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Original Research

A Bibliometric Analysis of Crisis Management for Sharing Economy during the COVID-19 Pandemic

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Abstract: The objective of this article is the bibliometric analysis of peer-reviewed literature for the crisis management strategy of sharing economy services during the COVID-19 pandemic. The examination of the use of data analytics to manage crises during COVID-19 and how sharing economy businesses utilized technology to forecast consumer behavior during this time, determine safe business practices, and enhance their operations were the essential observations of the research. The COVID-19 outbreak significantly impacted the sharing economy. Many businesses in this sector experienced declining sales as customers stayed home and were discouraged from sharing resources. Five case studies combined crisis management and data analytics-related keywords. After several keyword searches on the Web of Science (WoS) database, bibliographic coupling methodology with the assistance of VOSviewer computational software was the preferred method. The study emphasized important research fronts and factors directing the causality between analytical usage and sharing economy service operations. The research results also indicated that information forecasting is an essential part of crisis management with the creation of efficient strategies to navigate the current climate and set themselves up for long-term success by utilizing data to get insights into consumer behavior and market conditions. The study uses the modeling visualization tool Lucidchart and the bibliometric computation software VOSviewer.

Keywords: *Airbnb, Bibliometric Analysis, COVID-19, Data-Informed Decision-Making, Operational Risk Management, Peer-To-Peer Economy, Predictive Analytics, Uber*

Introduction

According to the implementation of proper health and safety standards, the study indicates decreased demand for sharing economy services. Technology helped improve management and identify trends in business intelligence data during this difficult time. The forecasting and execution ability for the necessary get-ready scenario analysis constitutes the basis for each company's decision-making process. Predictive and prescriptive techniques can enhance benefit–cost evaluations, strategy formulation, customer engagement, and service quality. To make informed judgments using these indicators, analysis of the worst-case scenarios, and quality management, businesses must closely monitor tasks and anticipate hazards. In addition to an emergency response strategy, every company needs a recovery plan.

The sharing economy emphasizes the temporary use of goods and services rather than permanent ownership (Bardhi and Eckhardt 2012; Kumar, Lahiri, and Dogan 2018). It is a branch of social entrepreneurship that connects people with idle assets and wanting to rent them out temporarily. The COVID-19 outbreak has brought attention to the significance of digital transformation. Since the outbreak began, sharing services have encountered problems, and market demand has sharply declined. There were changes in the shared services operations under the shelter-in-place and stay-at-home directives. The necessity of more rigorous safety procedures and a solid balance sheet are the key lessons to learn from this challenging health emergency.

Bibliometric analysis of peer-reviewed publications was selected as the data methodology to investigate the role of data analytics on the operations of the sharing economy as a crisis management approach. The keywords were chosen from the crisis management and data analytics terminology. Different keyword combinations were grouped into five case studies to retrieve peer-reviewed articles from the Web of Science (WoS) database. Computational bibliographic coupling methodology was applied to each case study to determine essential research fronts and factors in the role of data analytics in risk strategy for the sharing economy. The research uses the Lucidchart application for modeling visualization and the VOSviewer software program for bibliometric computation.

Literature Review

Black Swan events are complex catastrophic events and disruptions that are impossible to predict with existing technology (Rijmenam et al. 2019). The COVID-19 pandemic is a global disruptive incident. Most companies have crisis management teams, procedures, and business continuity policies that guide current actions and anticipate potential responses to future events such as pandemics or unexpected downturn risks. Such policies must reduce business-critical operations and travel, distribute all critical operations across all departments for efficient decision-making, and diagnose employees at work or request they stay home if they are ill (Emond and Maese 2020). These actions include employing experts' knowledge and predictive forecasting understanding of what is happening. These policies are updating business intelligence, creating new strategies of mitigation rather than containment, and establishing risk policies for the next possible crisis. For sharing economy platforms to serve their consumers, they need to be able to operate consistently during an emergency. Predictive analytics can provide insights into which business activities may be stable during a disaster.

Computer-supported systems used for identifying and producing fresh insights and superior information to aid decision-making are known as business intelligence (BI) and analytics (Božič and Dimovski 2019). Customers receive real-time information through a series of operational procedures. These informative insights are the foundation for organizational planning to obtain intuitive ideas for business operations (Cao, Duan, and Li 2015). Businesses need knowledge

workers and data scientists to develop their corporate strategy and planning. Information systems' input–process–output model allows for evaluating interactions by contrasting the input with the anticipated output from a microeconomic standpoint. The prediction and outcome are better positioned when the resource-based method is used, which lowers logistics costs and enhances labor force organization (Popovič et al. 2018). Each business has a different computing system architecture specific to its operations, and data scientists must coordinate all processes to provide consistent services. Because of the trend toward analytics-supported performance indicators, decision-makers can now evaluate more data when pursuing a set of objectives to compare various action plans. These action plans determine the best-case studies that optimize profit–loss distribution as an essential risk management factor for limited resources. This way, companies stay profitable and run operations during emergencies like pandemics and environmental catastrophes.

