

Systematic Mapping Study of Bank Resilience

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Abstract: - Banking institutions make an important contribution to improving economic conditions so that they remain conducive. This causes banks to play a role in the world of development and trade related to the provision of business capital or in fulfilling community needs. This study aims to describe the characteristics of bank resilience research data in various aspects/categories and determine the factors that influence the increase in bank resilience. The method used in this study is a systematic mapping study (SMS) to examine scientific publications produced from time to time, focus, locus, the most widely investigated types of research, as well as the most widely used research methods. The SMS procedure follows established empirical guidelines and the mapping data relies on Springer, SAGE, Emerald, Google Scholar, PubMed, and Scopus electronic databases. Based on the results of SMS on research in the field of organizational change, it is known that 84 studies meet the inclusion criteria. We classify 84 articles in the topic area by category of type of paper, method, focus, locus, and year of research publication as well as factors that can affect bank resilience.

Key-Words: - Bank resilience, Systematic Mapping Study, Commercial Bank

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1 Introduction

The bank is a place to meet the needs of parties who have excess or lack of funds in business operations or other sectors. Therefore, the existence of banking is very important for advancing the welfare of the community, Law Number 10 of 1998 it is explained that banking is everything related to banks, including institutions, business activities, and methods and processes in carrying out their business activities, while banks are legal entities, [1]. businesses that collect funds from the public in the form of savings and distribute them to the public in the form of credit and/or other forms in the context of improving the standard of living of the people at large. According to [2], a bank is a financial institution whose business activities are collecting funds from the community and channeling these funds back into the community, and providing other services.

Banking institutions make an important contribution to improving economic conditions so that they remain conducive. This causes banks to play a role in the world of development and trade related to the provision of business capital or in fulfilling community needs. This strategic role creates banking must have good resilience so that it becomes a precondition for the success of banks in supporting national economic growth. However,

the Covid-19 pandemic, which had an impact on the global economy, caused an economic recession. An economic recession is a symptom of a decline in economic conditions that have continued to decline for at least two consecutive quarters. Based on the Official Statistics News Number 13/02/Th.XXIV, economic growth in Indonesia in the 4th Quarter of 2020 still experienced a decline of -2.19%. This makes economic growth in the 4th Quarter better than economic growth in the 3rd Quarter of 2020 of -3.49%.

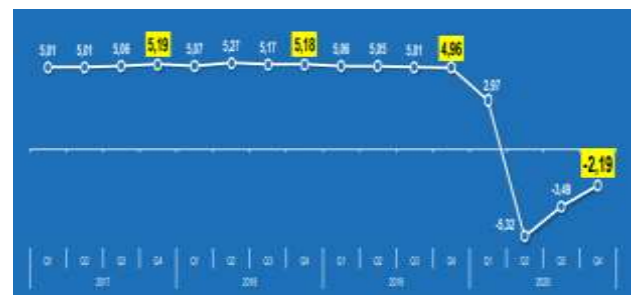


Fig. 1: Economic Growth in Indonesia in 2017-2020

Source: Central Bureau of Statistics (2021)

In August 2021 there was inflation of 0.03% with a Consumer Price Index (CPI) of 106.57, the year-to-year inflation rate (August 2021 to August 2020) of 1.59%. Then the Rupiah exchange rate on

September 20, 2021, strengthened by 0.94% compared to August 2021. The strengthening of the Rupiah exchange rate was driven by the prospects for the domestic economy, maintained domestic foreign exchange supply, and Bank Indonesia's stabilization measures. These developments resulted in the Rupiah still depreciating by 1.35% (YTD) as of September 20 2021 compared to the end of 2020, relatively lower than the depreciation of the currencies of several other developing countries, such as Malaysia, the Philippines, and Thailand. Bank Indonesia continues to strengthen the Rupiah exchange rate stabilization policy through its fundamentals and the working of market mechanisms, through the effectiveness of monetary operations and the availability of liquidity in the market.



Fig. 2: Inflation 2015 – 2021
Source: Central Bureau of Statistics (2021)

The government has issued several policies to maintain financial system stability, especially in the banking sector amid the threat of a weakening economy as a result of the spread of Covid-19, one of which is POJK Number 18/POJK.03/2020 regarding Written Orders for Handling Bank Problems. POJK Number 18/POJK.03/2020 is a rule that implements the provisions of Article 23 paragraph (2) Government Regulation in place of Law Number 1 of 2020 concerning State Financial Policy and Financial System Stability for Handling the 2019 Coronavirus Disease (Covid-19) Pandemic and /or in the context of Facing Threats that Endanger the National Economy and/or Financial System Stability, it is necessary to stipulate a Financial Services Authority Regulation concerning Written Orders for Handling Bank

