Bibliometric Analysis of Studies on the Concept of Recreation Business Published in Web of Science Database with VOSviewer

Akyay UYGUR (iD) [a] **Halise Dilek SEVİN** (iD) [b] **Orhun TOPAÇOĞLU** (iD) [c] **Muhammed Eshabil Sadık KILAVUZ** (iD) [c]

[a] Ankara Hacı Bayram Veli University, Institute of Postgraduate Education, Department of Recreation Management, Ankara, Türkiye. akyay.uygur@hbv.edu.tr

[b] Ankara Hacı Bayram Veli University, Institute of Postgraduate Education, Department of RecreationManagement, Ankara, Türkiye. halise.sevin@hbv.edu.tr

[c] Ankara Hacı Bayram Veli University, Institute of Postgraduate Education, Department of RecreationManagement, Ankara, Türkiye. topacogluorhun@gmail.com

[d] Ankara Hacı Bayram Veli University, Institute of Postgraduate Education, Department of RecreationManagement, Ankara, Türkiye , sadikkilavuz@gmail.com

ARTICLE INFO	ABSTRACT
	Purpose – This study aims to identify the trends in the literature and main research areas in the field of "recreation and business " by analyzing them with a bibliometric approach. It also aims to shed light on future studies by revealing the academic productivity and impact levels in this field. **Design/methodology/approach** – In the study, publications obtained from searches with the keyword "recreation and business" in the Web of Science database were analyzed. Publications, keywords, distribution by year, citation networks, author, institution and country collaborations were mapped using VOSviewer software. **Findings** – 541 studies published between 1992 and 2024 were analyzed. As a result of the analysis, it was observed that there has been a significant increase in the field of "recreation and business " since the 2000s. It was determined that the most cited studies belonged to Tangeland (2013b and 2011). The most cited journal is "Tourism Management", the country is "USA" and the institution is "London Business School". Concepts such as "tourism", "recreation" and "climate change" stand out among the frequently used keywords in the literature. **Discussion** – The findings show that the subject of recreation and business is a broad and interdisciplinary concept, but other potential research areas are not sufficiently examined. As a result of the analysis with VOSviewer, it was determined that the increasing studies over the years are concentrated by certain authors, countries and institutions. The study provides an overview of research in the field of recreation and business provides guidance for future research.

1. Introduction

Although the concept of recreation has found its place at every stage of human history, it does not have a precise definition. Recreation can generally be defined as organized leisure time that is outside of people's work, individual and social responsibilities, the freedom of use is in the hands of the individual, and aims at individual and social development (Kelly, 1982). Individuals can spend this organized free time with cultural, sportive or recreational activities. Throughout history, people have carried out/are carrying out these types of activities. Examples include paintings engraved on cave walls in primitive ages, marble-like toys made of bone found in excavation sites, backgammon and chess-like strategy games made of stones and bones (Baines & Malek, 2000; Moorey, 1999; Redford, 2001; Hornung, 1999). Again in these ages and in later times, individuals and groups participated in activities aimed at developing these skills in their free time in order to achieve physical and mental superiority in elements that are very important for human survival, such as hunting and war (Kraus, 2008; Lloyd, 2010). In the ancient period, especially the Greek and Roman civilization gave importance to recreational activities. While various visual and sound arts were performed in amphitheaters,

sports activities organized by emperors in arenas were highly sought after by the people of that period (Acar, 2020). Recreational travels such as participation in festivals, organized games, etc. were also quite common (Seyhan, 2010; Tozan, 2008). However, in general terms, participation in recreational activities appealed to the economically upper segment of the population (Dumazedier, 1967). As of 2024, the concept of recreation serves a very wide audience. Compared to the first and ancient times, individuals from all segments of the public can participate in recreational activities. Although all of the above-mentioned areas continue to exist in some way, new types of recreation such as virtual recreation have also emerged (Topaçoğlu & Kılavuz, 2022).

2. Conceptual Framework

Throughout history, recreation has existed as activities that people do to meet their physical and spiritual rest needs. Ancient Sumerian, Egyptian, Greek and Roman civilizations organized festivals, sports, art events and religious ceremonies that offered people the opportunity for social, physical and mental renewal (Bertman, 2003; Postgate, 1994; Brewer, 2009; Gardiner, 1961; Wilkinson, 2003). Especially in Ancient Greece and Rome, recreational activities were important (Acar, 2020). Sports events such as Olympic games, theaters and arenas met the entertainment and recreation needs of the people (Tozan, 2008). Recreation was considered important for individual health and social harmony in this period, but it did not yet have a commercial purpose (Nemet, 1998). By the Middle Ages, recreation in Europe was mostly limited to religious festivals and feasts, while entertainment and art activities started to gain importance again with the Renaissance (Kraus, 2008). Large festivals organized by royal families and nobles constituted the first steps for the organized presentation of recreational activities (Roberts, 2016). With the Industrial Revolution, world economies underwent a major transformation in the 18th and 19th centuries. The transition from rural to urban life accelerated with industrialization. During this period, people started to need more physical and mental rest due to intense and long working hours (Torkildsen, 2005). Workers' time for recreation was limited due to increased working hours, but this need also paved the way for the emergence of new opportunities. With the urbanization process, the need for parks, gardens and social spaces increased (Dumazedier, 1967). In order to cope with the stress of urban life, people started to turn to outdoor activities, park trips and sports. In the 19th century, the first public parks and recreation areas were created in the West (Edginton, et al. 2004). With the Industrial Revolution, working hours began to be reduced with the pressure of unions to regulate the working hours of workers. This created new opportunities for workers to spend their leisure time (Rojek, et al. 2006). Entertainment, sports and social activities became increasingly popular for weekend vacations and evening relaxation. Recreation became an industry in the modern sense in the 19th and 20th centuries when recreation became commercialized. Especially during this period, as society's demand for leisure activities increased, businesses offering recreation services such as travel and tourism, sports organizations and entertainment emerged (Cushman, G., Veal, A. & Zuzanek, j., 1996).

The development of recreation services as an industry gained momentum throughout the 20th century. Recreation is now recognized not only as an individual or social activity, but also as an area with economic returns (Godbey, 2009). From the mid-20th century onwards, governments began to invest in the development of recreation areas such as public parks, beaches and sports facilities (Gunn, C. A., & Var, T., 2019). The private sector started to build large-scale recreation facilities such as resorts, hotels, amusement parks and sports complexes. During this period, recreation business and administration emerged as a new specialty (Glover, T. D., & Stewart, W. P., 2006). In the 1960s and later, recreational facilities, sports centers, fitness centers and outdoor activities became widespread. Since the operation of these facilities required professional management, the concept of recreation business emerged (Parker, 1976). Especially facilities such as large sports halls, golf courses, swimming pools started to be organized by professional managers and operators (Kraus, 2008). In the second half of the 20th century, universities started to open academic programs in fields such as recreation business, tourism and hotel management, and sports management. The skills necessary for professional planning, management and delivery of recreation services were developed through these programs (Zuzanek, 2014).

Today, recreation is a very broad sector, encompassing many different sub-sectors such as sports, tourism, amusement parks, nature activities, cultural events. The recreation business has become an important economic activity in both the public and private sectors. This sector is managed by businesses such as large organizations, hotels, tourism agencies, resorts, amusement parks and sports clubs. Digitalization and technological developments have brought the recreation sector to a wider audience. Today, digital solutions

such as online reservations, virtual tourism, metaverse, sports and entertainment applications have become an important part of recreation business (Topaçoğlu & Kılavuz, 2022). Today, recreation businesses offer a variety of services that appeal to different age groups, cultural backgrounds and interests. Businesses offering a wide range of services such as gyms, yoga centers, art workshops, wellness facilities enrich the recreation sector.

The economic dimension of the recreation industry spans a wide range as it covers different sectors globally. Therefore, it is quite difficult to measure the size of the recreation industry. However, taken as a whole, this industry reaches a size of trillion dollars. We can roughly summarize the economic dimensions of the various sub-sectors of the recreation industry as follows.

Tourism is one of the largest components of the recreation industry. According to the World Travel and Tourism Council (WTTC), in 2023 the tourism industry contributed about 10.5 trillion dollars to the global economy. The majority of tourism activities include recreational activities such as vacations, entertainment and cultural events (WWTC, 2023). The global sports and fitness industry has an economic size of approximately 500 billion dollars by 2022. This figure includes professional sports, sports clubs, sports equipment, fitness centers and sports-related entertainment activities (Statista,2022, Mordor,2023). The global market for theme parks and amusement centers is around $80 billion by 2022 (Statista, 2023). Health and wellness tourism is a growing segment of the recreation industry. Global wellness tourism is expected to reach

1.2 trillion dollars by 2027. This segment includes services such as yoga, spa, meditation, wellness vacations (GWI, 2022). The digital games and virtual recreation sector has experienced a huge increase with the pandemic. As of 2023, the size of the global video game industry has exceeded 200 billion dollars and digital entertainment has become an important source of recreation (Newzoo,2023). Nature-based recreational activities and ecotourism are also growing, with annual spending in this sector exceeding $150 billion, particularly in the US. This figure includes activities such as national park visits, camping, hiking and water sports (IBISW,2023). Recreation has emerged as an activity that enables people to evaluate their free time and renew themselves physically and spiritually. With the Industrial Revolution, recreation became a commercial field with the impact of social and economic changes, and over time it turned into a professional business activity. Today, recreation business is a large industry that has an important place in the global economy and offers a wide range of services. Since it is a phenomenon whose material value is expressed in trillions of dollars, whose history is almost the same as the history of mankind, which affects / is affected by many different sciences, where education has been given from undergraduate level to doctoral level since the 19th century and attracts the attention of many researchers, bibliometric analysis of the subject of recreation business will be very useful for both the academic community and the sectoral sense.

3. Method

The data used in the study were obtained from the Web of Science database in October 2024. The biggest factor in choosing the Web of Science database for the research is that the data required for bibliometric analysis can be accessed in the fastest and easiest way and it is a widely used and accepted database in the social sciences literature.

The screening of the publications to be included in the research was carried out through the term "recreation business" and no filtering was used during the screening. It will be sufficient to include the term "recreation business" in the titles, abstracts or keywords of the studies included in the research. This will increase the reliability of the search results.

Each publication published in Web of Science contains many details, including year of publication, authors, title, source, subject categories and references. We accessed 851 publications stored in Web of Science that could be used for our research. Then, a bibliometric analysis was carried out in terms of the journals in which they were published and their years, collaboration between authors, citation analysis, co-citation analysis, bibliographic link analysis, frequently used keywords, countries and institutions.

VOSviewer software was used to perform and visualize bibliometric analyses. This software VOSviwer (Visualization of Similarities) works based on mapping methods. This mapping method works by creating clusters, showing different clusters with different colors, classifying them and establishing connections between them (Van Eck et al., 2010).