When the explosion of data came due to the Internet's and social media's ability to share data in real-time, business analytics highlighted the need for specialized analytical skills in training and education. Based on the analysis of datasets to infer the information found within them, analytics is a combination of ideas and technologies that transform raw data into pertinent and valuable information for day-to-day functions. The maturity level of top-performed companies is based on analytic capabilities that focus on the efficiency and automation of existing processes, developing better ways, adaptability for organizing the processes, and providing guides to future strategies (LaValle et al. 2011). By using early warning systems and visual models, analytics assist in monitoring intraday services and tasks. Ideal business software includes predictive analytics and data mining tools with forecasting, model management, and operational research capabilities (Ittmann 2015). The synchronization optimizes fundamental corporate operations and develops fresh, cutting-edge business models. Talented data scientists and engineers determine the promotion of successive analytical performance.

Types of Data Analytics

Information processing is the application of analytical and practical methods to reveal hidden patterns from the BI perspective and to obtain insights into business processes. Data analytics involves computing data from various sources using statistical and quantitative analysis, explanatory and predictive models, and fact-based management to inform stakeholders' activities and decision-making (Davenport and Harris 2007). Primary data methodologies include sentiment analysis, which focuses on meaningless feelings; association rule learning; machine learning, which uses natural language processing to analyze human speech; genetic algorithms, which represent complex human tasks; regression analyses, which show relationships between two variables, and social network analyses, which show relationships between people and organizations (Chattopadhyay 2016). They are an element of every firm's service enterprise platform. It is primarily utilized in e-commerce to generate and enhance corporate value through the production of perspectives and a focus on discovering new consumer goods (Akter and Wamba 2016).

Understanding the meaning of the data requires synthesis, which is a crucial step in the process. The business view depicts an enterprise in terms of strategies, choices, and necessary insights; the analytics design view represents the analytical system's core design; the data preparation view represents data preparation procedures; and the design set of design catalogs, which codifies, organizes, and expresses analytics design knowledge and expertise, are crucial elements of advanced business analytics (Nalchigar and Yu 2018). Each component addresses different operational parts of the daily business activities. There are three distinct types of data analytics, each with a progressively higher level of sophistication and specific aims. These are as follows:

1. Descriptive analytics helps firms better recognize possibilities during unpredictable times (Akter et al. 2019). It examines what happened to describe events over time and creates the foundation for turning data into facts. The status of a problem is defined and recognized using descriptive analytics, which employs explanatory variables to characterize events (what happened? or what is happening?). It establishes the foundation for turning information into facts by examining what occurred. Providing feedback on events that have occurred in their internal and external contexts aids businesses in identifying, classifying, shaping, and adjusting opportunities. Adapting to the changing environment helps improve the organization's internal processes, and it is essential to consider COVID-19 while evaluating current events and situations.
2. Predictive analytics assesses a substantial amount of information to project the likely course of an event or the likelihood that a condition will develop (Sharma and Dadhich 2014). The predictor, which focuses on the underlying causes of each event and develops hypotheses based on several datasets and the use of dynamic reporting, is the essential component for predicting future behaviors. The techniques include text mining, regression modeling, neural nets, genetic algorithms, market basket analysis, clustering, decision trees, and market basket analysis. Enterprises may capitalize on opportunities by implementing predictive analytics to improve strategy development and transform processes (Jeble, Kumari, and Patil 2018). These technologies are part of generating dynamic reports and business processes, and they can offer recommendations for specific problems. It gives an account of a historical phenomenon. It provides more accurate forecasts and the capacity to simulate future events and outcomes, giving insight into how information is processed. Anticipating future events enhances risk management inside the organization. One can use predictive techniques to evaluate the problems and challenges facing the sharing economy in COVID-19 and make decisions based on potential scenario analysis (Haciibrahimoglu 2022). It is ideal for risk management by providing the most realistic application for assessing data analytics functions.

3. Prescriptive analytics is a branch of statistical analysis that concentrates on using the data at present to choose the optimal course of action in every circumstance (Rijmenam et al. 2019). This procedure encompasses the elements of the choice, the anticipated result of the decision, and the known facts about the data. It uses machine learning techniques and dynamic rule engines to understand data and make actionable recommendations by providing an outlook of what to expect and what to do next (Hair 2007). Suggestive actions can be made possible by displaying scenario analysis of probable outcomes and selecting the appropriate techniques based on what is currently known about the data. Data processing techniques, algorithms, analytics forecasting, and modeling capabilities are part of the strategies to increase business performance. Suggested best-case and worst-case scenarios are part of prescriptive analytics to construct a secure and productive work atmosphere during crises (Haciibrahimoglu 2022). Enhancing information sharing results from every collaborative approach and projected results based on market scenarios displayed through a hybrid data analytics methodology (Ghasemaghaei 2019).

