

Sentiment Analysis of Digital Sharia Banking

Abdullah Haidar¹, Aisyah As-Salafiyah², Evania Herindar³
Tazkia Islamic University College

This study was conducted to review perceptions about digital Islamic banking within the scope of Islamic economics from a scientific perspective in published journals discussing the development of digital Islamic banking. The method used is descriptive statistical analysis with meta and sentiment analysis from secondary data in the form of 70 published papers in the last seven years which are then processed using Ms. Excel 2019 and SentiStrength. The results show that research on digital Islamic banking in the scientific literature has increased in quantity every year. The sentiment analysis results show that the differences of opinion among experts regarding digital Islamic banking tend to be varied, with the positive sentiment of 36%, then negative sentiment of 18%, and negative sentiment of 46%. This study is the first to discuss sentiment analysis on the theme of digital Islamic banking with secondary data with a publication span of the last seven years.

Keywords : Sharia Banking; Digital; Sentiment Analysis; Perception

OPEN ACCESS

ISSN 2715-6346 (Online)

*Correspondence:

Abdullah Haidar
abdullahhaidar027@gmail.com

Received: 7 January 2022

Accepted: 21 January 2022

Published: 7 February 2022

Citation:

(2022) Sentiment Analysis of Digital Sharia Banking: Current Banking Solution
Ekonomi Islam Indonesia. 4.1.

INTRODUCTION

Along with the development of information technology and the internet that spreads rapidly, there are more and more digital financial services that make it easier for people to transact and earn money. There needs to be a way for the Islamic banking industry to use new technologies to improve its performance. This shows that there will be a lot of room for digital financial services in Islamic banking in the near future to meet people's needs for financial services. Financial technology can be used to improve bank operational efficiency and customer service quality. It's because of the way people use things.

In the future, more and more people will need online financial services and access to digital data. This is because financial technology is in accordance with the needs of the community. This will help Islamic banking to be more competitive in the financial market and speed up the process of getting money from Islamic banks with an easy, efficient and effective application. It will also make it easier for more people to get money from Islamic banks. The process of getting money is faster and easier with the help of a fintech system because it can help reduce risk early on (Cindy et al., 2019).

Fintech is indeed considered a big threat to the banking and finance industry because it provides the same but more innovative financial services as traditional banking and finance, but at lower costs and with higher profit margins. This makes him a huge threat. On the other hand, Islamic banking and finance is also experiencing a lot of pressure because the fees in Islamic banks are higher than in traditional banks. It is increasingly important for the Islamic banking industry to start using digital technology in order to survive in business and provide financial services (H. Ali et al., 2019).

This study found that the scientific literature that discusses digital Islamic banking has been published quite a lot, but still with different tendencies, so it is interesting to conduct research to see where the trend of research results in the form of published and indexed papers is. From this background, this study seeks to discuss the perception of digital Islamic banking from primary data in published journals for the last 7 years (2015-2021). Some of the benefits that can be obtained from this research are knowing how far the portrait of the development of the perception of digital Islamic banking research in the world is through the selected publication articles. In addition, this study looks at a meta-analysis that shows trend mapping in digital Islamic banking research.

LITERATURE REVIEW

2.1 Digital Banking

Such rapid technological developments have forced banks to further improve service quality and carry out

digital transformation, this is done so that banks can maximize their services to customers and improve the quality of their operations. Thus, it is hoped that in the future, banks, especially Islamic banks, can develop their own digital banking. With digital banking, customers can carry out transactions independently, such as opening accounts, obtaining information, transactions, closing accounts and so on (OJK, 2018). The banking industry is no exception, Islamic banking is required to meet the needs of the community through a fast service process. In addition, the availability of increasingly sophisticated communication tools encourages the banking industry to advance digital banking by utilizing mobile phone penetration, so that people can access banking services such as internet banking and mobile banking (m-banking) anywhere and anytime (Zahiruddin, 2007). 2015).