Problems, in POJK regulation Number 18/POJK.03/2020 governing the Financial Services Authority (OJK) authorized to give a written order to the bank to carry out and accept the merger, consolidation, acquisition and/or integration. Then, taking into account the pandemic conditions towards the end of 2020 which have not shown improvement, OJK through POJK No.48/POJK.03/2020 concerning Amendments to the POJK Stimulus Covid-19 extended the relaxation policy by emphasizing the obligation to implement risk management and the principle of prudence. in implementing the stimulus, as well as adding policies related to bank liquidity and capital until March 31, 2022. The policy was extended for one year from March 31, 2022, to March 31, 2023, which also applies to BPRs and BPRS, this extension of credit restructuring is expected to maintain the momentum of acceleration of national economic recovery and banking stability as well as the performance of Covid-19 restructuring debtors who have started to experience improvement.

In addition, the Government has stipulated Law of the Republic of Indonesia Number 2 of 2020 concerning Stipulation of Government Regulation in Lieu of Law Number 1 of 2020 concerning State Financial Policy and Financial System Stability for Handling the 2019 Coronavirus Disease (Covid-19) Pandemic and/or In In Order to Deal with Threats that Endanger the National Economy and/or Financial System Stability Become Laws then these regulations are amended by Law Number 7 of 2021 concerning Harmonization of Tax Regulations, these regulations are stipulated as a step in increasing sustainable economic growth and supporting accelerated economic recovery , a fiscal consolidation strategy is needed that focuses on improving the budget deficit and increasing the tax ratio, which among others is carried out through the implementation of policies to increase tax revenue performance, tax administration reform, increase the tax base, create a tax system m taxation that prioritizes the principles of justice and legal certainty, as well as increased voluntary compliance by taxpayers.

Based on this, banks play an important role in controlling the economy of a country, so bank resilience is a concept that must always be maintained, supervised, and improved. The study, [3], explained that banking is said to have resilience if it fulfills two conditions such as (i) Banking can absorb shocks without having to rely on support from the government, (ii) The ability of the banking sector to carry out economic functions in a sustainable manner, especially in carrying out

its functions as an institution intermediation, such as providing credit, collecting funds from the public, payment, and transaction services as well as printing money.

The concept of resilience was first introduced in the study of ecological systems in the 1970s as a move toward complex systems theory, [4]. The concept of resilience was first introduced by, [5]. Resilience is defined as the ability of the system to absorb shocks in the state before and after until the state of the system returns to its initial equilibrium. Stability and resilience are complementary targets when analyzing complex systems because a system must be able to respond to shocks and shift to a new equilibrium state as part of the evolutionary process. When symptoms of shocks arise, banks will be able to adjust or absorb risks or respond quickly to any shocks that arise, so that banks can anticipate various potential shocks early that could affect banking performance. To gain an existing research perspective, researchers conducted Systematic Mapping Studies (SMS), this study was included in the literature review, [6].

The purpose of this systematic mapping study is to form a background for further research and to gain deeper insight into the study of bank resilience. In the search, researchers used electronic databases to find articles that discussed bank resilience. SMS study is an appropriate method as a literature study approach, researchers use 6 electronic databases, namely Scopus, PubMed, Google Scholar, Emerald, Sage, and Springer. From the electronic database, the researcher obtained 84 journals that were most relevant to the topic the author wanted to research. Overall the researcher analyzed the search results from 84 studies with the main questions (Research Questions) in this study including:

1. RQ1: What is the description of the characteristics of the research data related to bank resilience in various categories?
2. RQ2: What are the factors that can affect Bank Resilience?

The results of this study provide a comprehensive research approach to bank resilience as well as implications and guidelines for academics and other practitioners.

2 Literature Review

2.1 Systematic Mapping Study (SMS)

Systematic mapping study is a method of writing systematic literature studies using predetermined

stages. The selection of articles was also not done subjectively by researchers, but using the protocols and filters that had been set beforehand. Systematic mapping studies are usually carried out for broader research topics than traditional reviews. Usually, the results are in the form of clusters and classifications of the findings obtained on a research topic. Sometimes it is done to identify future research trends for a research topic, [7].

2.2 Bank's Resilience

Today the resilience of the financial sector is very important. Terms related to the issue of financial sector resilience, especially the banking sector, are the main focus of various countries in the world. Regarding resilience in the banking sector, [3], explained that banks are said to have resilience if they meet two conditions such as (i) Banking can absorb shocks without having to rely on support from the government, (ii) The ability of the banking sector to carry out economic functions in a sustainable manner, particularly in carrying out its function as an intermediary institution, such as providing credit, collecting funds from the public, payment, and transaction services as well as printing money. Resilience in the banking sector as a condition in individual banks can withstand, [8]. When symptoms of shocks arise, banks will be able to adjust or absorb risks or respond quickly to any shocks that arise, so that banks can anticipate various potential shocks early that could affect banking performance.