Sharing Economy Ecosystem

A sharing economy is based on mutual trust between a business owner just starting and a customer they believe (Stemler 2016). The main benefits are employment creation through capacity utilization, improved environmental sustainability through permitting local product and service sharing, various goods and services, consumer safety, client ratings, and protections for participating micro businesses. By an asymmetrical interaction, the establishment of prices, and the structuring of subsidies, sharing platforms use two-sided market settings (demand and supply) (Fang, Huang, and Wierman 2017). The low pricing structure increases demand to the highest degree.

Home sharing is the interaction and exchange of lodging through services for hospitality exchange (Ikkala and Lampinen 2014). Offering lodging, food, and words of thanks are all part of this exchange. Room sharing is a recent, widespread practice that provides ease in the hotel and tourism industries. Renting out free space in one's apartment or home is the basic concept of Airbnb, known initially as Airbed & Breakfast, and launched as an online business in August 2008 (Aydin 2019). The innovation of Airbnb is a crucial precursor of the necessary improvements in the hospitality sector.

The car rental and ride-sharing sectors benefit from trust-based commercial sharing, which creates driver employment and user benefits (Kashyap and Bhatia 2018; Köbis, Soraperra, and Shalvi 2021). Ride-hailing services aim to reduce transportation costs and increase client convenience. Two results of ride-hailing platforms are maximizing driver earnings and optimizing demand through a shared ride setting for economical pricing (Chaudhari, Byers, and Terzi 2018). Mobile technology and service providers provide this feature. For the driver's convenience in

assigning the desired ride, the mobile device displays the nearest available automobiles within that location. Employment levels may rise because ride-hailing services would help the economy thrive. According to Kooti et al. (2017), Uber was founded in 2009 as an online marketplace connecting drivers and passengers. It began as an app platform where drivers who use their cars to perform services could accept requests from users for a car to pick them up.

Ever since the start of the COVID-19 pandemic, the sharing economy has had difficulties. Ride-hailing and home-sharing services saw a sharp decline in market demand (Hossain 2021). When the epidemic struck, millions of workers in the sharing economy services lost their employment. In April 2020, Uber's rides decreased by 80 percent, while in December 2020, Airbnb bookings were down nationally by 18 percent (Conger 2021). Increased safety standards, social distancing, mask use, and sanitizing the site where the service was provided were the main drivers of consumer participation in the sharing economy during the COVID-19 pandemic. The issues that arise during the epidemic can be effectively solved using probable scenario studies and prediction methods.

Methodology

The bibliographic coupling approach examined data-driven decision-making for sharing economy services. Bibliographic coupling is the relationship formed by things weighted based on how many references they have in common (Sahu 2021). The primary idea is to determine whether two publications are related and have several references: whether both publications have the same third publication quotations: that is the bibliographic connection (Kessler 1963). The determination of connectivity between these two articles is the quantity of citations they receive. It is the antithesis of citation, where ambiguity in the direct citation method may lead to limited outcomes. It has to do with how publishing reference lists overlap. The more references the two publications have in common, the stronger their bibliographic coupling relationship is (van Eck and Waltman 2014). The most vital link in the bibliographic coupling strategy was demonstrated by two articles citing one other, which is the most illustrative example of factoring impact inside scientific publications. According to van Eck and Waltman (2014), bibliometric networks are weighted networks that show both the relationship itself and the strength of the edges connecting the associations. Bibliographic coupling, where the connection strength shows the essential element driving study outcomes, was computed using the bibliometric program VOSviewer to evaluate the value of data analytics as a risk management tool during the COVID-19 pandemic.

Bibliographic information from articles published between 2020 and 2022 was collected using the Web of Science (WoS) database. Peer-reviewed scientific publications were obtained from the database using the complete records of the articles and the cited references as the basis for the keyword search to evaluate the research objective. Fellnhofer's visual bibliometric map provided the foundation for the procedural approach that was used, which is explained as follows (Fellnhofer 2018):

1. The first step was gathering data and documents from the WoS database, where the dataset's topic or title included these keywords. Downloaded files contain all of their records and cited references.
2. After determining the characteristics of this selection, the table display shows the frequency of the bibliographic coupling and co-citation analysis.

Keywords were chosen based on the significant search results on Google Trends that indicate important terminologies of data analytics, crisis management, and the sharing economy between 2020 and 2022. The selected keywords were "COVID-19," "Data-Driven Decision-making," "Data Analytics," "Sharing Economy," "Uber," "Airbnb," "Crisis Management," "Black Swan," "Risk Management," and "Value at Risk" (Haciibrahimoglu 2022). Keyword searches on WoS were based on the different permutable arrangements. Scenario analysis tracks how the epidemic affects the sharing economy and how well data-driven decision-making may be managed for corporate operations. Five alternative keyword combinations were established, and each combinatorial permutation group was chosen to represent a different perspective of the sharing economy crisis management as a case study. The keyword arrangement charts were created using the Lucidchart visualization tool.