In the image of citation ties, those that are similarly colored and connected to each other have higher link strengths. The larger the image and the more clusters, the stronger the connection strengths. This gives us the opportunity to make more comments. In addition, the closeness of the circles formed with the analyzes to be performed shows that their connection strength is high. If the circles are far from each other or not connected at all, it shows that there is a weak relationship or no relationship between the circles.

In the research, 851 individuals who were related to recreation business between 1991 and 2024 were reached. Within this scope, the questions sought to be answered in order to achieve the purpose of the research are as follows:

- What are the changes in the distribution of the articles included in the study by years?
- What are the bibliographic match analyses of the publications included in the study?
- What are the bibliographic citation analyses of the publications included in the study?
- What are the bibliographic co-authorship analyses of the publications included in the study?
- What are the bibliographic co-citation analyses of the publications included in the study?
- What is the keyword analysis of the publications included in the study?

4. Findings

Within the scope of the research, various dimensions of the analyzed studies were examined in detail. In this context, important parameters such as changes in the distribution of the articles included in the research over the years, citation analysis, co-citation analysis, bibliographic link analysis, co-authorship analysis, keyword analysis, and analysis of the distribution of research over the years were examined and findings were obtained. These findings provide a deeper understanding of the focal points of the research and the current situation in the literature.

4.1. Co-Authorship Analysis

Co-authorship refers to two or more people completing and publishing an academic work together (Newman, 2004, p. 5200). Co-authorship is very important in terms of combining different perspectives and skills to create richer, more comprehensive and higher quality content (Biscaro & Giupponi, 2014). While analyzing co-authorship, at least 10 citation criteria were determined. In addition, in the co-authorship analyses, 2 filters were performed: having the most link power and having the most citation power.
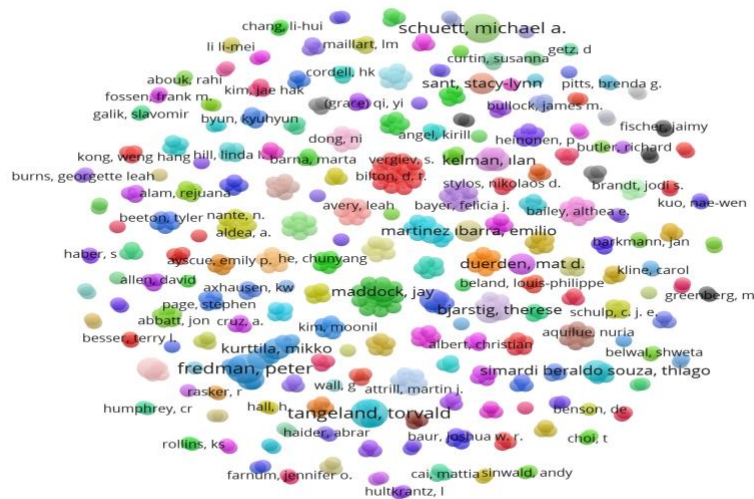
Graph 1. Co-authorship Author link strength analysis
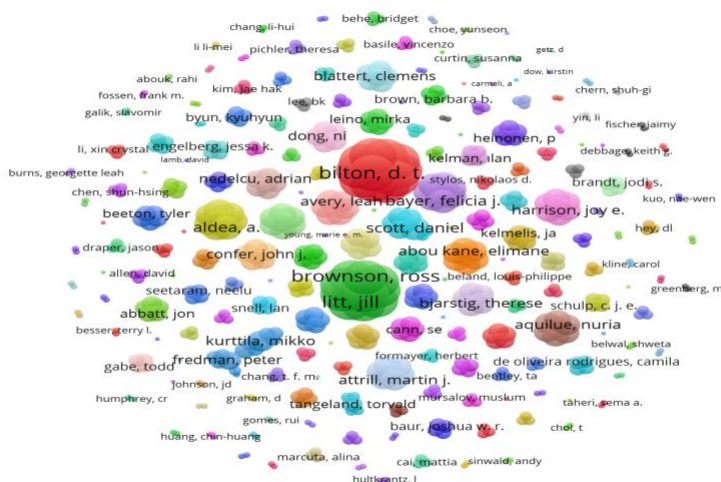
In order to determine the co-authorship author link strength analysis, at least 1 publication and at least 10 citations criteria were determined and a network map was created. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 198 clusters, 948 links and 950 link strengths were determined.

The top twelve authors are 1 document, 54 citations and 13 links. These are Bliton, d. t., Filipova-marinova, m., Franklin, e. l., Hanley, M. E., Hoggart, S. P. G., Kotsev, I., Parker, D. J., Penning-Rowsell, E. C., Rudle, S. D., Simmonds, D. J., Thompson, R. C., Trifonova, E., Vergiev, S., White, A. C. In second place is Maddock, J. with 2 documents, 19 citations and 12 link strengths. In third place is Scott, D. with 2 documents, 250 citations and 7 link strength.
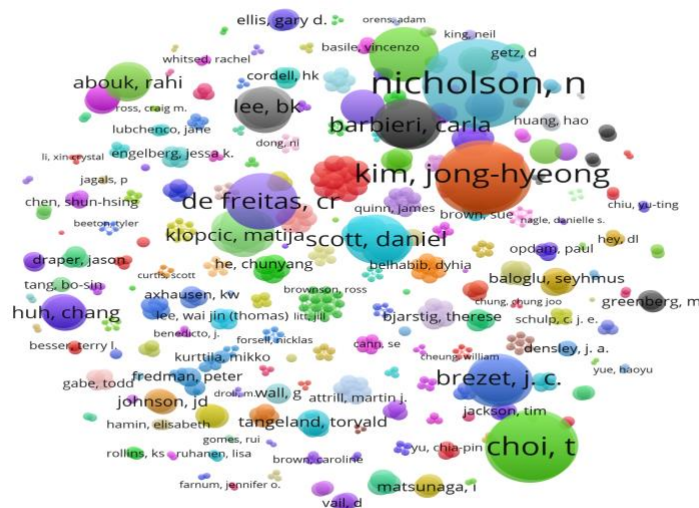
Graph 2. Co-authorship Author Document Analysis

In order to determine the co-authorship author document analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 198 clusters, 948 links and 950 link strengths were determined.

Fredman, P. ranks first among the authors with 3 documents, 65 citations and 5 link strengths. Tangeland, T. is in second place with 3 documents, 101 citations and 4 link strengths. In third place is Schuett, M., A. with 3documents, 28 citations and 1 link strength.
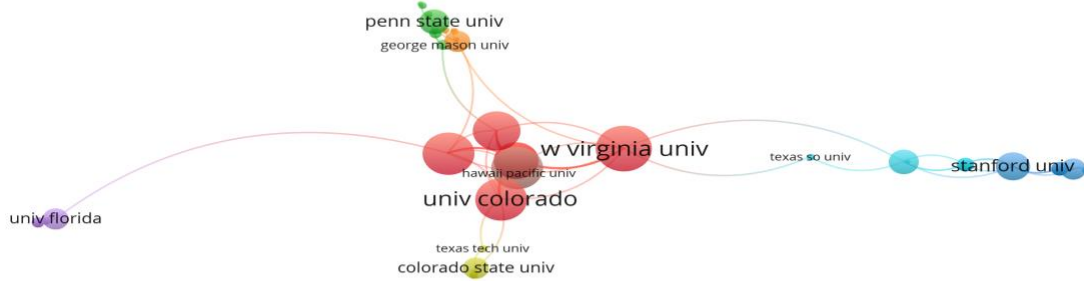
Graph 3. Co-authorship Author Citation Analysis

In order to determine the co-authorship author citation analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 198 clusters, 948 links and 950 link strengths were determined.

Nicholson, N. ranks first among the authors with 1 document, 573 citations and 0 link strength. Choi, T. and Chu, RKS. are in second place with 1 document, 406 citations and 1 link strength. In the third place, Kim, J.,

Mccornick, B. and Ritchie J., R., B. A. have 1 document, 401 citations and 2 link strengths.
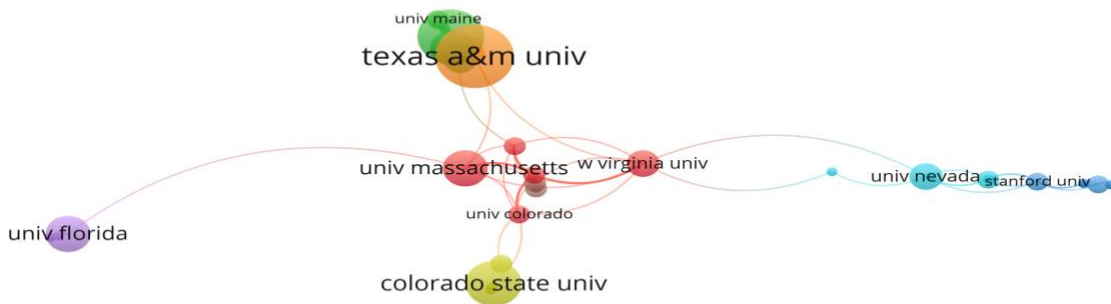
Graph 4. Co-authorship Institutional Link Strength Analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria in order to determine the co-authorship institution link strength analysis. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 136 clusters, 424 links and 430 link strengths were identified.

Among the institutions, W Virginia Univ. ranks first with 3 documents, 40 citations and 13 link strengths. In second place Univ. Colorado 2 documents have 63 citations and 12 link strength, Univ. Hawaii 2 documents have 71 citations and 12 link strength and Univ. Massachusetts 4 documents have 54 citations and 12 link strength. In third place, Univ. N Carolina 2 documents have 50 citations and 11 link strength.
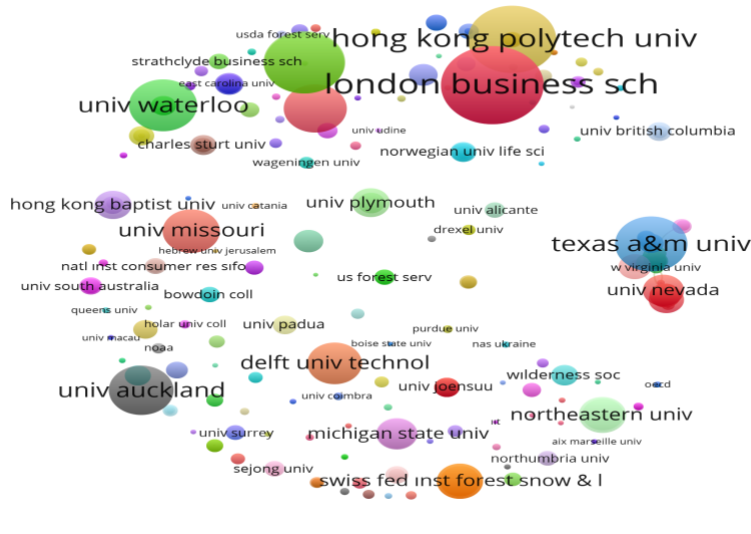
Graph 5. Co-authorship Institutional Document Analysis

In order to determine the co-authorship institution document analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 136 clusters, 424 connections and 430 connection strengths were identified.