[5], defines resilience as the ability of a system to absorb shocks in a variable state and thereafter return to an initial state of equilibrium before the change. Resilience research has now evolved and focused on conditions that are outside of a stable state of equilibrium. These conditions can move the system towards a different balance point, [9]. Therefore, stability and robustness are complementary targets in analyzing complex systems because a system must be able to respond to shocks and then shift to a new equilibrium state as part of the evolutionary process. According to [10], bank resilience is the ability to extract and utilize physical and economic resources for effective recovery after a hazard. Furthermore, according to [11], resilience is a measure of a system or part of the system's capacity to absorb and recover from a hazard event.

Stated that resilience standards are the essence of financial stability because the financial system as a whole must be resilient enough to ensure that the core services of payment, credit supply, and risk transfer and collection can be maintained in the

face of major shocks, [12]. Meanwhile, according to [13], bank performance is translated into the resilience of BUKU 4 banks to the current crisis, namely the Covid-19 Pandemic. This study approaches bank resilience using a Listed Banks performance proxy. Bank resilience is measured through several indicators, namely Capital, CAR, LDR, NPL, and NIM. The results of the study show that BUKU 4 Banks are more resistant to decreased liquidity, decreased asset quality, and decreased profitability that occurred during the Covid 19 Pandemic compared to banks at other strata.

3 Research Methods

This research uses a Systematic Mapping Study (SMS) which is rooted in the Study Literature Review (SLR), [14]. SMS serves to describe the types of research activities that have been carried out in research. SMS describes research at a high level and maps out research rather than investigating research questions in detail, [5]. In other words, SMS can be considered a method to get an overview of a particular research area, [15].

3.1 Research Question

The research questions in SMS are much broader than those in SLR to address a wider scope of the study, [16]. The main purpose of this SMS is to map the frequency of publications from time to time to find out research trends. The second objective is to identify forums where research in a given field has been published. This aim is reflected in the research questions (RQ) as shown, [17]. The research questions of this study concentrate on topic categories in the area of bank resilience. The research questions and descriptions of this study are presented in Table 1.

Table 1. Research Questions and Descriptions

Research Questions		Description
RQ1	What is the description of the characteristics of research data related to bank resilience in various categories?	Characteristics of research data related to bank resilience include research focus, research locus, type of paper, methods, and approaches used, distribution of types of paper, and trend of paper for each country and every year in research which is visualized graphically.
RQ2	What are the factors that can affect Bank Resilience?	Based on a literature review that examines bank resilience, information is obtained about factors that can increase the stability of bank resilience

3.2 Search Step

The search process must be carried out as accurately as possible, this accuracy is indicated by selecting mapping data sources, creating appropriate search strings, and determining inclusion and exclusion criteria. In this process, all steps have results and a systematic map. Researchers searched electronic databases, namely Scopus, PubMed, Google Scholar, Emerald, Sage, and Springer. This study adopts the search process from, [18]. In this process, each step has a systematic result, and the map (systematic mapping) is the result of the mapping process. Figure 1 and Figure 2 depict the complete SMS process used in this study, referring to the research conducted and according to instructions by [16], [18]. In the SMS process, the researcher collects, analyzes, and classifies 84 articles to find the research focus, methods, and types of papers based on the classification scheme referred to by, [18]. The SMS process is presented in Figure 3.

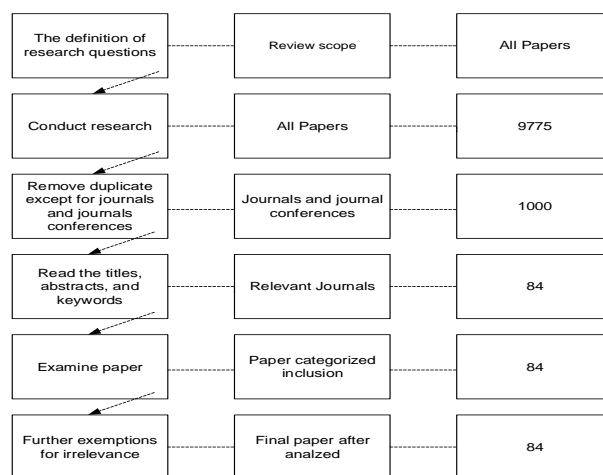


Fig. 3: SMS Process

Source: [14], modified by the author (2022)

3.3 Classification Scheme

There are three aspects to classify studies. One side categorizes articles based on their research method. The second side is determined by paper type based on classification. In addition, 22 focus categories were identified, [19].

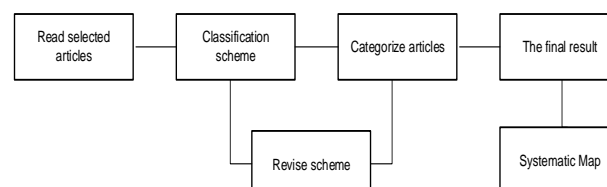


Fig. 4: Classification Process

Source: [14], modified by the author (2022)

Table 2 shows the research conducted an electronic search on the following databases.