In Indonesia, the development of digital banking services (digital banking) began with branchless banking and Digital Financial Services (LKD). Digital banking allows banks to improve the quality of their services to customers, as an alternative for banks in providing direct information to customers, and reducing direct interactions with branch offices (Dootson & Drennan, 2016). As research by Finanssialan Keskusliitto (2015) which states that in the financial sector including the banking industry, digitalization is considered as the development of work methods and work environments. With advances in information technology and computer systems, this is a positive improvement to make work more effective and efficient. Digitalization makes customers more independent and transforms the work environment into a more digital one. Although digitalization provides several benefits, digital transformation requires changes in company practices, such as management and organizational structure because digital transformation is a significant change in organizational structure, it would be logical to combine it with existing business strategies (Matt, Hess and Benlian, 2015).

2.2 Digital Banking Opportunities and Challenges

In addition to utilizing digital technology, Islamic banking must also focus on its main services. This, of course, brings various kinds of challenges because it is not easy to change the entire system and arrangement of Islamic banking in a moment. A feasibility test is needed and considers its impact on a number of areas. By relying on digital technology 4.0, Islamic banks will find opportunities and challenges. The opportunity that can be taken is the opportunity to build creative and innovative human resources. In addition, the existence of digital technology encourages the establishment of healthy cooperation and competitiveness between Islamic and conventional banking (Husna, 2020).

With the change in information starting from analog information to digital information due to

technological advances, people prefer to use digital information for the following reasons: 1) Easy to find, trace, access, and use as needed; 2) Easy to produce, ship, receive, filter and update; 3) The format of writing and the content of messages sent are the same as those received; 4) Do not experience obstacles by distance, language and time differences; 5) Sending and receiving messages is cheaper and faster; 6) Easy to store and process so it doesn't require a large storage space; 7) Tends to be easy to apply in various media because digital information formats and formats will be the same from one device to another (Marlina, 2018).

Meanwhile, the challenge is that with the existence of a digital economy system, consumers cannot know the physical form of the product directly and in real terms. (Maharani & Ulum, 2020). Digital banking customers in particular are faced with a difficult position, because the interests and protection of many customers are harmed including cases of misappropriation of customer funds, credit card burglary, leaking of personal data and PIN numbers that should be kept confidential but are traded (Unseen, 2020). Furthermore, the challenge of digital transformation is not only providing online services and mobile banking, but also innovation in combining digital technology and customer interaction. These technological findings should make it easier and provide convenience for customers in accessing banking services. Digitization makes banks, especially Islamic banking, to renew services, considering that digitalization can increase the efficiency of work processes and improve the quality of customer service. Apart from that, with digitalization, the banks concerned have made long-term investments in the future. Digitalization is also projected to be one of the main drivers of sustainable banking industry growth (Tahliani, 2020).

As it is known that digitalization in the banking industry has various opportunities and challenges, this has stolen the attention of academics to conduct research related to banking digitalization. The following are some studies related to this theme: Vebiana (2018) examines "Digital Banking, Customer Experience, and Financial Performance of Islamic Banks". and the financial performance of Islamic banks in Indonesia on the marketing of Islamic banks. Kemudian DZ (2018) researched on "Digital-Banking-Based Islamic Banking Financial Inclusion: Optimization and Challenges" in his research. He stated that the development of Islamic banking business was not commensurate with the time that had passed and was not balanced with the potential of this country. The causes are due to sharia products and services received by customers, distance to the nearest bank location, high fees for small volume transactions, limited information, low sharia knowledge level, low income, and long queues when transacting directly.

Fatimah & Hendratmi researched "The Digitalization Of Mandiri Syariah Bank In The Middle Of Competition And Technology Change" analyzing BSM's perspective on the digital banking system. The results of the study indicate that BSM is less aggressive in implementing the digital banking system, consequently lower market reach, thereby reducing their competitiveness. Mawarni, Fasa' & Suharto (2021) researched on "The Application of Digital Banking for Islamic Banks as a Customer Retention Effort in the Time of Covid-19" providing an overview of the application of digital banking in Islamic banks in order to retain their customers during this COVID-19 pandemic. The results of the study show that Islamic banks have tried to retain customers by optimizing the application of digital banking in their operations during this covid-19 pandemic. Balkan (2021) with the research title "Impacts of Digitalization on Banks and Banking" stated that digital banking was initially in the form of distribution channels, which provided easy access and cost advantages because there was no need to have a branch office, and increased profitability. In addition, social media can be an information technology. In order to build a service architecture and retain customers, apart from focusing on social media, banks must also meet marketing and public relations targets.