Among the institutions, Texas A&M Univ. ranks first with 7 documents, 351 citations and 6 link strengths. Penn State Univ. ranks second with 6 documents, 40 citations and 7 link strengths. In third place is Colorado State Univ. with 5 documents, 115 citations and 6 link strengths.
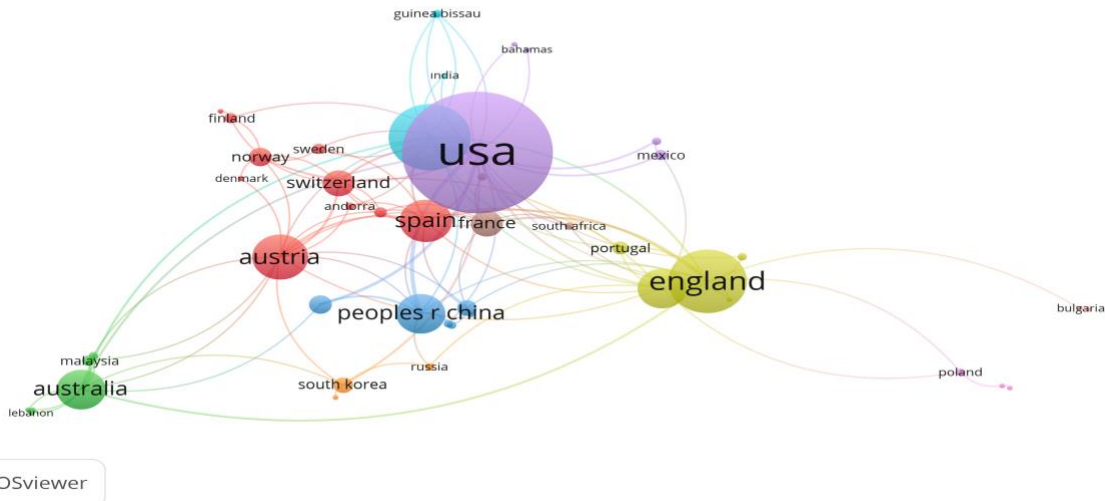
Graph 6. Co-authorship Institutional Citation Analysis

In order to determine the co-authorship institution citation analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 136 clusters, 424 links and 430 link strengths were identified.

Among the institutions, London Business SCH. and Said Business SCH. are in the first place with 1 document, 573 citations and 1 link strength. Hong Kong Polytech Univ. ranks second with 3 documents, 465 citations and 3 link strengths. In third place, Indiana Univ. has 4 documents, 415 citations and 1 link strength.

Graph 7. Co-authorship Country Linkage Strength Analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria for the purpose of determining co-authorship country link strength analysis. 54 out of 81 countries meet this criterion. Accordingly, 54 circles, 15 clusters, 113 links and 154 link strengths were identified.

Among the institutions, USA ranks first with 155 documents, 3968 citations and 46 link strengths. Canada ranks second with 34 documents, 1113 citations and 25 link strengths. In third place, England has 33 documents, 1215 citations and 24 link strengths.

4.2. Quote Analysis

Citation analysis is often used to understand the credibility, impact and context of a study in the academic literature (Osareh, 1996). The research aims to determine which sources the studies on a particular topic are based on, which studies are frequently cited, which authors' views are prominent, and which research trends

are present (Moed, 2006). Citing the same publication in different sources is called citation (Al & Tonta, 2004).

Graph 8. Document Citation Analysis
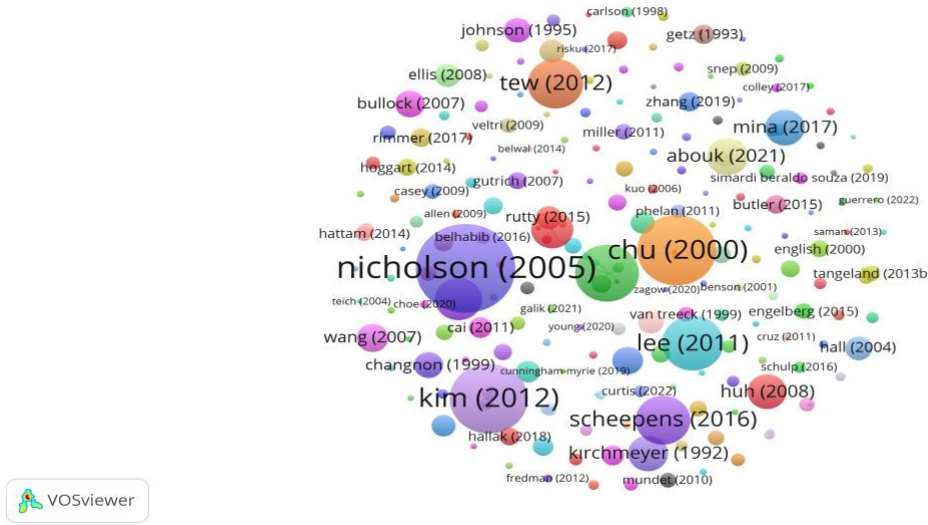
For the purpose of document citation analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. 205 out of 541 documents meet this criterion. Accordingly, 205 circles, 181 clusters and 17 connections were identified.

Among the documents, Nicholson, N. (2005) ranks first with 573 citations and 0 links. Chu (2000) ranks second with 406 citations and 1 link. In third place is Kim, J. (2012) with 401 citations and 2 links.

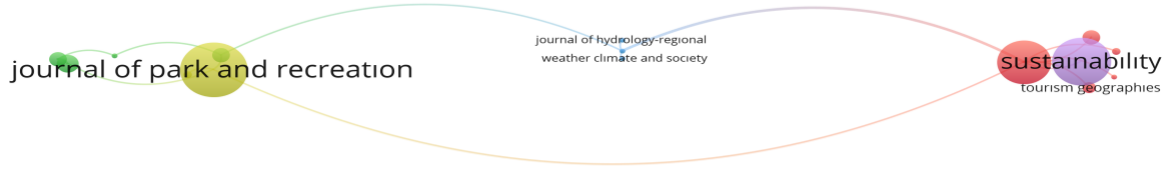**Graph 9:** Journal citation link strength analysis

In order to determine the journal citation link strength analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 134 clusters, 30 links and 34 link strengths were identified.

Among the journals, Journal of Outdoor Recreation and Tourism-Research Planning and Management ranks first with 12 documents, 217 citations and 9 link strengths. In the second place, Mitigation and Adaptation 1 document has 169 citations and 6 link strengths. In the third place, International Journal of Biometeorology 3 documents have 358 citations and 5 link strengths.

Graph 10: Journal document citation analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria for the purpose of determining journal document citation analysis. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 134 clusters, 30 links and 34 link strengths were identified.

Among the journals, Journal of Park and Recreation Administration ranks first with 15 documents, 221 citations and 4 link strengths. Sustainability ranks second with 13 documents, 114 citations and 1 link strength. In the third place, Journal of Outdoor Recreation and Tourism-Research Planning and Management 12 documents have 217 citations and 9 link strengths.

Graph 11: Journal citation analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria for the purpose of determining journal document citation analysis. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 134 clusters, 30 links and 34 link strengths were identified.

Among the journals, Tourism Management ranks first with 5 documents, 780 citations and 4 link strengths. Journal of Travel Research ranks second with 4 documents, 651 citations and 4 link strengths. In the third place, Journal of Risk Research has 1 document, 573 citations and 0 link strength.
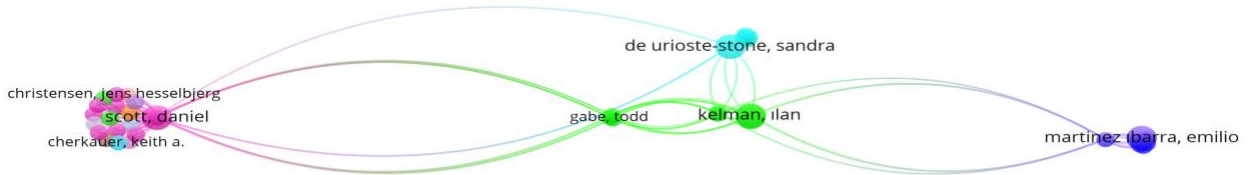
Graph 12. Author citation Link strength analysis
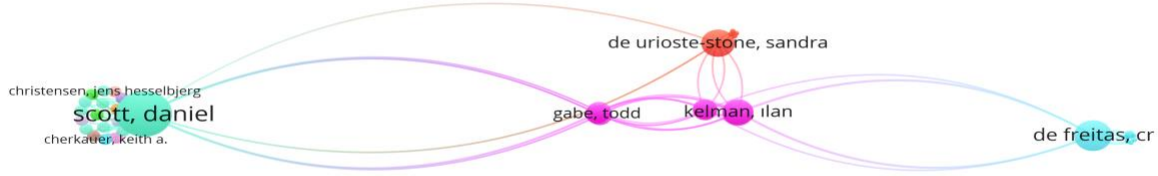
In order to determine the author citation link strength analysis, at least 1 publication and at least 10 citations criteria were determined and a network map was created. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 4997 clusters, 261 links and 271 link strengths were identified.

Among the authors, Scott, D. ranks first with 2 documents, 250 citations and 23 link strengths. Dawson, J. and Jones, B. are in second place with 1 document, 169 citations and 22 link strengths. In third place is De Freitas, CR. 1 document with 300 citations and 13 link strengths.
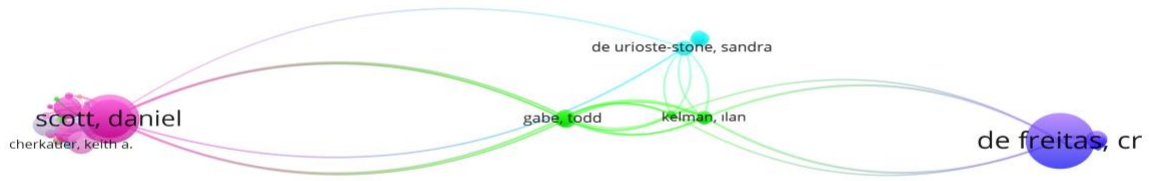
Graph 13. Author document citation analysis

In order to determine the author document citation analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 4997 clusters, 261 links and 271 link strengths were identified.

