[*http://doi.org/10.22373/jose.v4i2.2961*](http://doi.org/10.22373/jose.v4i2.2961)

*Received: 8 Juli 2023, Revision: 23 September 2023, Accepted: 23 September 2023.*

*E-ISSN: 2774-3543; P-ISSN: 2774-3551,*

*Copyright @2023. Published by Program Studi Ekonomi Syariah Pascasarjana UIN Ar-Raniry*

**THE PROFITABILITY EFFICIENCY OF BANK SYARIAH INDONESIA: AN APPLICATION OF DATA ENVELOPMENT ANALYSIS AND HAHSLM MODEL APPROACH**

**Roikhan Mochamad Aziz1**

Universitas Islam Negeri Syarif Hidayatullah, Jakarta

**Ahmad Rodoni2**

Universitas Islam Negeri Syarif Hidayatullah, Jakarta

**Farid Fathony Ashal3**

Universitas Islam Negeri Syarif Hidayatullah, Jakarta

E-mail: **1**roikhanma.uinjkts@gmail.com, **2**ahmad.rodoni@uinjkt.ac.id, **3**farid.fathony22sps@mhs.uinjkt.ac.id

**ABSTRACT:**

The expansion of the Islamic banking industry has played a crucial role in the development banking in Indonesia. The literature on banking efficiency focuses primarily on profitability efficiency and disregards religiosity as a variable as an indirect effect. This study examines the effectiveness and reflexivity of Islamic banks in Indonesia for the years 2019 to 2021. Combining Data Envelopment Analysis (DEA) and Hahslm; Salat Theory demonstrated the efficiency and reflexivity of Bank Syariah Indonesia. The results indicate that efficiency increased by approximately 23% during this time period, while Hahslm; salat was influenced by approximately 90%. These results ensure that religious values and bank performance are completely consistent.

***Keywords: Salat, Efficiency, Data Envelopment Analysis, Hahslm, RoA.***

**ABSTRAK:**

Perkembangan industri perbankan syariah telah memainkan peranan penting dalam perbankan Indonesia. Beberapa penelitian mengukur tingkat pertumbuhan bank berdasarkan dari efisiensi produktifitas. Namun, mengabaikan unsur religiusitas sebagai variabel yang secara tidak langsung juga memberikan pengaruh terhadap kinerja bank. Penelitian ini akan menguraikan tingkat efisiensi dan refleksivitas bank syariah indonesia periode 2019-2021. Metode yang digunakan dalam penelitian ini menggunakan data envelopment analysis (dea) dikombinasikan dengan Hahslm; salat teori untuk mengukur tingkat efisiensi dan refleksivitas bank syariah Indonesia. Hasil penelitian menunjukkan tingkat efisiensi bank syariah Indonesia meningkat secara siginifikan dengan nilai 23% periode 2020-2021. Pada uji Hahslm; salat juga mengalami peningkatan 90% pada periode yang sama. Dengan demikian perhitungan kombinasi tingkat efisiensi dengan nilai bobot shalat akan membuktikan keselarasan antara nilai keagamaan dengan tingkat efisiensi kinerja pada bank. Nilai pengaruh sholat tahun 2020 sebesar 0,0008% dan pada tahun 2021 sebesar 0,207%. Berdasarkan perhitungan tersebut, dapat diketahui bahwa terjadi kenaikan drastis pada nilai pengaruh shalat dari tahun 2020 ke tahun 2021.

***Kata kunci: Salat, Efisiensi, Data Envelopment Analisis, Hahslm, RoA.***

**INTRODUCTION**

In modern day economic, banks perform an essential role in the economic growth of a country. As per financial institutions, banks perform a decisive role such as in the payment mechanism and in dealing with the financial market and instruments. Additionally, Banks serve a crucial part as financial intermediaries and are considered immensely significant for economic functions.[[1]](#footnote-1) The advancement of sharia banking in Indonesia aims to provide the utmost benefit to the people of Indonesia while at the same time fulfilling an optimal contribution to the national economic system. The rapid growth of the Islamic finance industry particularly Islamic banking is considered significant.