RESEARCH METHODOLOGY

3.1 Data

This study uses data in the form of research journals and scientific research publications for the period 2015 to 2021 which have been published regarding the theme of digital Islamic banking perceptions in Islamic economics and finance research and is indexed by Dimension. The methodology used in this study is a qualitative method approach with descriptive statistics, a literature study of 70 publications related to digital Islamic banking.

3.2 Approach

The research method used is qualitative which is a research method based on the philosophy of post-positivism which is used to examine the condition of natural objects, (as opposed to experimentation) where the researcher is the key instrument. The data collection technique is triangulation (combined), the data analysis is inductive/qualitative, and the results of qualitative research emphasize meaning rather than generalization. (Sugiyono, 2010).

Qualitative research is a type of descriptive research. The information collected is not used to confirm or disprove the theory (if any). Research findings can be in the form of a description of visible symptoms, not numbers or coefficients between variables (As-salafiyah et al., 2021). Descriptive statistics is a branch of statistical science that explores how to collect, compile, and report

summaries of research data. As the basis for making various decisions, data must be well and consistently summarized, both in the form of tables, diagrams, and graphic presentations. Ms. Excel was used to conduct this research.

Purposive non-probability sampling was used in this study. A purposive sample is a sample designed to help you understand certain information. This sample can be divided into two categories: judgment sample, which is selecting sample members who meet certain criteria based on previous records or research objectives to be fulfilled, and quota sample, which is a sample selected based on a certain quota or category. which describes the population dimensions (proportions).

The approach used in this research is sentiment analysis or opinion development. Sentiment analysis is a research commonly used to measure public sentiment on a theme issue. Sentiment Analysis is a branch of research in the Text Mining domain which began to be widely used in early 2002. Sentiment analysis is research that is commonly used to measure public sentiment on a theme. As a source of data, five specific sources were selected who are academics of Islamic economics experts. To measure the sentiment map on the results of the Hajj financial investment perception questionnaire, the researcher uses SentiStrength software which is widely used in sentiment analysis research. Simply put, text analysis is meant for word processing and does not process numbers. Sentiment analysis consists of three main subprocesses namely: Subjectivity Classification, Detection Orientation and Opinion Holders & Target Detection. To date, most of the research in the field of sentiment analysis has been devoted to English because there are so many tools/resources for English. Some of the frequently used sources for sentiment analysis are SentiWordNet and WordNet. The basic task in sentiment analysis is to classify the polarity of the text in the level of documents, sentences, or features and aspects, whether the opinions expressed in documents, sentences and feature entities have positive, negative or neutral aspects. Furthermore, sentiment analysis can be expressed emotionally sad, happy, or angry so that it will produce an analysis that can be a reference for developing perceptions of certain themes. (Rusydziana & Marlina, 2020).

Data in the form of trends in the development of the number of publications on the perception of digital sharia banking and the top authors who are the locations of research objects related to published articles were analyzed using Microsoft Excel 2019. As for measuring the sentiment map on the results of the digital sharia banking perception questionnaire, researchers used the SentiStrength software which widely used in sentiment analysis research.

DISCUSSION

4.1 Meta-Analysis



Figure 1: Number of Paper of Digital Banking Theme

This section describes the number of paper publications on the perception of digital Islamic banking. There are 70 papers published in an observation period of 7 years, from 2015 to 2021. Table 1 describes the distribution of papers per year that varies over the last 7 years with a range of 0 to 22 papers. The paper on the perception of digital sharia banking was the most published in 2021 with a total of 22 papers and the fewest publications, namely in 2015 with a total quantity of 2 publications in that year..

Table 1: Number of Digital Sharia Banking Theme Papers

Year	Number of paper
2015	2
2016	3
2017	6
2018	6
2019	13
2020	18
2021	22
Total	70

Based on the table and graph above, there is a tendency to increase the number of papers published on the theme of perception of digital Islamic banking, where in 2015 there were 2 papers, then increased to 3 papers, 6 papers, 13 papers, 18 papers and reached its peak in 2021. with 22 papers. However, this data is still provisional and it is still possible to add and improve, the collection of papers in this research is until December 2021.