Table 2. Number of Papers with the Theme of Bank Resilience

Source Name	All EE Papers	Journals and Journal Conferences	Relevant Journals
Springer	214	214	5
SAGE	128	128	4
Emerald	8000	8000	6
Google Scholar	1000	1000	45
PubMed	121	121	3
Scopus	312	312	21
Total Journal			84

Source: Researcher (2022)

3.4 Exclusion and Inclusion Criteria

The inclusion and exclusion criteria step is one of the mapping study activities to exclude irrelevantly and include relevant studies, [18]. In other words, it ensures that only suitable articles will be analyzed, [20]. In this study, the authors minimize the search scope to only journals. If there are duplicate articles, we check the original publisher then we remove articles from others. This study uses data organization with the help of Publish or Perish as a software application that can help select articles in online databases according to the quality of the articles. To minimize the risk of excluding relevant articles, articles that are not a case for exclusion are read in detail at the last step of the SMS process.

This research develops a classification scheme to analyze and classify articles from, [18]. The process of classifying articles is illustrated in Table 3.

Table 3. Classification and Categories

Journal Types	Description
Evaluation Research	The investigative method is implemented in practice and presented in the evaluation method.
Validation Research	Investigative methods are still new and have not been implemented in the field (experiments /observations)
Philosophical	This research introduces a new perspective using a taxonomy or conceptual framework.
Method	Description
Case Study	Research a phenomenon in one or more than one organizations over a reasonable period.
constructive Study	Research that intends to build new frameworks, software artifacts, or conceptual models.
Discussion Papers	Research that addresses arguments or phenomena

Literature Study	Research that analyzes and expands on existing literature.
Surveys	The research uses a predetermined and structured questionnaire to collect data from individuals.

Source: (Banaeianjahromi & Smolander, 2016)

4 Results and Research

This section is the result of mapping based on research questions. Based on the mapping results of 84 papers regarding bank resilience, they are grouped using the Microsoft Excel application with research distribution categories based on year, issuer, and the number of citations related to bank resilience.

[RQ1] What is the description of the characteristics of research data related to bank resilience in various categories?

1. Research focus

To answer RQ1 regarding research focus, 84 articles were classified in the research topic area (research focus) with the categories resilience, covid-19, bank resilience, bank, financial crisis, skill, bank risk, small bank, bank performance, speed, human resources, banking system, banking size, financial stability, bank policy, conventional bank, employee behavior, good governance, core values, healthy bank, stress, adaptive, credit risk, loyal, competent, trust, execute oriented, agile, risk culture, collaborative and harmonious. The research focus is presented in Figure 5.

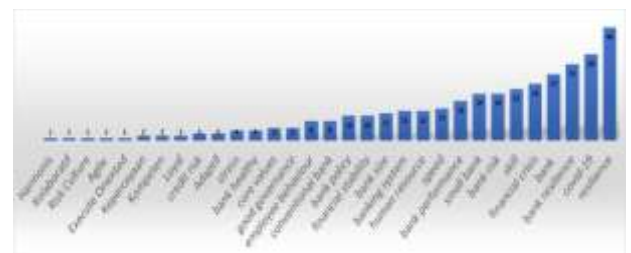


Fig. 5: Research Focus

Source: Processed by Researchers (2022)

Topics that have been widely researched are resilience with 46 articles, covid-19 with 35 articles, bank resilience with 31 articles, banks with 27 articles, financial crisis with 23 articles, skills with 21 articles, bank risk and small banks with 19 articles, bank performance 16 articles, speed 13 articles, banking system and human resources 12 articles, bank size 11 articles, bank policy and financial stability 10 articles, employee behavior and conventional banking 8 articles, good governance, and core values 5 articles, 4 articles on

stress and healthy bank, 3 articles on credit risk and adaptive, 2 articles on loyalty, competence, and trust, execute oriented, agile, risk culture, collaborative, and harmonious as much as 1 article. The most widely discussed are resilience as many as 46 articles while the least execute-oriented, agile, risk culture, collaborative, and harmonious writing is 1 article.

2. Research Locus

To answer RQ1 regarding research loci, 84 articles are classified in the research locus area with the categories of multinational firms, national firms, international firms, global firms, and corporate. The research focus is presented in Figure 6.