Significant Noteworthy developments of banking industry have shaped the industry an elevated position in the general public. Thus, maintaining public trust is mandatory against the competition in the banking industry. For the sake of nature competition, several factors must be measured including measurement of the level of efficiency. Branka underlines the most significant driver of a bank's profitability is efficiency, in addition to incomes, risk-taking, and leverage. Accordingly, work efficiency deemed ideal benchmarking for work objectives and targets based on quality or outcomes. Without a hesitation, efficiency must take precedence in all areas of banking, including Islamic Banking. In economic theory, there are two broad conceptions of efficiency: economic efficiency and production efficiency. As an economic notion, efficiency is viewed from a macro perspective, whereas production efficiency is viewed from a micro one.[[2]](#footnote-2)

Economic efficiency is the utilization of the available resources for the best value. This requires optimizing the utilization of available resources and eliminating waste. The concept of macro-efficiency particularly refers to the utilization of resources in the economy leading toward societal prosperity.[[3]](#footnote-3) Meanwhile, the concept of efficiency is derived from microeconomic theory, specifically from the producer and consumer theory. Manufacturers, according to producer theory, would like to maximize revenue while minimizing expenses. Consumers, according to consumer theory, strive to maximize their value or level of satisfaction. In addition, producer theory defines a production line where inputs and outputs interact during the production process. While production limit line shows the greatest level of output from each utilization of input resources, which represents the company's or industry's use of technology.[[4]](#footnote-4) Accordingly, purposedly to identify a better performance, an assessment of the Islamic banking industry development is absolutely required. For that purpose, it can be perceived from data on financial ratios such as Non-Performing Financing (NPF) and Finance to Deposit Ratio (FDR) to show that banks have managed their financial resources well to improve performance, growth, and investment.

Tabel 1. Developments in the performance of Indonesian Islamic Banks in 2019-2021

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2019 | 2020 | 2021 |
| NIM | 3,97% | 6.04% | 6,04% |
| BOPO | 85,27% | 84,61% | 80,46% |

*Source: Analysis, 2022*.

Corresponding to the Islamic Banking Statistics of the Financial Services Authority of 2021, the BOPO ratio for Islamic banking is roughly 80.46 percent, while the Net Marginal Income ratio is roughly 6 percent. On the basis of the specified data, it is viable that the ratio of BOPO to Net Marginal Income for Bank Syariah Indonesia in 2021 will be significantly lower than the performance reported by OJK for the previous year.

The utilization of resources is deemed efficient if it serve: (1) all available resources are utilized efficiently; and (2) there is no alternative consumption pattern that would provide the community/ individual with additional welfare.[[5]](#footnote-5) The fewer funds or resources are utilized to get the desired goal, the more efficient it is. Efficiency is the utilization of limited resources to produce what is planned or anticipated. An action is efficient if it proceeds without interruptions. The following factors are conditions for efficiency cause:

1. Achieving results and benefits. For example, the intended items benefit society.
2. Inexpensive, means with little effort leading to obtain high-quality feedback.
3. Appropriate labor division • Appropriate leadership and rationale.
4. Appropriate management execution.
5. Mechanisms or processes that can automatically adjust to changing situations.
6. Using interchangeable customized tools • Simple work processes.

Bank efficiency is a fundamental measure for assessing bank institutions performance. Efficiency can be viewed from two perspectives: cost and profit. Bank efficiency is a critical indicator in the banking industry as well as a way to enhance the effectiveness of monetary policy. Efficient banking is expected to boost the transformed of monetary policy, allowing it to achieve its objectives more effectively: Efforts to increase the financial sector's efficiency and soundness are commonly required to support macroeconomic and monetary performance.