Schuett, M. A., 3 documents, 28 citations and 0 link strength, Fredman, P., 3 documents, 68 citations and 4 link strength, Tangeland, T., 3 documents, 101 citations and 8 link strength. Duerden, M. D., 2 documents, 10 citations and 4 link strengths, Sant, S., 2 documents, 14 citations and 0 link strengths, Powers, S., L. 2 documents 18 citations and 4 link strength, Maddock, J. 2 documents 19 citations and 0 link strength, Tyrvainen, L. 2 documents 30 citations and 6 link strength, Kelman, I. 2 documents 36 citations and 10 link strength, Rauken, T. 2 documents 36 citations and 10 link strength, Kurttila, M. 2 documents 39 citations and

6 link strength, Simardi, B. S. 2 documents 39 citations and 0 link strength, De Urioste-Stone, S. 2 documents with 46 citations and 11 link strength, Margaryan, L. 2 documents with 54 citations and 6 link strength, Martinez Ibarra, E. 2 documents with 58 citations and 2 link strength, Bjarstig, T. 2 documents with 64 citations and 0 link strength, Stens, A. 2 documents with 64 citations and 0 link strength and Scott, D. 2 documents with 250 citations and 23 link strength. In the third place, Even, T. 1 document has 10 citations and 3 link strengths.

Graph 14. Author citation analysis

In order to determine the author citation analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. Among 1502 authors, 601 of them meet this criterion. Accordingly, 601 circles, 4997 clusters, 261 links and 271 link strengths were identified.

Among the authors, Barbei, C. and Tew, C. ranked first with 1 document, 247 citations and 0 link strength. Brezet J. C., Scheepens, A. E. and Vogtlander, J. G. are in second place with 1 document, 240 citations and 0 link strength. In the third place, Lee, B., Shafer, CS. and Turner, S. 1 document has 195 citations and 0 link strength.

Graph 15. Institution citation link strength analysis
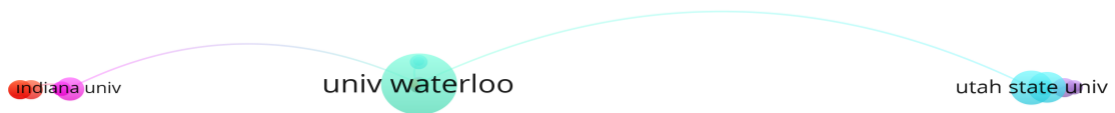
In order to determine the institution citation link strength analysis, at least 1 publication and at least 10 citations criteria were determined and a network map was created. 354 out of 809 authors meet this criterion. Accordingly, 354 circles, 284 clusters, 119 links and 130 link strengths were determined.

Among the institutions, Univ. Waterloo ranks first with 3 documents, 323 citations and 16 link strengths. In second place is Norwegian Univ. Life SCI. with 3 documents, 84 citations and 9 link strength, Swiss Fed Forest Snow & Landscape Res WSL. and Univ. Nat Resources & Life SCI. with 2 documents, 186 citations and 9 link strength. In third place is Natl. Inst. Consumer Res. Sıfo. 2 documents have 63 citations and 0 link strength.
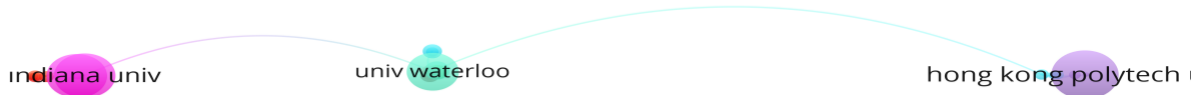
Graph 16. Institutions citation document analysis

In order to determine the institution citation link strength analysis, at least 1 publication and at least 10 citations criteria were determined and a network map was created. 354 out of 809 authors meet this criterion. Accordingly, 354 circles, 284 clusters, 119 links and 130 link strengths were determined.

Among the institutions, Texas A&M Univ. ranks first with 7 documents, 351 citations and 3 link strengths. Penn State Univ. ranks second with 6 documents, 40 citations and 6 link strengths. In third place is Arizona State Univ. 5 documents 28 citations and 1 link strength, Colorado State Univ. 5 documents 115 citations and 1 link strength, Financial Univ. Govt. Russian Fed. has 5 documents 10 citations and 0 link strength, Hong Kong Baptist Univ. has 5 documents 137 citations and 0 link strength, Monash Univ. and 5 documents 54 citations and 0 link strength, Univ. British Columbia has 5 documents 76 citations and 0 link strength.

Graph 17. Institutions citation analysis

In order to determine the institution citation link strength analysis, at least 1 publication and at least 10 citations criteria were determined and a network map was created. 354 out of 809 authors meet this criterion. Accordingly, 354 circles, 284 clusters, 119 links and 130 link strengths were determined.

Among the institutions, London Business SCH and Said Business SCH ranked first with 1 document, 573 citations and 0 link strength. Hong Kong Polytech Univ. ranks second with 3 documents, 465 citations and 2 link strengths. In third place is Indiana Univ. with 5 documents, 76 citations and 0 link strength.

**Graph 18**. Countries cited connection strength analysis
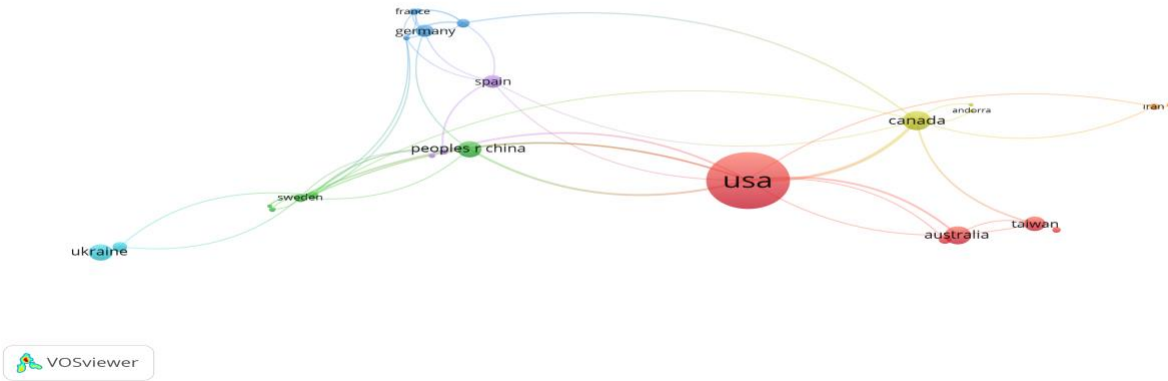
In order to determine the country citation analysis, a network map was created by determining at least 1 publication and at least 10 citation criteria. 54 out of 81 countries meet this criterion. Accordingly, 54 circles, 36 clusters, 50 links and 74 link strengths were identified.

Among the countries, the USA ranks first with 155 documents, 3,698 citations, and a link strength of 27. England ranks second with 33 documents, 1,215 citations, and a link strength of 0. Canada is in third place with 34 documents, 1,113 citations, and a link strength of 17.

4.3. Bibliographic Link Analysis

Bibliometric linkage analysis research is carried out with various techniques. The most widely used technique used in bibliographic linkage analysis is "bibliographic coupling". Citing the same publication in at least two different sources is called bibliographic coupling (Al & Tonta, 2004). Bibliographic linkage analysis is important because it reveals the relationships and interactions of the sources on which the subject included in a bibliographic study is based (Boyack & Klavans, 2010).
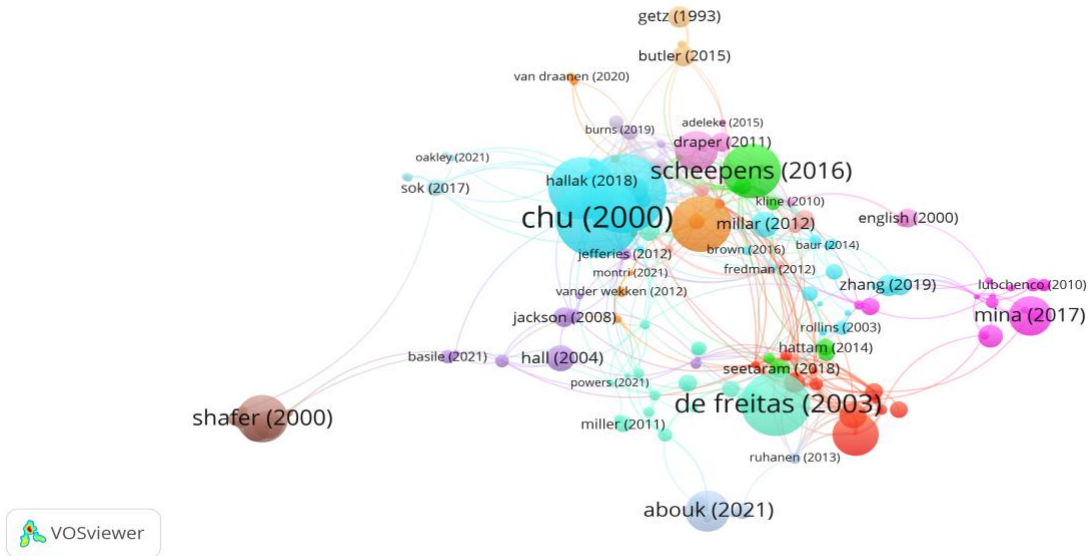
Graph 19. Bibliometric link document link strength analysis
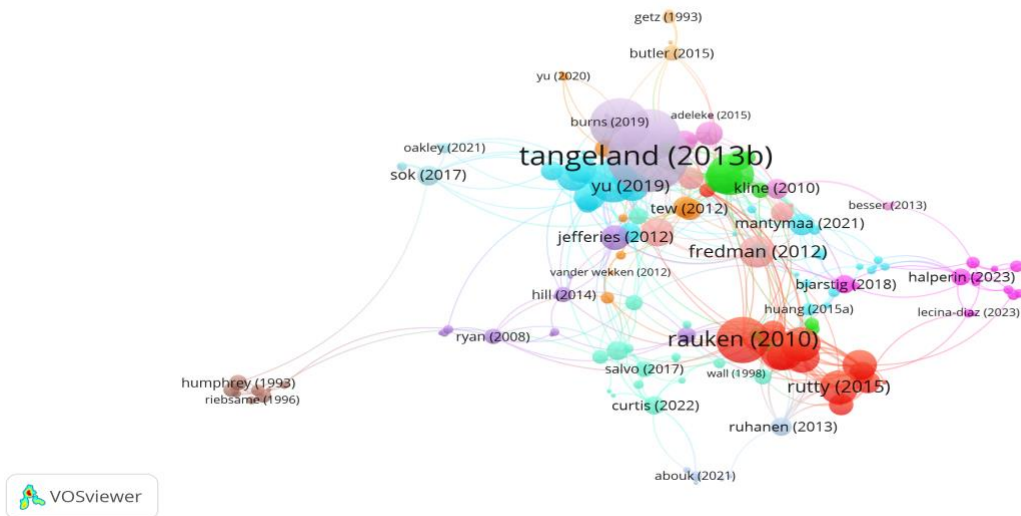
In order to determine the bibliographic link document link strength analysis, at least 10 citation criteria were determined and a network map was created. 205 out of 541 documents meet this criterion. Accordingly, 205 circles, 68 clusters, 443 links and 789 link strengths were identified.