Each case study has several permutations based on the word order, and several searches were completed on the WoS database to retrieve scientific publications. After articles were exported from the WoS Core Collection, these articles were stored in five different file folders. Each article and cited reference were imported to the VOSviewer bibliometric software based on the unique folder, where each article was represented as a node in the visual map. The distance between the nodes measured the relatedness of the documents, while the number of co-cited or co-shared references measured the proximity. Fractional counting of documents as the unit of analysis was the operational technique. The minimum required citation count was three. Based on co-citations and bibliographic relationships, the distance was utilized in Network Visualization to display how closely related journals and articles are (van Eck and Waltman 2023). Related keywords showed that the degree of relationship and importance for the issues increases as the link strength does. As demonstrated by arbitrary numbers, the research subjects with the most significant connections might provide a topic for further investigation that addresses the study's goal or point out connections between articles that suggest a direction for future research. With VOSviewer, all bibliometric calculations are performed. As indicated by arbitrary numbers, five different network visualization maps were created with the most links.

Results

The computational results of each case study represent a unique perspective on using data analytics in the daily operations of business enterprises.

First Case Study

The first case study used multiple word orderings and a keyword search on the WoS database. The data chart model is shown in Figure 1:

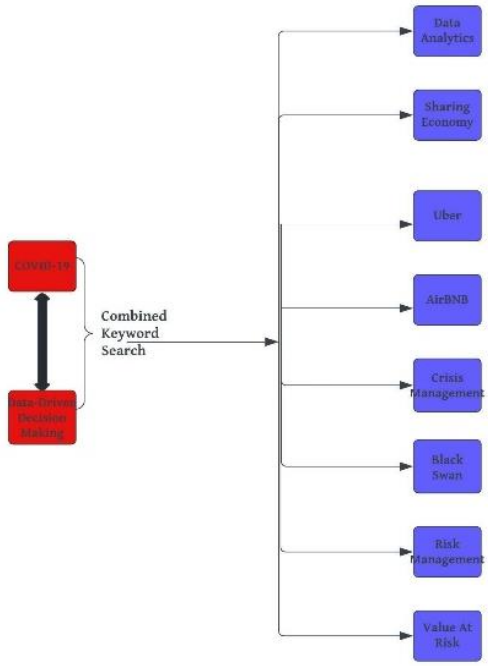

Figure 1: Keyword Configuration of First Case Study
Source: Haciibrahimoglu 2022

The combinatorial searches were:

1. COVID-19 and data-driven decision-making.
2. COVID-19, data-driven decision-making, and data analytics.
3. COVID-19, data-driven decision-making, and sharing economy.
4. COVID-19, data-driven decision-making, and Uber.
5. COVID-19, data-driven decision-making, and Airbnb.
6. COVID-19, data-driven decision-making, and crisis management.
7. COVID-19, data-driven decision-making, and black swan.
8. COVID-19, data-driven decision-making, and risk management.
9. COVID-19, data-driven decision-making, and value at risk.

A total of 208 articles were selected by VOSviewer software from the bibliographic coupling computation process. With a minimum citation count of three, 108 articles satisfy the requirement; the most extensive set of related items consists of 85 documents. The model of the bibliometric network visualization is shown in Figure 2:

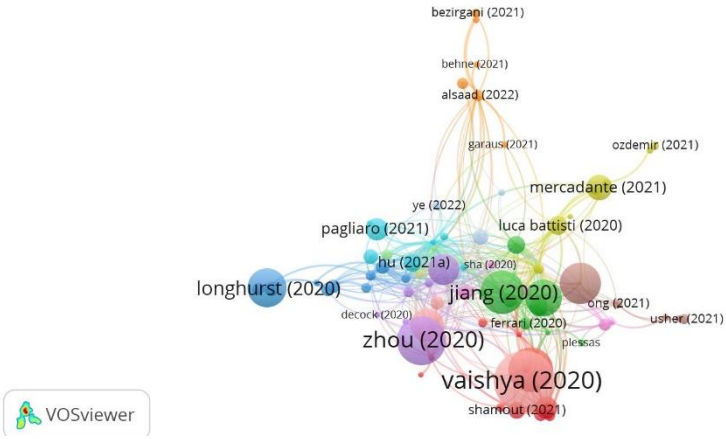

Figure 2: Keyword Configuration of First Case Study—Bibliographic Coupling Network Visualization
Source: Haciibrahimoglu 2022

The bibliographic coupling presents a neural network for COVID-19 case detection, a deep learning framework for epidemiology, a temporal classification model, and other data-driven methods and techniques with a more substantial connection, as shown by the network visualization map in Figure 2.