Purposedly for the determination against tough competition, Islamic banking needs reliable metrics in addition to the efficiency function to measure the value of performance despite many analytical tools. It is believed that there is a need for additional analytical tools from the value of worshipping God in addition to increasing spiritual values and receiving benefits in lifespan context. Therefore, in all facets of life, including the economics, worshipping God is a foreseeable process. According to the Qur'an, Surah Adz-Dzariyat [51]: 56 states:

وما خلقت الجن والإنس إلا ليعبدون

Meaning: *And I did* not *create the jinn and mankind except for worship*.

As it stands, most research methods take a linear, reductionist approach creating separation between scientific inquiry and religious observance. Muslims scholars in the modern era committing a great deal of time to analyzing the relevance of worship from an Islamic perspective. However, today's analytical techniques still require the integration of religion so that the objective of economic analysis gives dual benefits, namely the world realm and the hereafter.[[6]](#footnote-6)

Worshiping God is a natural process in all aspects of human life as well as the economy factor. Allah emphasized that the meaning of worship must be in creation. In modern time, economics solely copied Western analytical tools such as linear programming and multiple regression. The possibility that this analytical tool has no religious value stems from the fact that it was created by westerners by omitting the religious factor in science. In turn, Muslim researchers should be encouraged to change the concept of analytical tools by utilizing Islamic thought models, to provide benchmarks consistent with Islamic values.Concept of Islamic economic analysis tools gained praise from various sources. Some started with the philosophy of monotheism, some started from the perspective of a problem, and some studied the meaning of worship. The point of view of worship is used in theory H which stands for HAHSLM. According to Aziz, the meaning of theory H from the word HAHSLM is:[[7]](#footnote-7)

1. The basis of the three dominant theories with a certain context in the five dimensions of the invariant arrangement is defined as the theory H.
2. While the following is the definition of theory H:
3. The most common application of theory H is a theory of the basic concepts of creating patterns with certain relationships. H is derived from the formula H=A. H(S,L,M). Surah Hijr in the Qur'an also stands for Huda or Life.
4. A complete set or integrated part will have three (three) main elements that can be positively charged: primary (creator), secondary (creator/receiver), and tertiary (worship/transmitter).
5. These three elements will fulfill the statement that the secondary will do tertiary work under the primary (humans were created by God to worship).
6. Theory H philosophy can be interpreted as Islamic values, with concepts related to worship and life.

**THEORY**

Concepts in Islamic economic analysis tools have received praise from various sources. Some started with the philosophy of monotheism, some started from the perspective of maslahah, and some studied the meaning of worship. The point of view of worship is used in theory H which stands for HAHSLM. According to Aziz, the meaning of theory H from the word HAHSLM is:[[8]](#footnote-8)

1. The basis of the three dominant theories with a certain context in the five dimensions of the invariant arrangement is defined as the theory H.
2. The most common application of theory H is a theory of the basic concepts of creating patterns with certain relationships. H is derived from the formula H=A. H(S,L,M). Surah Hijr in the Qur'an also stands for Huda or Life.
3. While the following is the definition of theory H.
4. A complete set of the integrated part will have three (three) main elements which can be positively charged: primary (creator), secondary (creator/receiver), and tertiary (worship/transmitter).
5. These three elements will fulfill the statement that the secondary will do tertiary work under the primary (humans were created by God to worship).
6. Theory H philosophy can be interpreted as Islamic values, with concepts related to worship and life.

The following are the theories used in this research:

1. Efficiency Theory

Banking efficiency is one indicator of a bank's performance. Bank efficiency is a matrix measuring the overall performance of banking operations. Efficiency is using the least amount of input to get the maximum amount of output.[[9]](#footnote-9) Efficiency is significant as organizations have limited resources and inputs. This study aims to measure bank efficiency and identify the factors that determine the level of bank efficiency in Indonesia.[[10]](#footnote-10) A two-stage study was conducted. In the first stage, the efficiency value of a bank is measured using two efficiency concepts, namely the concept of cost efficiency and the concept of profit efficiency, using the Stochastic Frontier Approach (SFA) method. In the second stage, the efficiency value achieved in the first stage is regressed using various efficiency determinants. These factors include bank size, bank capital, credit risk, bank ownership structure, and bank market share.[[11]](#footnote-11)