Of the 70 papers with the theme of digital Islamic banking in the last 7 years, one of them is a paper entitled "Digitalization of Islamic Finance Towards Inclusive Finance: Maqashid Syariah Framework". The research shows that digital technology is developing very rapidly

today. It's called the Industrial Revolution 4.0, and that's when the industry developed and used technology to make its work easier. E-commerce companies and start-ups in the field of Financial Technology (fintech) are often the ones who start businesses that use digital technology in their work. In terms of Islamic financial services and products, such as digital-based Islamic banking, the increasing use of the internet and smartphones by the public is a good thing to see. The use of this technology must be carried out immediately so that financial inclusion is more equitable and complete, especially for Islamic financial products and services (Nurfalah & Rusydiana, 2019).

4.2 Sentiment Analysis

The author tries to calculate the sentiment of published research that discusses digital Islamic banking.

As is well known, sentiment analysis is research that is commonly used to measure public sentiment on a theme. As a primary data source, research was conducted on 70 literatures. The tool used in this research is SentiStrength as a tool for processing data obtained from scientific literature.

Based on the results of software processing, it was found that the opinions were classified into 5 types of ranking: namely opinions with high positive values (very good), positive (good), neutral (neutral), negative (bad) and high negative (very bad). The results of sentiment analysis on digital Islamic banking throughout Indonesia which are divided into 5 types of categories can be seen in the following picture:

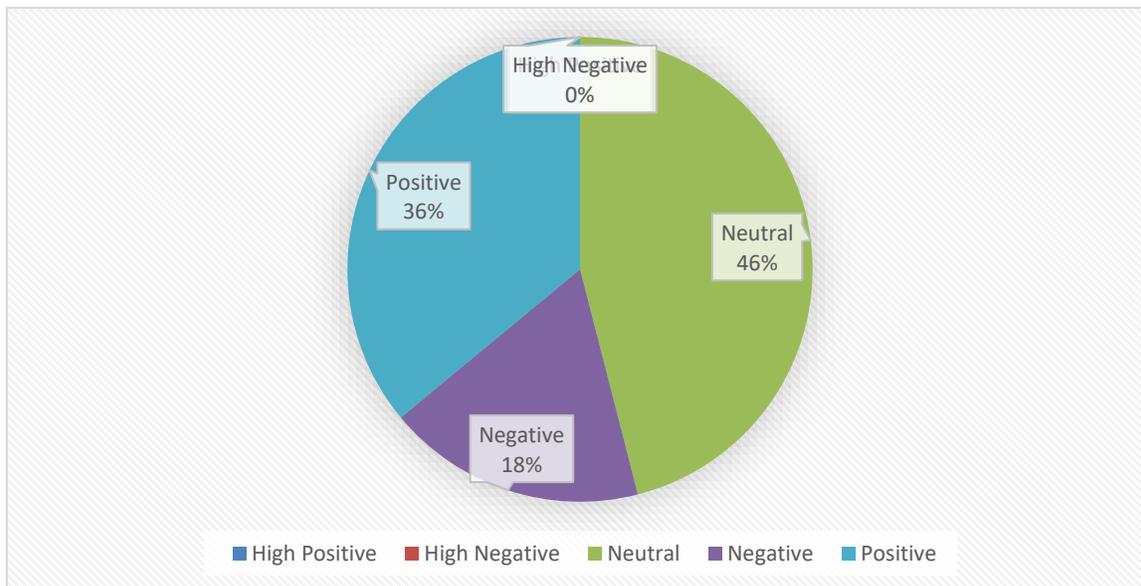


Figure 2: Sentiment Analysis of Islamic Digital Banking

From the picture above, it can be seen that the existence of digital Islamic banking in the published and indexed Islamic economics literature and Dimension has a very good sentiment (high positive) of 0%, then good sentiment (positive) as much as 36%, bad sentiment (negative) as much as 18%, very bad sentiment (high negative) 0% and the rest have a neutral sentiment (neutral) 46%.