Among the documents, Tangeland, T. (2013b) ranks first with 48 citations and 91 link strength. Tangeland, T.(2011) ranks second with 38 citations and 57 link strengths. In the third place, Tangeland, T. (2013a) has 15 citations and 56 link strengths.

Graph 20: Bibliometric link document citation analysis

In order to determine the bibliographic link document link strength analysis, at least 10 citation criteria were determined and a network map was created. 205 out of 541 documents meet this criterion. Accordingly, 205 circles, 68 clusters, 443 links and 789 link strengths were identified.

Among the documents, Nicholson, N. (2005) ranks first with 573 citations and 0 link strength. Chu, (2000) ranks second with 406 citations and 13 link strengths. In third place is Kim, J. (2012) with 401 citations and 43link strengths.

Graph 21: Bibliometric link journal link strength analysis
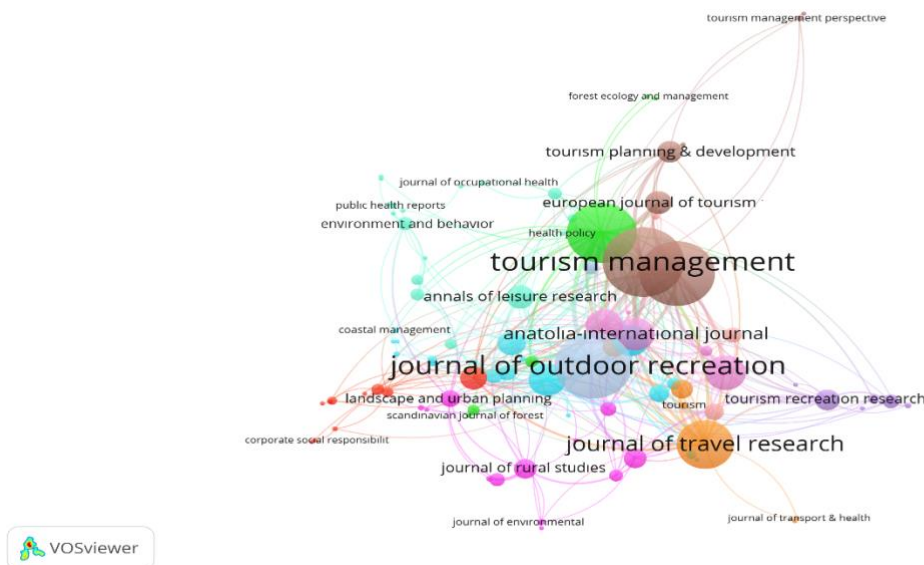
A network map was created by determining at least 1 publication and at least 10 citation criteria in order to determine the bibliographic link journal link strength analysis. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 54 clusters, 467 links and 1126 link strengths were identified.

Among the journals, Tourism Management ranks first with 5 documents, 780 citations and 174 link strength. The Journal of Outdoor Recreation and Tourism Research Planning and Management ranks second with 12

documents, 217 citations and 172 link strength. In the third place, Journal of Park and Recreation Administration 15 documents have 221 citations and 159 link strength.

Graph 22: Bibliometric link journal document analysis
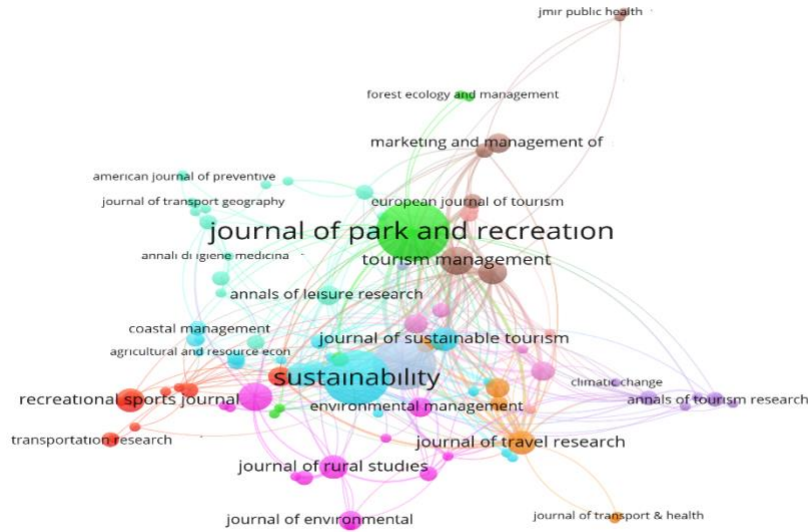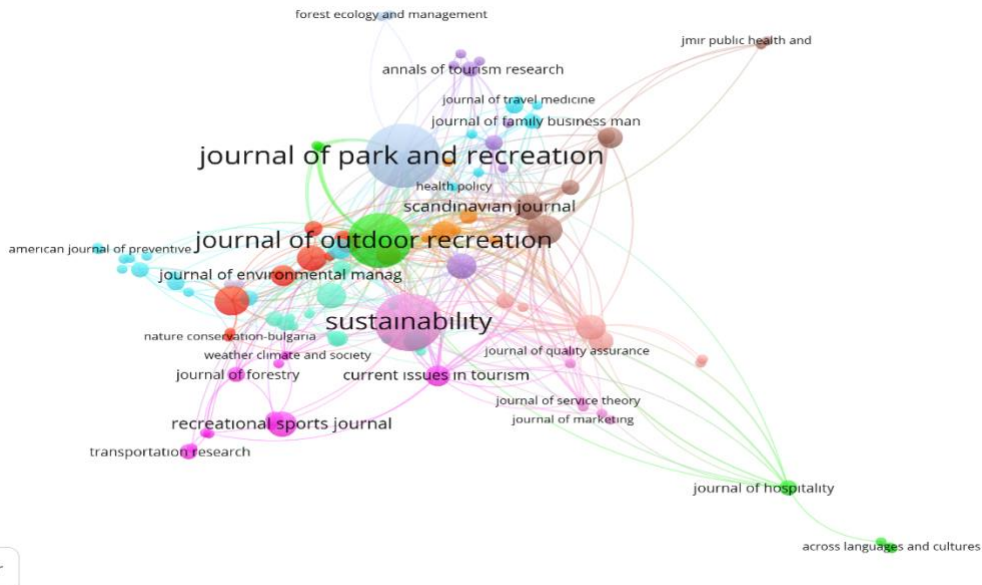

A network map was created by determining at least 1 publication and at least 10 citation criteria in order to determine the bibliographic link journal link strength analysis. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 54 clusters, 467 links and 1126 link strengths were identified.

Among the journals, Journal of Park and Recreation Administration ranks first with 15 documents, 221 citations and 159 link strength. Sustainability ranks second with 13 documents, 114 citations and 71 link strengths. In third place, Journal of Outdoor Recreation and Tourism Research Planning and Management 12 documents have 217 citations and 172 link strength.

Graph 23: Bibliometric link journal citation analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria in order to determine the bibliographic link journal link strength analysis. 156 out of 392 journals meet this criterion. Accordingly, 156 circles, 54 clusters, 467 links and 1126 link strengths were identified.

Among the journals, Tourism Management ranks first with 5 documents, 780 citations and 174 link strength. Journal of Travel Research ranks second with 4 documents, 651 citations and 116 link strength. In the third place, Journal of Risk Research 1 document has 513 citations and 0 link strength.

Graph 24: Bibliometric link author link strength analysis
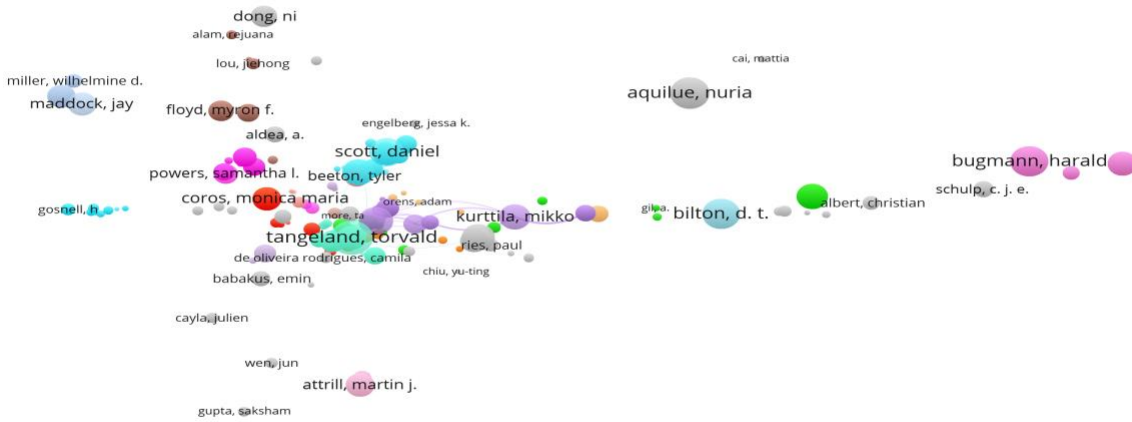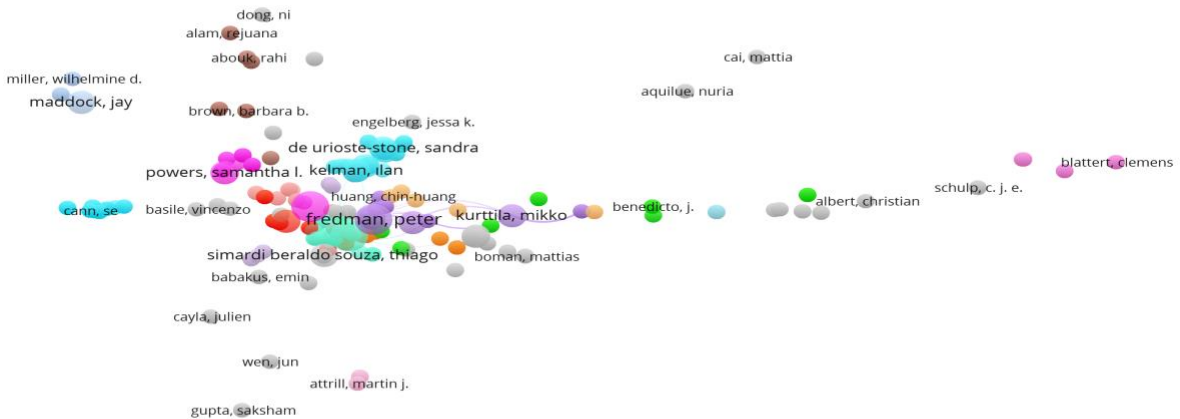

In order to determine the bibliographic link author link strength analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 journals, 601 of them meet this criterion. Accordingly, 601 circles, 83 clusters, 5045 links and 57891 link strength were identified.