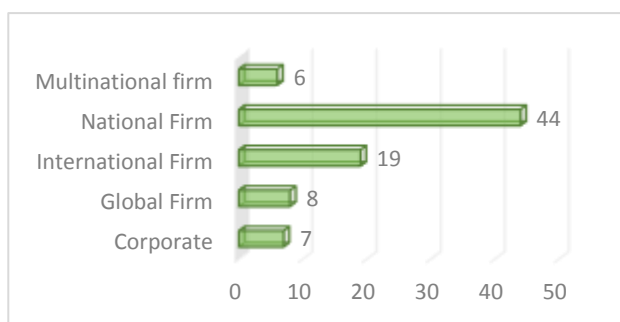


Fig. 6: Research Focus
Source: Processed by Researchers (2022)

Figure 4 is the number of articles at the loci in the article studied. The most researched loci are national firms with 44 papers, international firms in second place with 19 papers, global firms in third place with 8 papers, corporate ranks fourth with 7 papers, and finally multinational firms with 6 papers.

3. Distribution of Paper Types

Research is grouped into three categories, namely evaluation research, philosophical research, and validation research. To provide answers to RQ1 regarding the distribution of paper types, the researcher categorized 84 research results from the classification mapping.

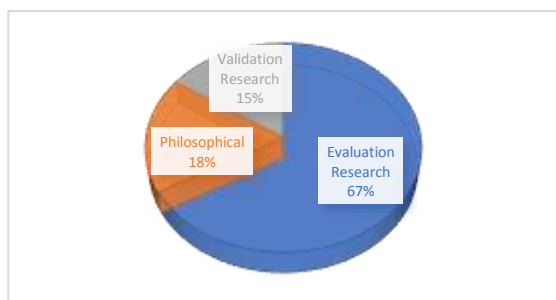


Fig. 7: Paper Type Distribution
Source: Processed by Researchers (2022)

The distribution of article types (paper type) is described based on classification categories. Based on the results of systematic mapping studies, the most frequently used type of article is evaluation research with a total of 56 articles (67%) research, followed by philosophical research with a total of 15 (18%) research. Finally, there are 13 articles (15%) validation research articles. It is noticed that the paper type distribution is presented in Figure 7.

4. Method Distribution

The research is grouped into five categories: case study, constructive study, discussion paper, literature study, and survey methods. To provide answers from RQ1 regarding the distribution of methods, the researcher categorized 84 research results from the classification mapping. Figure 6 is a diagram illustrating the percentage distribution of research methods regarding bank resilience.

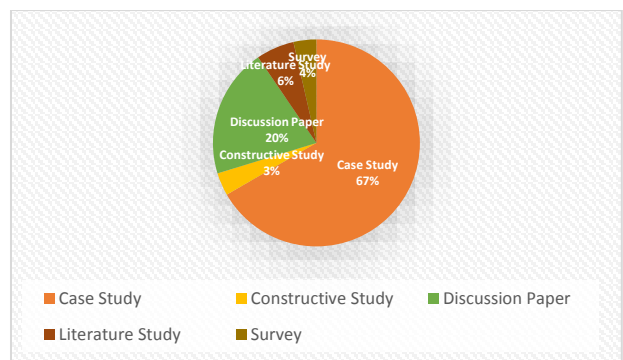


Fig. 8: Distribution of Methods
Source: Processed by Researchers (2022)

The results of systematic mapping (systematic mapping study), the most frequently used article method is the case study with a total of 56 (67%) studies. The next most frequent article method was a discussion paper with a total of 17 (20%) studies. Next is the literature study method with 5 (6%) studies, the last is a survey with 3 (4%) studies, and a constructive study with 3 (3%) studies. The distribution of methods is presented in Figure 8.

5. Distribution of Research Approaches

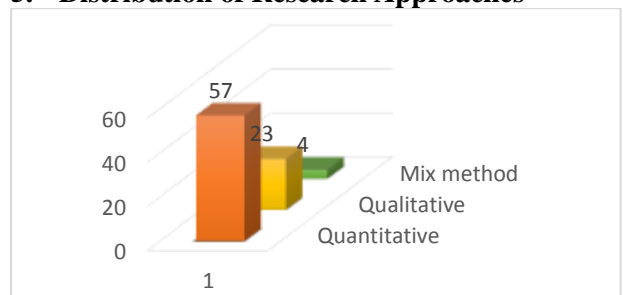


Fig. 9: Distribution of Research Approaches
Source: Processed by Researchers (2022)

Research is grouped into three categories, namely quantitative, qualitative, and mixed methods. Researchers categorized 84 studies from the classification mapping results. The result is that the quantitative approach is the most widely used with 57 studies, then with 23 qualitative studies, and finally with 4 mixed method studies. Data obtained from Figure 7 describes the distribution of research approaches.

6. Publication Trends

Based on the mapping results, it was found that the country that produced the most research on bank resilience was the US with a total of 18 publications. Followed by Global (research that examines more than 10 countries) in as many as 13 publications. Furthermore, research conducted in Europe totaled 11 publications. In fourth place with 6 publications is occupied Germany, then with a total of 5 publications namely Canada, India, and the UK. Followed by Nigeria, Switzerland, Pakistan, Spain, Indonesia, Czech, Pakistan, and China with a total of 3 publications. Furthermore, in last place with a total of 1 publication, namely Saudi Arabia, Africa, Bangladesh, Belgium, Brazil, Denmark, Finland, Iran, Japan, New Zealand, Portugal, Malaysia, and Hungary.

