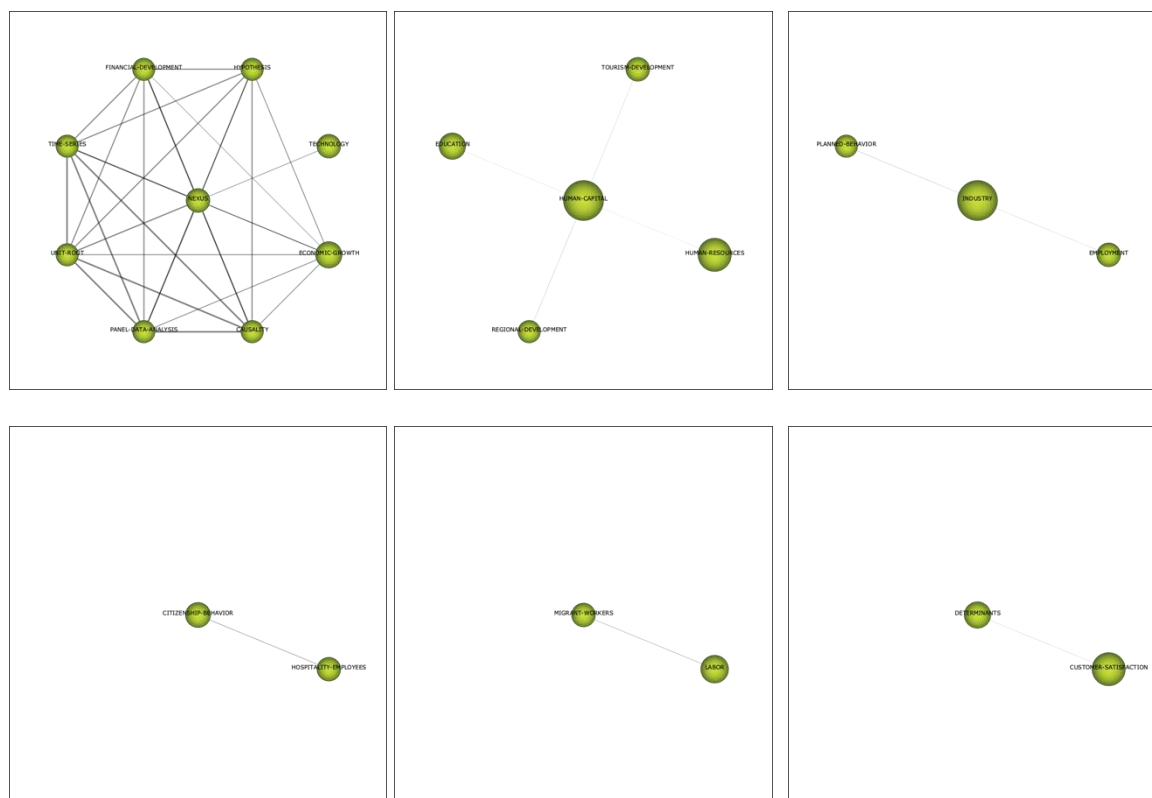
Thematic network of themes in the second period of time





Thematic network of themes in the third period of time





Thematic network of themes in the fourth period of time (Source: Own compilation)

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