Among the authors, Tangeland, T. ranks first with 3 documents, 101 citations and 688 link strengths. In second place are Bayer, F. F., Cahill, J., Hirsch, J. A., Lovasi, G. S., Moore, K. A., Quinn, J., Rundle A. and Zhao, Y., with 1 document, 33 citations and 644 link strengths. In the third place, Aquilue, N., Brotons, I., Maria, L., Lecina Diaz, J., Regos, A. and Sil, A., 1 document has 18 citations and 612 link strength.

Graph 25: Bibliometric link author document analysis

In order to determine the bibliographic link author link strength analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 journals, 601 of them meet this criterion. Accordingly, 601 circles, 83 clusters, 5045 links and 57891 link strength were identified.

Tangeland, T., 3 documents, 101 citations and 688 link strength, Fredman, P. 3 documents, 65 citations and 522 link strength and Schuett, M. A., 3 documents, 28 citations and 155 link strength. Scott, D., 2 documents 250 citations and 529 link strength, Bjarstig, T. and Stens, A., 2 documents 64 citations and 479 link strength, Kelman, I. and Rauken, T., 2 documents 36 citations and 466 link strength, Kurttila, M. 2 documents 39 citations

and 452 link strength, Maddock, J. 2 documents 19 citations and 402 link strength, Powers, S., L. 2 document 18 citations and 316 link strength, Tyrvainen, L. 2 document 30 citations and 313 link strength, Margaryan, L. 2 document 54 citations and 312 link strength, De Urioste-Stone, S. 2 document 46 citations and 239 link strength, Martinez Ibarra, E. 2 document 58 citations and 150 link strength, Simardi, B. S. 2 document 39 citations and 145 link strength, Sant, S., 2 documents with 14 citations and 26 link strength and Duerden, M. D., 2 documents with 10 citations and 21 link strength. In the third place, Bayer, F., 1 document has 33 citations and 644 link strength.

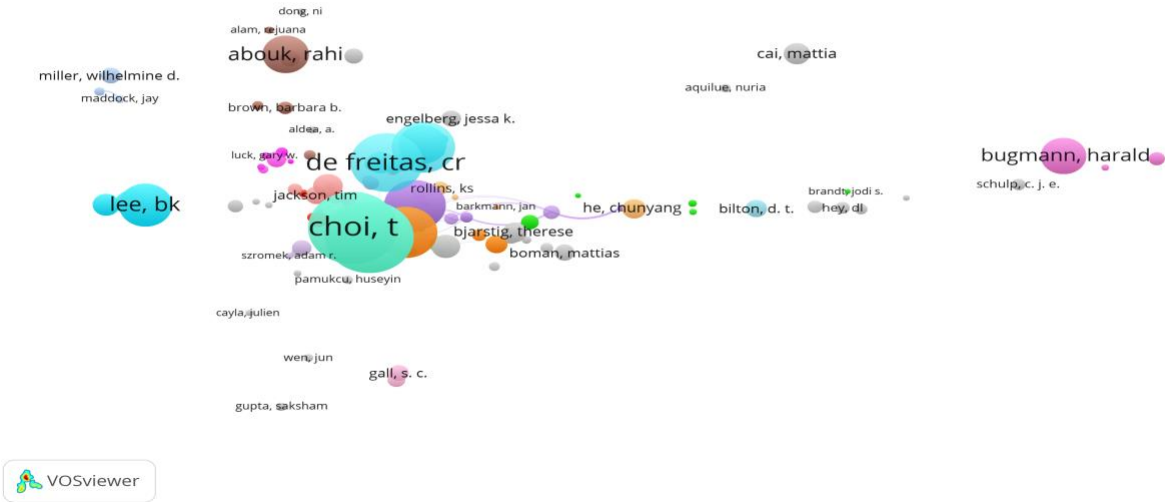**Graph 26:** Bibliometric link author citation analysis

In order to determine the bibliographic link author link strength analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. Among 1502 journals, 601 of them meet this criterion. Accordingly, 601 circles, 83 clusters, 5045 links and 57891 link strength were identified.

Among the authors, Kim, J., Mccormick B. and Ritchie, J. R. B. are ranked first with 1 document, 401 citations and 321 link strength. In second place is De Creatis, CR., with 1 document, 300 citations and 26 link strengths. In third place is Lee, T. H., 1 document with 287 citations and 60 link strength.

Graph 27: Bibliometric link institution link strength analysis

In order to determine the bibliographic link institution link strength analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 52 clusters, 2826 links and 29768 link strengths were identified.

Institutions include Ctr Ciencia & Tecnol Forestal Catalunya Ctfc, Tech. Univ. Munich, Univ. Porto, Univ. Quebec Montreal Uqam, Univ. Santiago de Compostela, Univ. Tras os Montes & Alto Douro and Univ. York with 1 document, 18 citations and 1005 links. In second place is Swiss Fed. Inst. Forest Snow & Landscape Res. Wsl. and Univ. Nat. Resources & Life Sci 2 documents have 186 citations and 718 link strength. In third place is Natl. Inst. Consumer Res. Sıfo. 2 documents have 63 citations and 569 link strength.
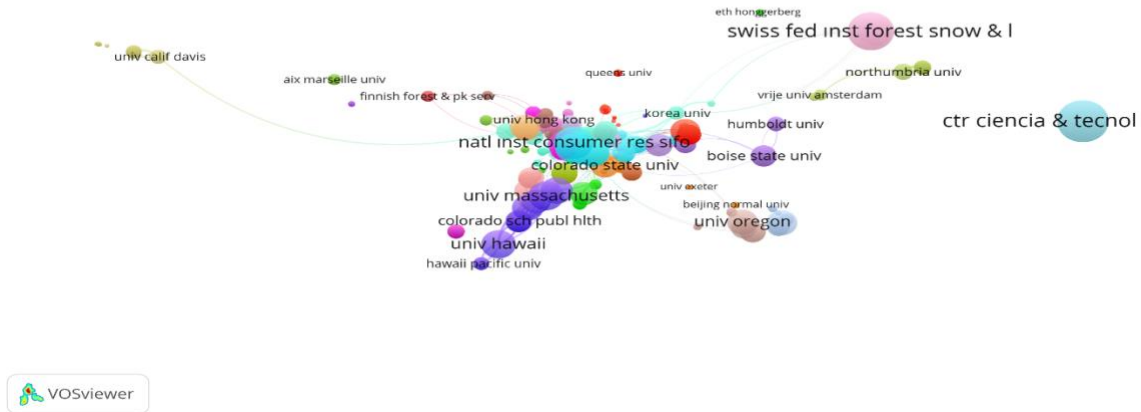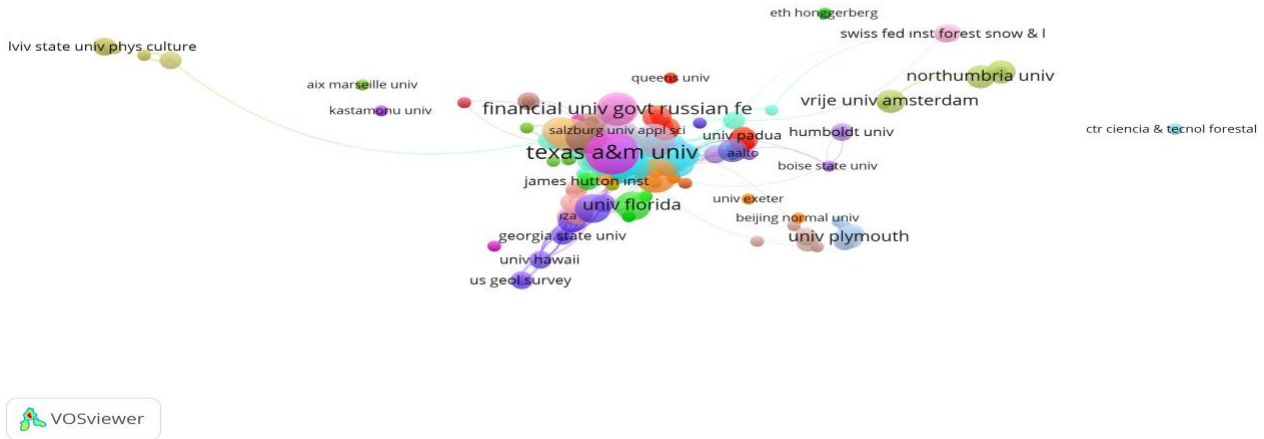
Graph 28: Bibliometric link institution document analysis

In order to determine the bibliographic link institution link strength analysis, at least 1 publication and at least 10 citation criteria were determined and a network map was created. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 52 clusters, 2826 links and 29768 link strengths were identified.