1. Islamic Bank

Islamic Banks are financial institutions that provide payment services based on Islamic Sharia principles. Islamic banking is a type of financial institution that, along with traditional banks, offers the most complete financial transaction services among other financial institutions..[[12]](#footnote-12) Islamic banks are bound with sharia principles. The application of Sharia principles is the main differentiator from traditional banks. Sharia principles refer to Islamic Sharia based on the Qur'an and Hadith. Islam as a religion is a concept that comprehensively and universally regulates human life, both about the Creator (*Hablu min Allah)* and with fellow humans *(Habluminannas).* Islamic bank deposits are slightly different from traditional banks. For investment purposes, the bank also offers mutual fund products to choose from. The same applies if you need financing. Not only that, but Islamic banks can also distribute zakat, infaq, and alms.[[13]](#footnote-13)

1. Return on Assets

ROA stands for Return on Assets, in context of Indonesian also interpreted as a method of returning assets. An expert from the field, Mardianto said ROA is a ratio used to measure a company's ability to generate profits because it represents all company activities.[[14]](#footnote-14) Simply put, ROA is a measurement represents the ratio of the net profit a company generates to the capital invested in its assets. For example, you need a fried rice cart to create fried rice. Well, the ROA is the profit from selling fried rice compared to the amount spent on buying a fried rice cart.[[15]](#footnote-15) Another economist once Helly suggested the higher the return on investment, the higher the net profit per rupiah from the funds embedded in total assets. Therefore, successful entrepreneurs aim for the highest ROA. Low ROA means low productivity of trading companies.[[16]](#footnote-16)

**METHODOLOGY**

This study includes an analysis of the efficiency level of Islamic commercial banks in Indonesia only for the 2019-2021 research period, using the Islamic Value Data Envelopment Analysis (DEA) method. The data utilized mainly from the financial statements of Indonesian Islamic banks. The variables used are Return on Assets (ROA) and other operating income compared to the growth rate of Islamic commercial banks.

**Data Envelopment Analysis**

Data Envelopment Analysis (DEA) was first introduced by Charnes, Cooper, and Rhodes circa 1978. DEA is a non-parametric approach that is essentially an evolution of linear programming (LP). Sirait, D. N., & Efendi, S., said that data wrapping analysis is used to evaluate the efficiency of using resources (inputs) to achieve results *(outputs)* to maximize efficiency. Data envelopment analysis (DEA) is a non-parametric method in economics and operations research to estimate output limits. It is used to measure the productive efficiency of the decision-making unit (DMU) empirically. Although DEA is closely related to production theory in economics, it is also used for benchmarking in operations management, where a series of measures are selected to compare operating, production, and service performance. In benchmarking situations, Montoya-Quintero, et al., an effective DMU, as defined by the DEA, is not necessarily a *"production frontier", but rather leads to a "best practice angle."*

The term DMU in DEA can take the form of different units such as banks, hospitals, factory units, departments, universities, schools, power plants, police stations, Traffic offices, tax offices, prisons, and all units working the same characteristics. To elaborate, there are two given factors influence the choice of AH, namely: DMU must be a homogeneous unit. These units perform the same missions and have the same goals. The performance-specific inputs and outputs of the DMU must be identical, unless they differ only in magnitude and intensity. Data envelopment analysis can be used to measure efficiency, including analysis for research on health *(wellness),* education *(education),* factories *(manufacturing),* transportation communications *(transportation),* and banking *(banking).*