Second Case Study

The second case study used multiple word orderings and a keyword search on the WoS database. The data chart model is shown in Figure 3:

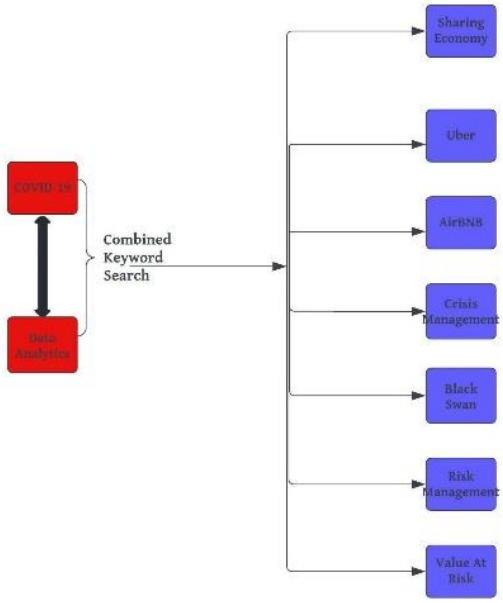

Figure 3: Keyword Configuration of the Second Case Study
Source: Haciibrahimoglu 2022

The combinatorial searches were:

1. COVID-19 and data analytics.
2. COVID-19, data analytics, and sharing economy.
3. COVID-19, data analytics, and Uber.
4. COVID-19, data analytics, and Airbnb.
5. COVID-19, data analytics, and crisis management.
6. COVID-19, data analytics, and black swan.
7. COVID-19, data analytics, and risk management.
8. COVID-19, data analytics, and value at risk.

Three hundred and sixty-four documents with the most substantial link strength met the threshold out of 922. The bibliometric network visualization model is shown in Figure 4:

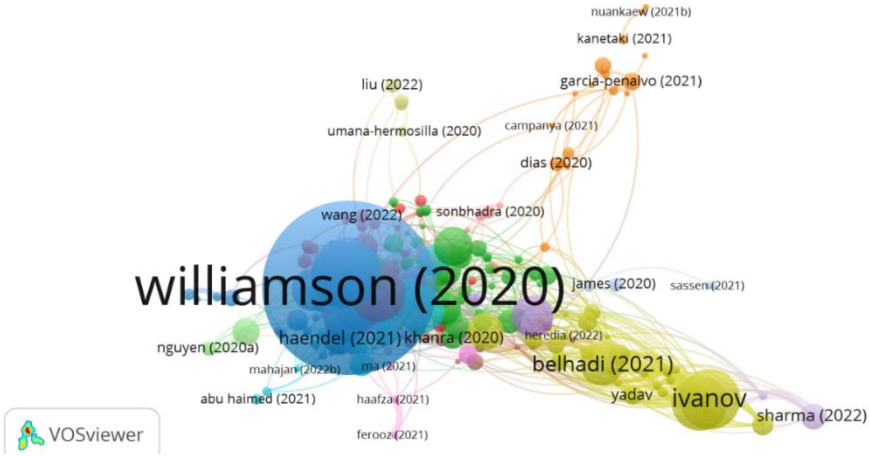

Figure 4: Keyword Configuration of Second Case Study—Bibliographic Coupling Network Visualization
Source: Haciibrahimoglu 2022

Based on the network visualization map, the following themes had the most bibliographic connections:

1. Artificial intelligence (AI) support-driven supply chain models affected the survivability of the chain models.
2. Wireless networking and the Internet of Things enabled contact tracing technology.

Third Case Study

The data chart of the third case study is as follows:

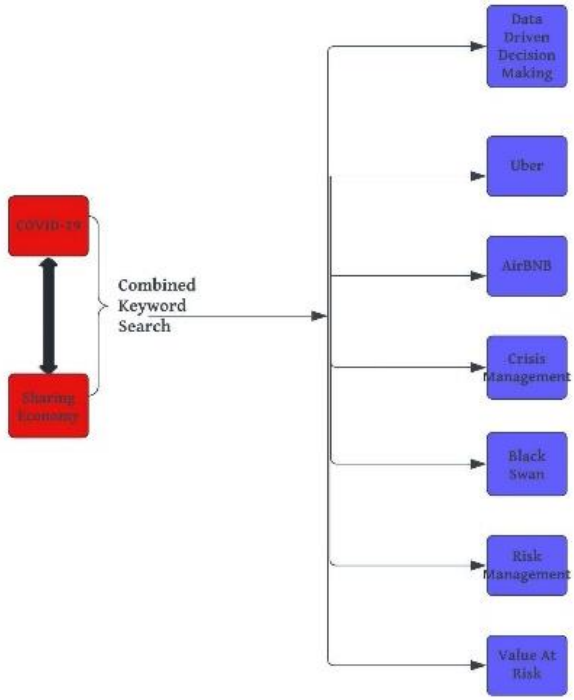

Figure 5: Keyword Configuration of the Third Case Study
Source: Haciibrahimoglu 2022

The combinatorial searches were:

1. COVID-19 and sharing economy.
2. COVID-19, sharing economy, and data-driven decision-making.
3. COVID-19, sharing economy, and Uber.
4. COVID-19, sharing economy, and Airbnb.
5. COVID-19, sharing economy, and crisis management.
6. COVID-19, sharing economy, and black swan.
7. COVID-19, sharing economy, and risk management.
8. COVID-19, sharing economy, and value at risk.