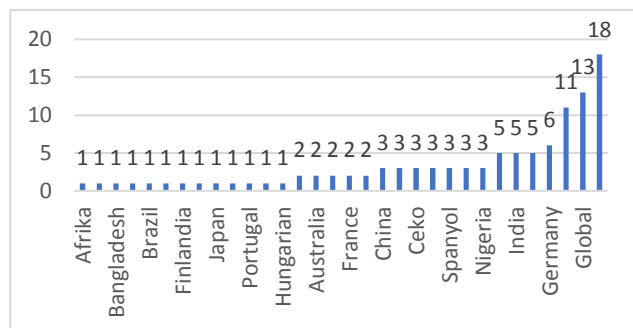


Fig. 10: Publication Trends
Source: Data processed by the author (2022)

Figure 9 is a research trend published in electronic database media starting in 2010-2022. In 2020 there was a significant increase from the previous year, namely in 2019 there were 4 publications, but in 2020 there were 20 publications but increased again in 2022 with as many as 19 publications. Similarly, the publication trends are presented in Figure 10 and Figure 11 respectively.

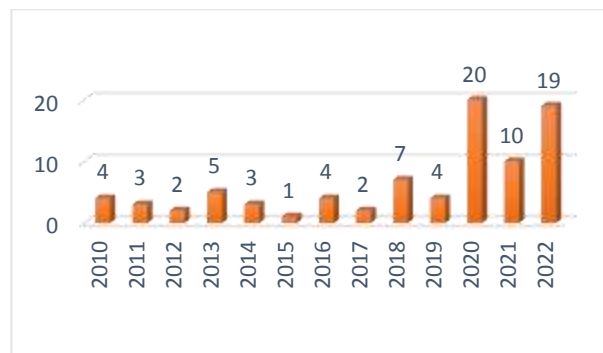


Fig. 11: Publication Trends
Source: Processed by Researchers (2022)

[RQ2] What Factors Affect Bank's Resilience?
Then an analysis of 20 (twenty) selected articles was carried out, as shown in Table 4.

Table 4. List of Articles on Factors That Can Influence Bank Resilience

No	Author	Title	Year	Results
1.	Kumars	Evaluating the financial performance and financial stability of national commercial banks in the UAE	2016	Capital adequacy, asset quality, management capability, profit capability, and liquidity ratio
2.	Vallascas & Keasey	Bank resilience to systemic shocks and the stability of banking systems: Small is beautiful	2012	Bank size, the share of non-interest income, and asset growth strengthen the stability of individual banks
3.	Korzeb & Niedziółka	Resistance of commercial banks to the crisis caused by the COVID-19 pandemic: the case of Poland	2020	Bank size
4.	Papadimitriou et al.	The resilience of the US banking system	2019	Capital adequacy and operational efficiency
5.	Mirzaei, A., & Moore, T.	Does macroprudential policy alleviate the adverse impact of COVID-19 on the resilience of banks?	2020	Macroprudential policy
6.	Cao &	Bank	2022	Regulatory

No	Author	Title	Year	Results
	Chou	resilience over the COVID-19 crisis: The role of regulatory capital”		capital ratio
7.	Lall	The resilience of Small Banks compared with Large Banks: Evidence From the 2007-2013 US Financial Crisis	2015	Interest rate risk, liquidity risk, capitalization risk, lending rates, product specialization, bank location, and scale of banking operations
8.	Enad, O. M. A., & Gerinda, S. M. A.	Enhancing the financial performance of the bank: the role of customer response and operations management	2022	Speed in conducting customer response and operations management
9.	Li, W., Wu, C., Xu, L., & Tang, Q.	Bank connections and the speed of leverage adjustment: evidence from China's listed firms	2017	Bank speed in bank connection, speed Leverage adjustment
10.	Guridno et al.	Analysis of Leadership Style, Organizational Culture on Job Satisfaction, and the Impact on Employee Performance	2020	Leadership style and organizational culture
11.	Nguyen et al.,	Does Corporate Culture Affect Bank Risk-Taking? Evidence from Loan-Level	2019	company culture
12.	Goyal & Joshi	Indian banking industry: Challenges and opportunities.	2012	Trust of shareholders and other stakeholders
13.	Pakurár et al.	The service quality dimensions that affect customer satisfaction in	2019	Certainty, reliability, access, and competence of employees