Among the institutions, Texas A&M Univ. ranks first with 7 documents, 351 citations and 438 link strength. Penn State Univ. ranks second with 6 documents, 40 citations and 484 link strength. In third place is Monash Univ. with 5 documents 54 citations and 400 link strength, Colorado State Univ. 5 documents 115 citations and 359 link strength, Univ. British Columbia 5 documents 76 citations and 323 link strength, Arizona State Univ. 5 documents 28 citations and 180 link strength, Hong Kong Baptist Univ. 5 documents 137 citations and 95 link strength and Financial Univ. Govt. Russian Fed. has 5 documents with 10 citations and 35 link strength.
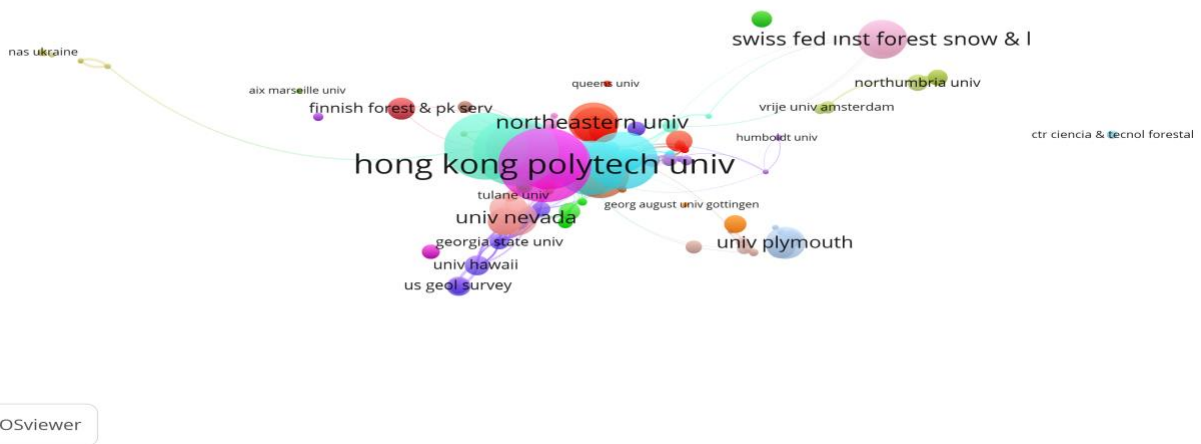
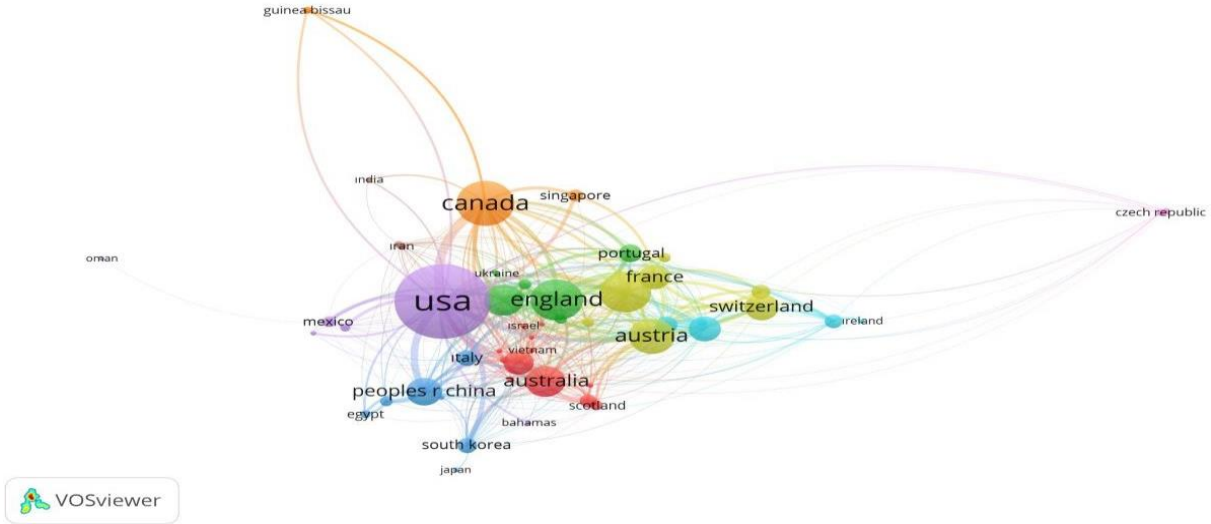**Graph 29:** Bibliometric link institution citation analysis

In order to determine the bibliographic link institution link strength analysis, at least 1 publication and at least

10 citation criteria were determined and a network map was created. 354 out of 809 institutions meet this criterion. Accordingly, 354 circles, 52 clusters, 2826 links and 29768 link strengths were identified.

Institutions include London Business Sch. and Said Business Sch. ranks first with 1 document, 573 citations and 42 link strength. Hong Kong Polytech Univ. ranks second with 3 documents, 465 citations and 247 link strength. Indiana Univ. ranks third with 4 documents, 415 citations and 214 link strength.

Graph 30: Bibliometric link Countries link strength analysis

A network map was created by determining at least 1 publication and at least 10 citation criteria in order to determine the bibliographic link institution link strength analysis. 54 out of 81 institutions meet this criterion. Accordingly, 54 circles, 9 clusters, 480 links and 11777 link strengths were identified.

Among institutions, USA. ranks first with 155 documents, 3698 citations and 3717 link strength. Canada ranks second with 34 documents, 1113 citations and 1818 link strength. England ranks third with 33 documents, 1215 citations and 1603 link strength.

4.4. Co-Citation Analysis

Co-citation analysis means that at least two studies are cited in more than one study at the same time. The more two studies are cited in more than one study, the stronger it is (Surwase, 2011). At least 10 citation criteria were determined while conducting co-citation analyses. In addition, 2 filtering was performed in the co-citation analyses: having the most link strength and having the most citation strength.

Graph 31. Common Citation Reference link strength analysis

A network map was created by determining at least 5 citation criteria in order to determine the co-citation, reference link strength analysis. Among 22899 references cited, 36 references meet these criteria. Accordingly, 36 circles, 8 clusters, 106 connections and 180 connection strengths were determined.

Hair, J. F., (2009), which has the highest co-reference link strength, ranks first with 12 citations and 28 link strengths. In second place, Tervo, K., (2008) has 6 citations and 24 link strengths. In third place, De Freitas, CR., (2003) has 8 citations and 20 link strength and Fornell, C. (1981) has 10 citations and 20 link strength.

Graph 32. Co-citation, author citation analysis
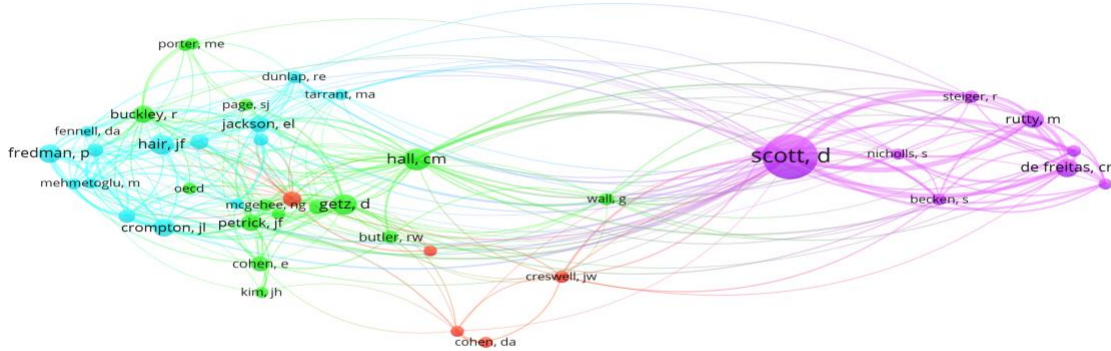
In order to determine the analysis of co-citation and author citation analysis, at least 5 citation criteria were determined and a network map was created. Among 17424 references cited, 314 references meet these criteria. Accordingly, 314 circles, 34 clusters, 3906 links and 11787 link strengths were determined.

Scott, D., who has the highest co-citation author citation link strength, ranks first with 75 citations and 844 link strengths. In second place, De Freitas, CR. has 21 citations and 364 link strength. In third place is Hall, CM., with 27 citations and 353 link strength.

Graph 33. Keyword Analysis
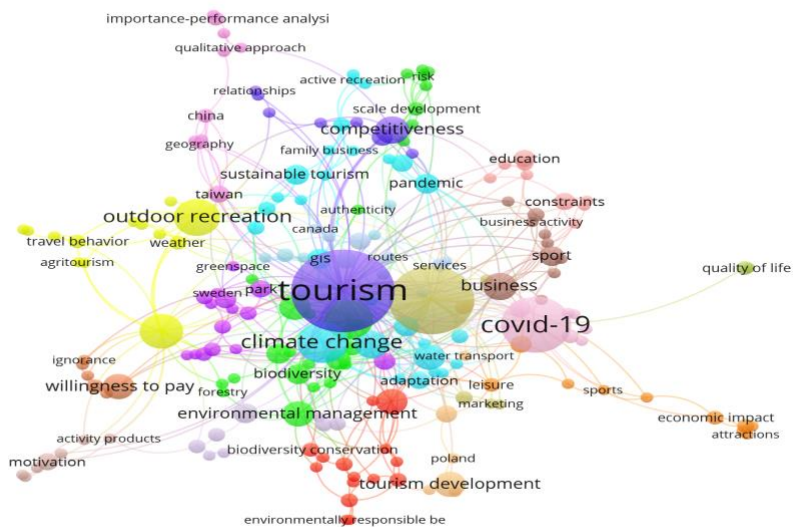
In order to determine the keyword analysis, the most preferred 2 keyword criteria were determined and a network map was created. Among 2019 keywords, 225 keywords were found to meet the criteria. Accordingly,

225 circles, 29 clusters, 535 links and 606 link strengths were determined.

When we look at the most preferred keywords, the keyword "Tourism" ranks first with 38 uses and 71 link strength. The keyword "Recreation" ranks second with 29 uses and 57 link strength. The keyword "Climate Change" ranks third with 14 uses and 29 link strengths. The keyword "Covid-19" ranks fourth with 22 uses and 25 link strengths. The keyword "Business" ranks fifth with 11 uses and 24 link strengths.

Table 1. Year Analysis

Queue	Year	Number of Publications	Percentage	Queue	Year	Number of Publications	Percentage
1	1992	1	%0.18	22	2009	15	%2.77
2	1993	2	%0.37	23	2010	16	%2.96
3	1994	1	%0.18	24	2011	19	%3.51
4	1995	3	%0.55	25	2012	19	%3.51
5	1996	4	%0.74	26	2013	19	%3.51
6	1997	2	%0.37	27	2014	22	%4.07
7	1998	3	%0.55	28	2015	21	%3.88
8	1999	3	%0.55	29	2016	30	%5.55
9	2000	5	%0.92	30	2017	38	%7.02
11	2001	4	%0.74	31	2018	31	%5.73
12	2002	3	%0.55	32	2019	34	%6.28
13	2003	5	%0.92	34	2020	39	%7.21
14	2004	3	%0.55	35	2021	58	%10.72
15	2005	11	%2.03	36	2022	41	%7.58
16	2006	9	%1.66	37	2023	29	%5.36
17	2007	12	%2.22	38	2024	25	%4.62
18	2008	14	%2.59	Total		541	

When we examine Table 35 in detail, it is seen that the number of publications in the field of recreation business has followed a fluctuating course over the years, but has shown a remarkable increase especially since the mid-2000s. In the period between 1992 and 2000, the annual number of publications was quite low and remained below 1%. This may suggest that the concept of recreation business was initially not sufficiently researched in the academic field or that it was considered as a relatively new research topic.

By 2005, the increase in the number of publications became more pronounced, with a share of 2.03%, a significant leap compared to previous years. In the 2010s, this upward momentum continued, peaking at 7.02% in 2017, 7.21% in 2020, and 10.72% in 2021. Especially the rate of 10.72% in 2021 shows that the importance of this field in the academic literature has increased and more studies are addressing this issue. This increase can be attributed to developments in the recreation business sectors, changing public interest, and more academic projects and research funds being allocated in this field.

In 2022 and 2023, a slight decline is observed, but high publication rates are maintained in these years (7.58% and 5.36% respectively), indicating the continued popularity of the field. The 2024 data, although still incomplete, indicates a significant academic interest with 25 studies.

In general, it is possible to say that research on recreation business has gained more academic focus overtime and there has been a significant growth in this field, especially in the last 10 years. This trend shows that recreation business practices are being addressed by a wider academic audience on a global scale, inspiring multidisciplinary studies and new studies will continue in the future.