Sentiment results are obtained from scientific literature which is the object of this research, then the words in the form of written text are ranked from very negative (-5) to very positive (5) intervals with a value of 0 being neutral. The opinion score of the sentences in the literature is then calculated by adding up the sentiment scores of each word listed in SentiStrength.

Positive sentiment is the opinion of the questionnaire respondents who are positive and tend to be optimistic in responding to the existence of digital Islamic

banking in Indonesia by agreeing and supporting the opinion of the need for digitalization in Islamic banking and supporting the development of digital Islamic banking. Meanwhile, negative sentiment is a questionnaire opinion that is negative and tends to be pessimistic in reviewing the development of digital Islamic banking, or in other words it is not approved and is contrary to its existence, and states that digital Islamic banking cannot be implemented inclusively in Indonesia due to various reasons.

Currently, the digital economy and financial transactions are growing along with the increasing expectations and preferences of the public towards online shopping, the expansion of digital payments, and the acceleration of digital banking. Digital Islamic banking will enter a new era in the banking industry that meets market demands towards an increasingly digital economy. Digital transformation in the Islamic banking financial services

industry is expected to focus on fast, simple, inexpensive and competitive services and products for the community, as well as providing convenience and expansion of public access (Aulia et al., 2020; Lacasse et al., 2018; Ribadu et al., 2020).

Unfortunately, some 92 million people never have access to banks or the financial services offered or provided without a bank account. Therefore, with increasingly rapid technological advances, it is increasingly necessary for Islamic banking to compete to adopt technology in the context of digitization to gain more market share (Achsien & Purnamasari, 2016; K. M. Ali et al., 2019; Shahabi et al., 2020).

In the end, digital transformation in the financial services sector, especially in Islamic banks, is a must. This is in accordance with consumer demand or changes in demand from time to time. The Covid-19 pandemic has also accelerated changes in consumer behavior. With people's limited freedom of movement, the need for digital solutions to access various financial services is becoming increasingly real. The high demand for digital Islamic banking solutions is reflected in the value of digital transactions which continues to increase along with the shift in customer demand from physical banking services to digital services (Basrowi, 2019; Rabbani et al., 2021; Yuspita et al., 2019).

These data indicate that the majority of the literature is more neutral in responding to the existence of digital Islamic banking. However, it was also found that there were more positive responses than negative responses. Therefore, this situation must continue to be developed by increasing the quantity of scientific literature publications in indexed journals. Digital Islamic banking education in the field of Islamic finance and economics needs to be facilitated with a system that is in accordance with the conditions of the community.

CONCLUSION

5.1 Conclusion

This study presents an overview of the meta-analysis in the form of tables and graphs of the trend of increasing the quantity of digital Islamic banking literature publications in the last 7 years, from 2015 to 2021 to be precise. Content analysis is carried out from each category consisting of the number of publications per year. The results obtained indicate that the quantity of research publications on digital Islamic banking has increased in the last 7 years so it has the potential to continue to be studied and developed.

Regarding sentiment analysis, digital Islamic banking assessments from various literature indexed by Dimension show positive sentiment of 38%, 18% show negative sentiment and the remaining 46% show neutral

sentiment. This shows that differences of opinion in the scientific literature regarding the existence of digitalization of Islamic banking and the tendency of researchers still vary with being dominated by neutral sentiments, followed by positive sentiments and then negative sentiments.

It should be noted that the purpose of this study is to present an overview of the perception of digital Islamic banking in Indonesia, but the limitation is only in the publications of the last 7 years. Although research has been carried out using specific meta-analytical indicators and sentiment analysis so that readers can get a general representation of the most significant data, the results presented are still dynamic and may change over time, with new trends emerging or variables increasing. and less in the future.

5.2 Recommendation

The suggestions that the author can convey, especially to Islamic banking practitioners are::

1. Along with rapid technological advances, Islamic banks urgently need to adopt technology in the context of digitalization to gain more market share.
2. Digital transformation in the Islamic banking financial services industry is expected to focus on fast, simple, inexpensive and competitive services and products for the community, as well as providing convenience and expansion of public access.
3. In terms of Islamic financial services and products, such as digital-based Islamic banking, the increasing use of the internet and smartphones by the public is a good thing to see. The use of this technology must be carried out immediately so that financial inclusion is more equitable and complete, especially for Islamic financial products and services.