One hundred and seventy-five articles met the threshold of the greatest total link strength. The bibliographic linked network visualization model is as follows:

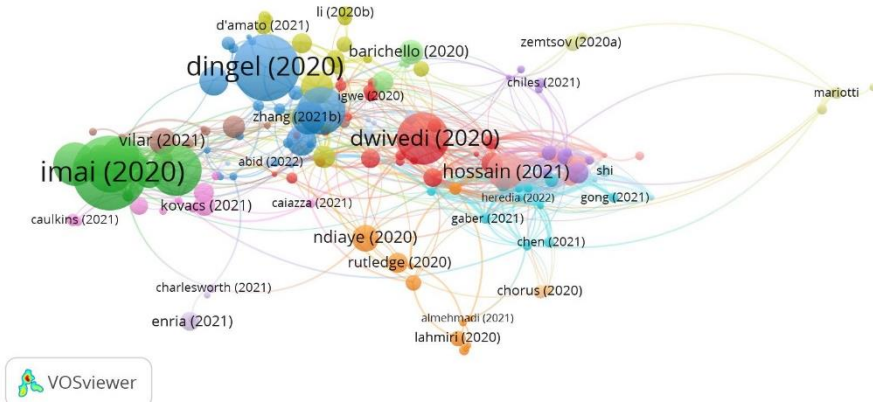

Figure 6: Keyword Configuration of the Third Case Study—Bibliographic Coupling Network Visualization
Source: Haciibrahimoglu 2022

Most of the bibliographic coupled thematic concepts included details about the sharing economy's business model, antiviral testing strategies and treatments that work, an assessment of hospitality social norms, including cordial and organized reactions to COVID-19, consumer trust for continuing to use the sharing economy, and future research on the sharing economy.

Fourth Case Study

The data chart of the fourth case study is as follows:

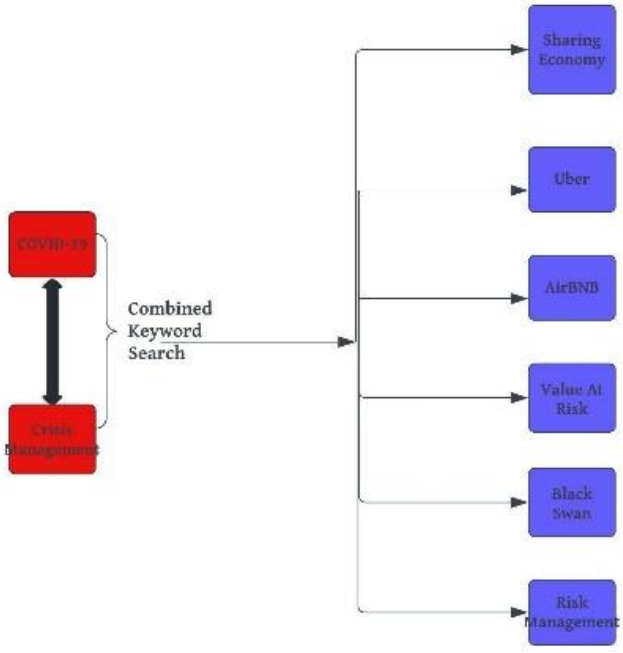

Figure 7: Keyword Configuration of the Fourth Case Study
Source: Haciibrahimoglu 2022

The combinatorial searches were:

1. COVID-19 and crisis management.
2. COVID-19, crisis management, and sharing economy.
3. COVID-19, crisis management, and Uber.
4. COVID-19, crisis management, and Airbnb.
5. COVID-19, crisis management, and value at risk.
6. COVID-19, crisis management, and black swan.
7. COVID-19, crisis management, and risk management.

Due to a software limitation, 3,458 documents reached the maximum overall link strength level with a 1,000 allowance. The bibliographic linked network visualization model is as follows:

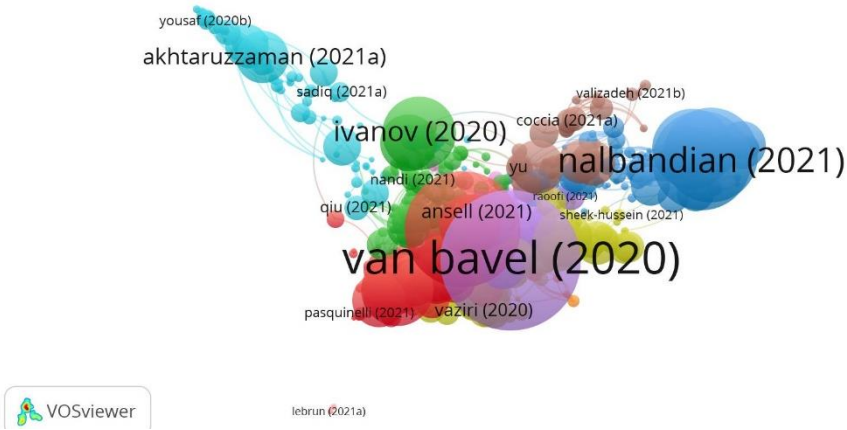

Figure 8: Keyword Configuration of Fourth Case Study—Bibliographic Coupling Network Visualization
Source: Haciibrahimoglu 2022

The most closely related topics were flexible structural supply chain design, examination of post-pandemic tactics for travel experiences and behavioral intents, patient management, diversification and intentions in agriculture, future treatment plans, and risk management in hospitality services.