No	Author	Title	Year	Results
		the Jordanian banking sector		
14.	Xu & Lu	A Study on the Connotation and Extension of Bank Resilience: Based on the Perspective of Active Risk Management	2020	Harmonization between bank efficiency, bank innovation, bank supervision, and other functional mechanisms.
15.	Andreas & Djumarno	Analysis of Service Quality and Trust in Satisfaction and Its Impact on Customer Loyalty of Pt. Bank CTBC Indonesia (Case Study at Pt. Bank CTBC Indonesia Mangga Dua Branch Jakarta).	2019	Loyalty is shown through attitude
16.	Cadets & Aaron	Micro risk assessment in estimating bank credit risk (No. WP/3/2017).	2017	Adaptive in adjusting the company
17.	Blessley & Mudambi	A trade way and a pandemic: Disruption and resilience in the food bank supply chain.	2022	Collaboration between the central government and local organizations
18.	Tok & Yesuf	Embedding Value-Based Principles in the Culture of Islamic Banks to Enhance Their Sustainability, Resilience, and Social Impact	2022	risk culture in banking
19.	Gill et al.	An agile service resilience architecture capability: Financial services case	2015	Agile capabilities or the implementation of bank resilience can provide

No	Author	Title	Year	Results
		study.		services that meet needs dynamically
20.	Zeitouni et al.	Runtime attestation resilient under memory attacks	2017	Execution Oriented provides increased system robustness in every condition.

Source: Processed by Researchers (2022)

Based on the 20 articles analyzed, it can be concluded that according to research conducted, [21], [22], [23], [24], [25], [26], [27], found that bank resilience is influenced by capital adequacy, asset quality, management capability, profit capability, liquidity ratio, bank size, the share of non-interest income, strengthening individual bank stability, operational efficiency, macroprudential policy, regulatory capital ratios, risk interest rates, liquidity risk, and capitalization risk, lending rates, product specialization, bank location and scale of banking operations.

Apart from that, research was conducted, [28], [29], found that speed in responding to customers, and operations management affect financial performance and the speed of banks in bank connections play an asymmetric role in influencing the speed of leverage adjustment which can affect bank resilience.

Furthermore, research conducted, [2], [30], [31], [32], [33], [34], [35], [36], [37], [38], [39], found that bank resilience is influenced by leadership style, organizational culture, shareholder trust, and other stakeholders, employee competence, harmonization in coordination and mechanisms between bank efficiency, bank innovation, bank supervision, and other functional mechanisms, trust, adapt adjusting the company in mitigating risks that occur, the collaboration between the central government and local organizations, risk culture, agile or adaptive capabilities for the design and implementation of bank resilience, Execution Oriented in providing increased system resilience in each condition.

Topic Area Visualization using Vosviewer

A systematic mapping study analysis in this study was carried out to visualize results based on keywords that often appear. This is very useful because it can show readers related topics that have been researched for 8 years (2008-2016). Vosviewer also obtained the results of cluster analysis which can show the relationship between

one topic under study and other topics, [40], especially in the field of resilience bank research. This study has mapped SMS analysis in three different visualizations, namely (1) data network visualization (Figure 12), (2) overlay visualization (Figure 13), and (3) density visualization (Figure 14).

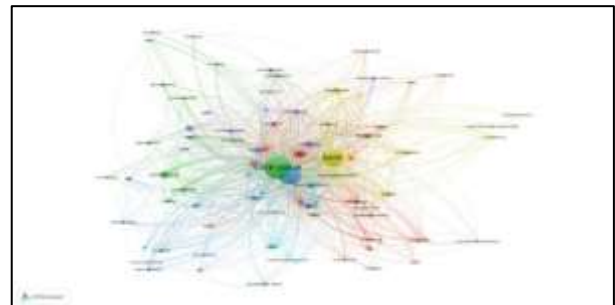


Fig. 12: Data Network Visualization Database using Vosviewer

Source: Processed by Researchers (2022)

Picture visualization of the data network in Figure 1 illustrates the results of the frequency of occurrence of keywords based on systematic mapping study data using Vosviewer. Vosviewer's exploration results show that there is no relationship between core values and the speed of the organization. This gives a research gap in research.

The results of visualization of the data network using Vosviewer show that there has been no research that examines core value on speed of organization, but several studies have found a link between core value and bank resilience, and the link between speed of organization and bank resilience so that a research gap emerged in this study.