Furthermore, for the regulators, special regulations are needed regarding the digitalization of Islamic banking in Indonesia. In addition, the authors suggest that there is a need for strict sanctions for perpetrators of digital crimes in the banking world. And in addition, it is also necessary to collaborate between Islamic banking parties and technology developers in realizing optimal digitalization of Islamic banking.

REFERENCES

- Achsien, I. H., & Purnamasari, D. L. (2016). Islamic Crowd-funding as The Next Financial Innovation in Islamic Finance: Potential and Anticipated Regulation in Indonesia. *European Journal of Business and Management - Special Issue: Islamic Management and Business*, 5, 1–11. <https://doi.org/10.13135/2421-2172/1771>
- Ali, H., Abdullah, R., & Zaini, M. Z. (2019). Fintech and Its Potential Impact on Islamic Banking and Finance Industry: A Case Study of Brunei Darussalam and

- Malaysia. *International Journal of Islamic Economics and Finance (IJIEF)*, 2(1), 73–108. <https://doi.org/10.18196/ijief.2116>
- Ali, K. M., Hassan, M. K., & Ali, A. elrahman E. S. (2019). Revitalization of Waqf for Socio-Economic Development. In *Revitalization of Waqf for Socio-Economic Development, Volume I: Vol. I*. <https://doi.org/10.1007/978-3-030-18449-0>
- As-salafiyah, A., Rusydiana, A. S., & Mustafa, M. I. (2021). Meta Analysis on Mosque Economics. *Library Philosophy and Practice (e-Journal)*.
- Aulia, M., Yustiardi, A. F., & Permatasari, R. O. (2020). An overview of Indonesian regulatory framework on Islamic financial technology (fintech). *Jurnal Ekonomi & Keuangan*, 6(1), 64–75. <https://doi.org/10.20885/JEKI.vol6.iss1.art7>
- Asti Marlina, W. A. B. (2018). Digitalisasi Bank Terhadap Peningkatan Pelayanan Dan Kepuasan nasabah bank. *Jurnal Ilmiah Inovator*, 7(1), 14–34
- Balkan, B. (2021). Impacts of Digitalization on Banks and Banking. *Economics and Finance, Volume I, Accounting, Finance, Sustainability*.
- Basrowi. (2019). Analisis Aspek Dan Upaya Perlindungan Konsumen Fintech Syariah. *Lex Librum: Jurnal Ilmu Hukum*, 5(2), 959–980. <http://lexlibrum.id/index.php/lexlibrum/article/view/134>
- Cindy, S., Mohammad, B. L., & Teguh, S. I. (2019). Banking and Financial Technology (Fintech) Islamic Integration With Collaborative Models. *Russian Journal of Agricultural and Socio-Economic Sciences*, 91(7), 102–111. <https://doi.org/10.18551/rjoas.2019-07.11>
- Dootson, P., and Drennan, J. (2016). Financial institutions using social media – do consumers perceive value?, *International Journal of Bank Marketing*.
- Dz., A. S. (2018). Inklusi Keuangan Perbankan Syariah Berbasis Digital-Banking: Optimalisasi dan Tantangan. *Al-Amwal: Jurnal Ekonomi Dan Perbankan Syari'ah*, 10(1), 63. <https://doi.org/10.24235/amwal.v10i1.2813>
- Fatimah, S. B., & Hendratmi, A. (2020). The Digitalization Of Mandiri Syariah Bank In The Middle Of Competition And Technology Change. *Jurnal Ekonomi Syariah Teori Dan Terapan P-ISSN: 2407-1935, E-ISSN: 2502-1508. Vol. 7 No. 4*.
- Finanssialan. k (2015). Muuttuva työ finanssialla. Cited 6.12.2016 & 17.1.2017, http://www.finanssiala.fi/materiaalit/Muuttuva_työ_finanssialla.pdf