Fifth Case Study

The data chart of the fifth case study is as follows:

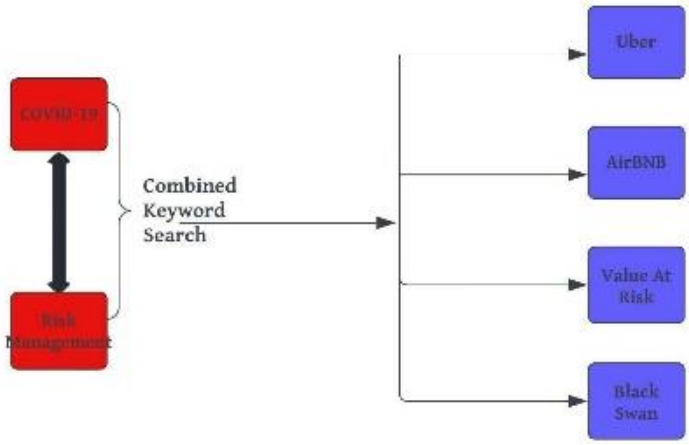

Figure 9: Keyword Configuration of Fifth Case Study
Source: Haciibrahimoglu 2022

The combinatorial searches were:

1. COVID-19 and risk management.
2. COVID-19, risk management, and Uber.
3. COVID-19, risk management, and Airbnb.
4. COVID-19, risk management, and value at risk.
5. COVID-19, risk management, and black swan.

Since these keyword arrangements were often searched in the previous word arrangement case studies, some extra keyword arrangements were omitted to minimize duplication. Due to software limitations, 6,567 documents were allowed to pass the highest total link strength threshold out of a possible 1,000 documents. The bibliographic linked network visualization model is as follows:

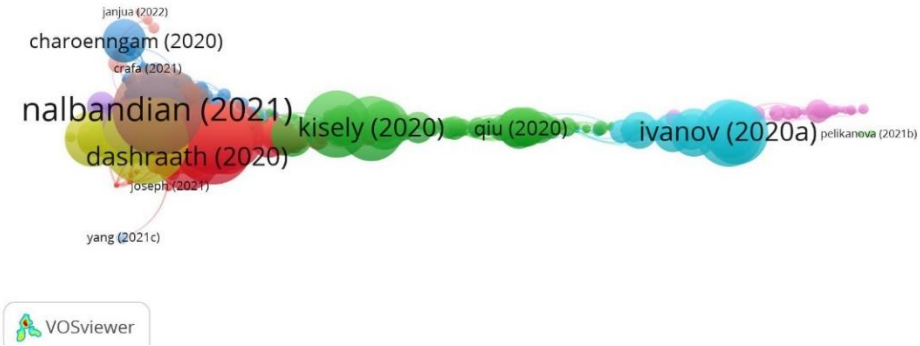

Figure 10: Keyword Configuration of Fifth Case Study—Bibliographic Coupling Network Visualization
Source: Haciibrahimoglu 2022

The following topics were the most closely related: the creation of a panel to promote evidence-based recommendations for adult coronavirus illness patients' clinical care; management of cardiovascular disease (CVD) associated with the virus; therapy of severe coronavirus sickness in individuals with long-term health conditions (e.g., diabetes, kidney disease, respiratory disease, and cardiovascular disease); and preventative measures to combat the virus.

Discussion

The shortest path algorithm forms the basis of this article's methodology since link strength is the distance between edges. Link strength determines how often scientific papers are shared, cited, co-cited, or searched for research projects. A researcher can identify and assess critical points by examining the link strength of these most shared or mentioned publications. This comparison can be employed in present and future research to explore different study aims or to better answer questions by identifying significant aspects contributing to the intended outcome. Introducing this new bibliometric technique can raise the standard of scientific articles and study findings.

In the case studies, the most critical challenges were a data-driven approach that takes into account response time AI to predict and detect the emergence of the coronavirus, a neural network to indicate and identify the emergence of the epidemic, a deep learning framework to identify epidemiological systems, consumer confidence in the use of the sharing economy, an assessment of hospitality-related social norms, and safety measures to slow down and the prevent the transmission of the virus (Haciibrahimoglu 2022).

The use of technology has been instrumental in creating the most eco-friendly work environments and virus-free environments. The use of data-based neural networks and AI has enabled businesses to improve their response time for virus detection, speed up business operations, optimize supply–demand allocation in the technology infrastructure, use feedback processes to increase trust and safety in sharing economy services, and use technology to diagnose and treat the coronavirus (Haciibrahimoglu 2022). Additionally, technology helped find better treatment options for cardiovascular disease associated with the coronavirus and investigate consumer desires and experiences. Advancement of the human–computer interactions between sharing economy workers and consumers and contact tracing and feedback systems after the pandemic has become an integral part of the services architecture.