5. Discussion and Conclusion

Recreation and business is an interdisciplinary field that studies the way individuals and societies spend their leisure time and has an important role in many areas such as leisure management, leisure services, various tourism movements and sports. In today's societies, with increasing urbanization, stressful living conditions and growing interest in leisure activities, the importance of recreation services is also increasing. Therefore, recreation and business has become an increasingly popular research topic both in the academic world and in

practice. This growing interest shows a marked progress and transformation in the field, affecting both theoretical perspectives and practical applications. The growing interest in this field has led to a rapid increase in scholarly work and has created a body of knowledge in the literature where specific themes, collaborations and research trends are prominent.

This study aims to examine the general structure and development process of the academic literature published in the field of recreation and business in depth. For this purpose, studies related to recreation and business in the Web of Science (WoS) database were evaluated by bibliometric analysis method. Bibliometric analysis is a powerful method used to examine scientific production in a particular field, to determine the numerical distribution of publications, cited articles, author collaborations and research themes. In this study, VOSviewer software was used to visualize the main themes, citation networks, collaboration networks, co-authorships and important trends in the literature.

In the first stage of the analysis, we examined how the number of articles published in the field of recreation and business has increased over the years. This analysis reveals how academic interest in the field has developed over time and in which periods there has been a significant increase. In the second stage, co-authorship analysis, keyword analysis, citation analysis, bibliographic citation link analysis and co-citation analysis were conducted. In this way, the most influential research in the recreation and business literature and the main topics shaping the literature were identified.

The literature output in the field of recreation and business has increased steadily every year; the number of studies has continued to increase every year and an increasingly intense publication flow has been observed, especially after 2005, with more than 10 studies per year. The three most preferred keywords within the scope of the research are "Tourism" (38), "Recreation" (29) and "Climate Change" (14). Outdoor Recreation and Tourism-Research Planning and Management, Journal of Park and Recreation Administration and Tourism Management have become an important publication platform for articles by being at the top of the list by subject. USA, Canada and England are among the leading countries in terms of the number of article publications and citations. While American institutions have established strong partnerships within bibliometric research, there is significant potential for broader and deeper international collaborations. Nicholson, N., leads the field in citations, while Tangeland, T., Fredman, P. and Schuett, M., A. have made outstanding contributions to the development of the field, ranking first in the number of articles.

The problem under investigation is better understood by the increase in the literature and the prominence of certain themes. This increase is critical for recreation and business to develop effective responses to the leisure needs of societies. The study shows that recreation and business is becoming increasingly important and research in this field is developing in relation to social and environmental issues. In particular, the impact of global issues such as climate change and sustainability on the planning and implementation of recreation services is shaping the direction of research in the field. This can be considered as an important finding in academic and practical contexts. In conclusion, the recreation business plays a critical role not only for the health and well-being of individuals but also for ensuring the environmental sustainability of societies.

The findings also reveal some unexpected situations. For example, since 2005, there has been a significant increase in research in the field of recreation and management, especially with the impact of digital technology and globalization. This shows that some themes and research areas in the literature are evolving rapidly. While digitalization has transformed the way individuals spend their leisure time, globalization has led to the diversification of recreation services by increasing the interaction of different cultures and practices. Compared to previous studies, it is understood that this increase is supported by a different dynamic. In particular, the rise of social media and online platforms has brought different perspectives to the field of recreation and business by revealing new themes and collaborations in research. These changes suggest that research in the field has profoundly influenced not only theoretical frameworks but also practical practices.

The findings are generally consistent with previous literature. However, it can be concluded that the increased interest in digital and online recreation activities, especially in recent years with the COVID-19 pandemic, should be considered together with the development in the literature. This situation also points to some gaps in the literature and new research areas.

Moreover, in the last decade, especially since the early 2010s, there has been a great increase in the field of

recreation. In this period, it is noteworthy that recreation is associated with issues such as sustainability, environmental protection and social development, and the number of studies carried out within this framework has increased. The 2020s stand out as a period of significant growth in recreation research. In particular, the COVID-19 pandemic has created a great change and interest in the way people spend their leisure time. During this period, research on digital and online recreational activities and their impact on health and well-being increased in importance.

This bibliometric analysis maps the existing body of knowledge and reveals general trends and research gaps in the field of recreation and business. At the same time, the results of this study serve as a guide for future research by indicating to scholars which topics need further research and which themes should be explored in more depth. Ultimately, this study not only assesses the development and current state of the literature in the field of recreation and business , but also enriches the academic debate and shapes the scope of recreation studies by providing an important roadmap for future research.

The next steps from this study suggest that specific themes in the field of recreation business need to be examined in more depth. In particular, more empirical and experimental studies are recommended. Moreover, filling the gaps in the literature and developing new research methods will make the recreation and business literature stronger. In this context, international collaborations and more interdisciplinary studies are also important to contribute to the academic literature.

References

Acar, D. (2020). Turizmin tarihî kökenleri–III: Antik Çağ'da Yunan ve Roma uygarlıkları. *Anatolia: Turizm Araştırmaları Dergisi*, 32(1), 119-125.

Al, U., & Tonta, Y. (2004). Atıf analizi: Hacettepe Üniversitesi Kütüphanecilik Bölümü tezlerinde atıf yapılan kaynaklar. *Bilgi dünyası*, 5(1), 19-47.

Baines, J., & Malek, J. (2000). *Cultural atlas of ancient Egypt*. Checkmark Books.

Bertman, S. (2003). *Handbook to life in ancient Mesopotamia*. Oxford University Press.

Biscaro, C., & Giupponi, C. (2014). *Co-authorship and bibliographic coupling network effects on citations*. aPloS one, 9(6), e99502.

Boyack, K. W., & Klavans, R. (2010). Co-citation analysis, bibliographic coupling, and direct citation: Which citation approach represents the research front most accurately?. *Journal of the American Society for information Science and Technology,* 61(12), 2389-2404.

Brewer, D. J., & Teeter, E. (1999). *Egypt and the Egyptians*. Cambridge University Press.

Cushman, G., Veal, A. J., & Zuzanek, J. (1996). *World leisure participation: Free time in the global village*. CAB International.

Dumazedier, J. (1967). *Toward a society of leisure*. The Free Press.

Dieser, R. B., & Edginton, C. R. (2004). *Leisure programming: A service- centered and benefits approach*. McGraw-Hill.

Gardiner, A. (1961). *Egypt of the Pharaohs: An introduction*. Oxford University Press.

Glover, T. D., & Stewart, W. P. (2006). Rethinking leisure theory. *Journal of Leisure Research*, 38(3), 247-262.

Godbey, G. (2009). *Leisure in your life: New perspectives* (8th ed.). Venture Publishing.

Gunn, C. A., & Var, T. (2019). *Tourism planning: Basics, concepts*, cases (7th ed.). Routledge.

GWI.(2022). Global wellness tourism economy. https://globalwellnessinstitute.org Erişim Tarihi: 10.10.2024.

Hornung, E. (1999). *The secret lore of Egypt: Its impact on the West*. Cornell University Press.

IBISW. (2023). Recreational services in the U.S. https://www.ibisworld.com Erişim Tarihi: 10.10.2024.

Kelly, J. R. (1982). *Leisure. Prentice-Hall*.New Jersey

Kraus,M. (2008). *Recreation and Leisure in modern Society*. 8. Edition, jones and Bartlett Publishers, MA, USA.

Leick, G. (2002). *Mesopotamia: The invention of the city*. Penguin Books.

Lloyd, A. B. (2010). *A companion to ancient Egypt* (Vols. 1-2). Wiley-Blackwell.

Moed, H. F. (2006). *Citation analysis in research evaluation* (Vol. 9). Springer Science & Business Media.

Moorey, P. R. S. (1999). *Ancient Mesopotamian materials and industries: The archaeological evidence*. Oxford University Press.

Mordor Intelligence. (2023). Sports And Recreation İndustry Analysis. https://www.mordorintelligence.com Erişim Tarihi: 10.10.2024.

Nemet-Nejat, K. R. (1998). *Daily life in ancient Mesopotamia*. Greenwood Press.

Newman, M. E. (2004). Coauthorship networks and patterns of scientific collaboration. *Proceedings of the national academy of sciences*, 101(suppl_1), 5200-5205.

Newzoo. (2023). Global games market report. https://newzoo.com Erişim Tarihi: 10.10.2024.

Osareh, F. (1996). Bibliometrics, citation analysis and co-citation analysis: A review of literature I.

Parker, S. (1976). *The sociology of leisure*. Allen & Unwin.

Postgate, J. N. (1994). *Early Mesopotamia: Society and economy at the dawn of history*. Routledge.

Redford, D. B. (Ed.). (2001). *The Oxford encyclopedia of ancient Egypt (Vols. 1-3).* Oxford University   Press.

Roberts, K. (2016). *Leisure in contemporary society* (3rd ed.). CABI.

Rojek, C., Shaw, S. M., & Veal, A. J. (Eds.). (2006). *A handbook of leisure studies*. Palgra ve Macmillan.

Seyhan, B. (2010). *Antik Çağda Küçük Asya'da Festivaller ve Panayırla*r. I. Disiplinlerarası Turizm Araştırmaları Kongresi, 90-104.

Statista. (2022). Revenue of the global fitness, health and wellness market. https://www.statista.com Erişim Tarihi: 10.10.2024.

Statista.(2023).Market Research Reports.Theme park market size, share & trends analysis. https://www.marketresearch.com Erişim Tarihi: 10.10.2024.

Surwase, G., S., Kademani, B. S., & Bhanumurthy, K. (2011). *Co-citation analysis: An overview*. Bombay Science Librarians Association.

Topaçoğlu, O., & Kılavuz, M. E. S. (2022). Rekreasyon ve SosyalleşmeAçısından Metaverse İncelemesi. *Journal of Recreation and TourismResearch*, 9(3), 18-37

Torkildsen, G. (2005). *Leisure and recreation management* (5th ed.). Routledge.

Tozan, M. (2008). Antik Çağ'da Seyahat. *Tarih Okulu Dergisi*, (1), 129-136.

Van Eck, N. J., Waltman, L., Dekker, R., ve Vanden Berg, J. (2010), "A Comparison of Two Techniques For Bibliometric Mapping: Multidimensional Scaling and VOS", *Journal of   The Amerıcan Socıety For Informatıon Scıence and Technology*, 61(12), 2405-2416.

Wilkinson, R. H. (2003). *The complete gods and goddesses of ancient Egypt*. Thames & Hudson.

WWTC. (2023). World Travel & Tourism Council. Economic impact reports. https://wttc.org/research/economic-impact Erişim Tarihi: 10.10.2024.

Zuzanek, J. (2014). *Work, leisure, and the quality of life*. Praeger Publishers.