- Gaib, D. N. (2020). Dinamika Hukum Perbankan Digital di Indonesia. In *LEX ET SOCIETATIS* (Vol. 7, Issue 11). <https://ejournal.unsrat.ac.id/index.php/lexetsocietatis/article/view/27366>
- Husna, F. (2020). Wajah Ekonomi 4.0: Perbankan Syari'ah Digital, Peningkatan Daya Saing Dan Strategi Dakwah Islam Fathayatul. *Idarotuna*, 3(1), 59–70. <http://ejournal.uinsuska.ac.id/index.php/idarotuna/article/view/11328>
- Lacasse, R.-M., Lambert, B., & Khan, N. (2018). Islamic Banking - Towards a Blockchain Monitoring Process. *Revue de Gestion et d'Économie*, 6, 33–46.
- Maharani, S., & Ulum, M. (2020). Ekonomi Digital: Peluang Dan Tantangan Masa Depan Terhadap Ekonomi Syariah Di Indonesia. In *Conference on Islamic Studies (CoIS)* (Vol. 0, Issue 0). <https://doi.org/10.30659/COIS.V0I0.7981>
- Matt, C., Hess, T. & Benlian, A. (2015), *Digital Transformation Strategies, Business & Information Systems Engineering*, vol. 57, no. 5, pp. 339-343
- Mawarni, R., Fasa', M. I., & Suharto. (2021). Penerapan Digital Banking Bank Syariah Sebagai Upaya Customer Retention Pada Masa Covid-19. *AL-IQTISHOD: Jurnal Pemikiran dan Penelitian Ekonomi Islam*.
- Nurfalah, I., & Rusydiana, A. S. (2019). Digitalisasi Keuangan Syariah Menuju Keuangan Inklusif: Kerangka Maqashid Syariah. *Ekspansi: Jurnal Ekonomi, Keuangan, Perbankan Dan Akuntansi*, 11(1), 55. <https://doi.org/10.35313/ekspansi.v11i1.1205>
- O. J. K. (OJK). (2018). https://www.ojk.go.id/id/kanal/perbankan/Pages/Panduan_PenyelenggaraanDigitalBranch-oleh-Bank-Umum.aspx.
- Rabbani, M. R., Bashar, A., Nawaz, N., Karim, S., Ali, M. A. M., Rahiman, H. U., & Alam, M. S. (2021). Exploring the Role of Islamic Fintech in Combating the Aftershocks of COVID-19: The Open Social Innovation of the Islamic Financial System. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 136. <https://doi.org/10.3390/joitmc7020136>
- Ribadu, M. B., Rahman, W. N. W. A., Ghani, A. A. A., Kamaruddin, A., & Othman, M. S. (2020). Sharia Compliance Requirements Framework for E-Commerce Systems: an Exploratory Study. *Journal of Theoretical and Applied Information Technology*, 98(06).
- Rusydiana, A. S., & Marlina, L. (2020). Analisis Sentimen terkait Sertifikasi Halal. *Journal of Economics and Business Aseanomics (JEBA)*, 5(1), 69–85.
- Shahabi, V., Azar, A., Razi, F. F., & Shams, M. F. F. (2020). Simulation of the effect of COVID-19 outbreak on the development of branchless banking in Iran: case study of Resalat Qard - al-Hasan Bank. *Review of Behavioral Finance*. <https://doi.org/10.1108/RBF-06-2020-0123>

- Sugiyono. (2010). Metode penelitian kuantitatif dan kualitatif dan R&D. In *Alfabeta Bandung*.
- Tahliani, H. (2020). Tantangan Perbankan Syariah dalam Menghadapi Pandemi Covid-19. *Madani Syariah*, 3(2), 92–113. <https://doi.org/10.51476/MADANISYARIAH.V3I2.205>
- Vebiana, V. (2018). Perbankan Digital , Pengalaman Pelanggan , dan Kinerja Keuangan Bank Syariah. *POLBAN*, 9, 747–751.
- Yuspita, R., Pebruary, S., & Kamala, A. Z. H. (2019). The society's perceptions on the use of fintech services in sharia financial institutions. *Jurnal Ekonomi & Keuangan Islam*, 5(2), 87–92. <https://doi.org/10.20885/jeki.vol5.iss2.art6>
- Zahiruddin.I.A. (2015). ProBank: Membangun Perbankan Profesional , P. B. N. (Perbanas), Ed., ed,