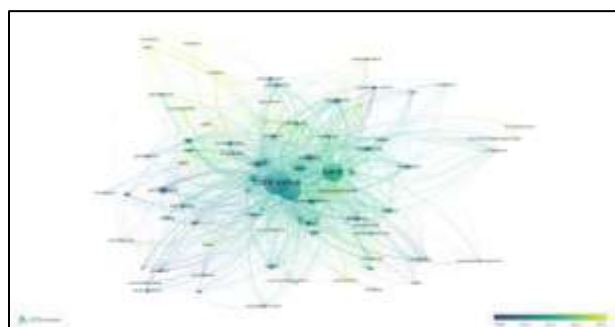


Fig. 13: Overlay Visualization Database using Vosviewer

Source: Processed by Researchers (2022)

The overlay visualization image above shows that the light-colored circle is the most recently researched topic. Therefore, the darker the color of

the circle, the longer the topic will be studied by the researcher. In this figure, the darkest color indicates research topics with old years, while the lightest color indicates research with young years. The oldest color, namely in 2008, contained topics that discussed efficiency, corporate culture, culture, risk, economy, core, word bank, and law. In 2010 there were topics of governance, commitment, organization, employee, environment, and leadership. In 2012 there were topics of company, bank loan, core values, values, innovation, competence, and corporate social responsibility. Whereas in 2014 there were topics on financial services, costs, case studies, national banks, banking, commercial banks, and Islamic banks. Furthermore, in 2016 there were the topics enterprise, ability, pandemic, covid, resilience, situation, and bank equity. Based on the explanation above, the brightest circle color is a topic related to Covid-19, this is due to the Covid-19 pandemic which began in 2020 and caused a decline in the banking sector regarding bank resilience. Vosviewer's results show that Covid-19 is related to many things, such as enterprise, ability, pandemic, resilience, situation, and bank equity.

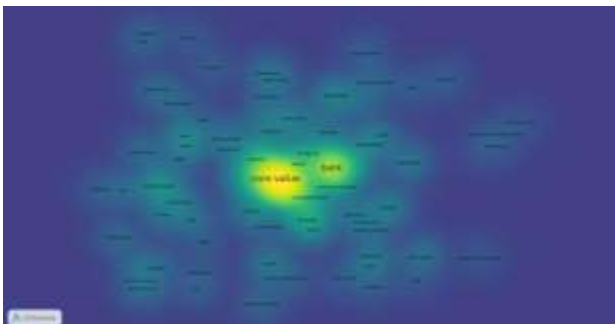


Fig. 14: Density Visualization Database using Vosviewer

Source: *Processed by Researchers (2022)*

The density visualization image above illustrates the keyword density visualization in bank resilience research. This provides an opportunity for researchers to identify topics that have the potential to have an impact as new contributions to work in banking, among others by finding and determining topics that are appropriate and related to the issues being discussed. In terms of the relevance of the research topic, we can see that for example the keywords "bank" and "core value" are most often studied in research. This kind of topic is quite a new trend for researchers, especially since there has been no research that examines core values on the speed of an organization.

5 Conclusion

Based on the results of the research that has been described, the conclusions that can be obtained are:

- 1) The most researched topics are resilience, covid-19, and resilience banks. The most researched loci are national firms, international firms, and global firms. The most frequently used type of article is evaluation research. The research method that is often used is a case study. The most widely used research approach is quantitative. The country that has conducted the most research on bank resilience is the United States. Most research publications were done in 2020.
- 2) One of the factors that can affect bank resilience according to research conducted, [21], [22], [23], [24], [25], [26], [27], found that bank resilience is influenced by capital adequacy, asset quality, management capability, profit capability, liquidity ratio, bank size, the share of non-interest income, strengthening individual bank stability, operational efficiency, macroprudential policy, regulatory capital ratios, risk interest rates, liquidity risk, and capitalization risk, lending rates, product specialization, bank location and scale of banking operations. Apart from that, research was conducted, [28], [29], found that speed in responding to customers, and operations management affect financial performance and the speed of banks in bank connections play an asymmetrical role in influencing the speed of leverage adjustment which can affect bank resilience. Further research conducted, [2], [30], [31], [32], [33], [34], [35], [37], [38], [39], found that bank resilience is influenced by leadership style, organizational culture, shareholder trust, and other stakeholders, employee competence, harmonization in coordination and mechanisms between bank efficiency, bank innovation, bank supervision and other functional mechanisms, trust, adapt adjusting the company in mitigating risks that occur, the collaboration between the central government and local organizations, risk culture, agile or adaptive capabilities for the design and implementation of bank resilience, Execution Oriented in providing increased system resilience in each condition.

6 Suggestion

Based on the results of the research that has been described, the suggestions that can be obtained are:

1. The results of data network visualization using Vosviewer show that there is a link between bank resilience and core values and bank resilience and speed of organization. However, no research has been found that shows a link between core values and the speed of an organization. This becomes a research gap in this study. Therefore, further research can examine the influence of the correlation between core values and the speed of the organization.
2. This research only examines journals based on publishers Springer, SAGE, and Emerald. Google Scholar, PubMed, and Scopus, so that further research can examine journals based on publishers Doaj, EBSCOhost, Gale Cengage, Jstor, Proquest, and ScienceDirect.

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-Abiwodo has done conceptualizing, writing original draft, and data curation.

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The authors have no conflict of interest to declare.

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