Technology was critical in the workplace with the assistance of Geographical Information Systems and mobile app technology (Haciibrahimoglu 2022). The Internet of Things and social media platforms were important messaging platforms during the outbreak, contributing to increased trust in sharing economy platforms. Contact tracing methodology was a telecommunication factor in preventing and slowing coronavirus transmission. Uber and Airbnb used this technique to enable optimal decision-making and allocate necessary operations with forecasting capabilities. Rating and geolocation systems were part of this

phenomenon. Organizational-friendly services resulted from a cautious approach to the hospitality's social norms, which helped increase customer trust in using these services.

A bibliometric analysis of the peer-reviewed articles reveals significant research results during the pandemic. As trust interval and participation rate intersection determines the success of sharing economy enterprises, technology and data analytics play a dominant role in evaluating the future of these businesses. Data-driven decision-making is a fundamental part of the service operation of the Service Enterprise Platforms of Uber and Airbnb, where effective risk management strategies are crucial to managing crises with the forecasting ability.

Data-driven decision-making capability and the emergence of AI leverage these metrics to inform consumers about safe operations and strategize efficient risk management. Since sharing economy services is a peer-to-peer business (between consumer and employee) and is enabled by mobile technology, the executability of information plays an essential role in sharing economy services, including Uber and Airbnb. Observability, predictability, and selection of optimal action-taking helped the survivability of these companies. Increased investments in new business venues became practical as companies adapted to the technology.

Conclusion

The results of this study show that data analytics played a critical role in the sharing economy businesses for crisis management and managing their daily operations during the COVID-19 pandemic. The COVID-19 epidemic forced the sharing economy and many other firms to respond by changing their business models to overcome health and safety issues caused by the virus, such as mask usage, social distancing, anxiety factor, and psychological distress (Haciibrahimoglu 2022). Rapid technological advancements shift organizations from traditional product-oriented models to digital environmental-oriented business models that leverage supply chain and blockchain technology.

Data and analytics used to make better decisions have increased tremendously in all businesses over the last ten to twenty years. When you have more and more data, you can make better decisions, but there is no guarantee that you will have more data and you will make better decisions. Data is not a panacea! It is just an opportunity to improve managerial decision-making and gain a competitive advantage. Although it is a great new avenue for the decision-making world, the other factors affecting company success, such as organizational culture, structure, and leadership, should not be disregarded. Company culture and ethics are part of everyday life, and data analytics should be part of the elemental strategy factor as businesses navigate their businesses during emergencies and crises.

These businesses become part of people's lives to boost economies with employability, and data-driven crisis management becomes optimal for any situation. Integrating digital platforms into businesses and utilizing unused assets helped a divergence of the part-time economic situation with a reduced cost of services and increased employment. Even though remote work,

which promotes working from home has become the norm during the pandemic, sharing economy services that had previously made part-time employment the norm did not apply to Uber and Airbnb because of the nature of their services. The digital platform of service enterprises is an intermediary in the sharing economy services based on transactional services. According to research findings, predictive analytics helps anticipate and avert emergencies. Determining the best course of action, forecasting the next move, and diagnosing the existing state can all help to enable safe and healthy operations. These steps are all predicated on rich data sets comprising transactional data, health data, and customer ratings. When the analytical technology detects an emergency, employees and customers are alerted to potential risks by the digital platform. Using benefit–cost analysis and safe and healthy operations, sharing companies can apply the same analogy to assess risk strategies. For instance, data scientists can forecast the congestion rate by using contact tracing technology if a customer or employee reports the spread of a virus. Based on this information, these businesses can halt or alter their services to stop more hospital admissions. Better risk management strategies can be enabled by lessons learned from COVID-19 and by taking the necessary preventable steps.

Future Research, Recommendations, and Limitations

The research investigates the role of data-driven crisis management in the sharing economy during COVID-19, and the results show this causality between technology and human factors. The study goal and topic were assessed and researched to reach reliable conclusions utilizing the appropriate computational data-gathering methodology. The outcome examines the adaptability of better risk management and decision-making capabilities of these companies' service enterprise platforms to draw plans for such black swan events. According to the study's conclusions, crisis management is a critical component of data analytics for better understanding and prevention of future crises. The application of this study can be a model for future research projects with similar expectations.

The utilization of crisis management and risk management should be treated as a new domain of information science. A new innovative methodological technique was introduced. Scientists can apply bibliometric methods to identify new research fronts with software programs (e.g., VOSviewer or HistCite). The shortest path algorithm is the foundation of the technique (Haciibrahimoglu 2022). When there are scientific publications between two edges, the shortest path is the distance between them, and the distance indicates the strength of the link. The distance influences how frequently researchers search, cite, co-cite, or share scientific articles to achieve their research goals. The link strength of these most shared or cited articles allows us to identify and assess critical points. This analogy can be used in current and future research to explore different study objectives or better answer questions by identifying significant factors that can contribute to the intended outcome. This new technique can raise the standard of scientific articles as an essential addition to current bibliometric methodologies.

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Conflict of Interest

The author declares that there is no conflict of interest.

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