**Analysis of Research Methods**

The given factors in this study include the effectiveness of Indonesian Islamic banks for the period 2020-2021 using the Data Envelopment Analysis (DEA) approach and Islamic values. The return on assets (ROA) serves as main variable used to calculate the efficiency of Bank Syariah Indonesia. Data envelopment analysis (DEA) consists chiefly a non-parametric method in economics and operations research to estimate output limits. It is used to measure the productive efficiency of the decision-making unit (DMU) empirically.[[17]](#footnote-17) According to Sitompul, DEA is a tool to evaluate process activities in a system or work unit. Evaluation is carried out as a comparative or correlative assessment between one unit and other units in the organization. In principle, this DEA method follows a non-parametric approach, which is a linear programming-based technique. The purpose of the DEA analysis is to evaluate the efficiency of using resources *(inputs)* to achieve results *(outputs)* in a maximize efficiency. In addition, DEA calculates the effectiveness of organizations that are part of a group based on the best organizational performance of the same group. The individual units analyzed in the DEA are symbolized as DMU (Decision Making Unit) or locally known as UPK.[[18]](#footnote-18)

**Types and Objects Of Research**

The roa is utilized as variable applied in this study to calculate the level of efficiency. Usage period 2019-2020. The first step of this research is to apply data packaging analysis (dea) and then proceed with the second step, namely the methodological approach toward measuring of worshipping god/prayer values.

**Method of Collecting Data**

The data collection method applied in this study is data from the annual accounts of Indonesian Islamic Commercial Banks for the period of 2019-2021.

**Analysis Method**

1. Stage 1: Calculation of Indonesian Islamic Bank Efficiency using Data Envelopment Analysis (DEA) techniques

In this study, non-parametric analysis is applied in conjunction with Data Analysis Envelopment (DEA). The DEA method used to evaluate the performance of an entity, by using the analysis it is possible to find out which units and which factors need to be improved in that unit as well as to calculate the efficiency value to find out whether or not there is an increase in performance. The variable used to calculate DEA here is ROA.

Tabel 2. Return on Assets of Indonesian Islamic Banks

|  |  |  |  |
| --- | --- | --- | --- |
| Description | 2021 | 2020 | 2019 |
| ROA | 0,0161 | 0,0138 | 0,0144 |

The following technique applied for calculating the efficiency of Bank Syariah Indonesia from 2019 to 2021.

Information:

E : Efficiency

v1 : ROA of the previous year v2 : ROA

Current year

From the given data from table 1.2 we will get efficiency values for 2020 and 2021. Here is the calculation process

Efficiency value 2020





Efficiency value in 2021



From the above calculation, the acquired ROA variable does not experience efficiency development in 2019-2020 since data result of -0.0006 or -0.06%, accordingly the absolute value used to assess the development of efficiency, which was 0.00001. In 2020-2021, there is an increase in term of efficiency of as much as 0.0023 or 0.23%. It can be concluded that the efficiency of Indonesian Islamic Banks decreased from 2019 to 2020, however an increase took place from 2020 to 2021.

1. Stage 2: Methodological Approach incorporating spiritual worship values

Spiritual Prayer Value Intermediation

In this study, the benchmark concept used in explaining the Islamic connection with the level of efficiency at Bank Syariah Indonesia is the praying spirit and obedience of Bank Syariah Indonesia employees carrying out congregational prayers, number of rows of prayer, and prayer rooms. By utilizing the concept, it can evaluate the efficiency level of the bank's performance where Islamic values are in line with Islamic guidelines. The following is an assessment of the weight of prayer that is used to explain the relationship between Islam and efficiency at Indonesian Islamic Banks (Bahri, B., 2018).

Tabel 3. Weight of Prayer Rating

|  |  |
| --- | --- |
| Year | Prayer Weight |
| 2021 | 80% |
| 2020 | 90% |

 *Source: Analysis, 2022*

From the data obtained through an interview with employees of Bank Syariah Indonesia, they realized prayers in the congregation nevertheless carried out specifically to employees’ personal resting time schedules to ensure the need for sections active performing and annual progression aim. After getting the value of the weight of the prayer next step applied is to calculate the value of the influence of prayer with the formula.

Table 4. The Value of the Effect of Prayer

|  |  |  |  |
| --- | --- | --- | --- |
| Tahun | Efisiensi | Nilai Sholat | Jumlah |
| 2020 | 0,001% | 80% | 0,0008% |
| 2021 | 0,23% | 90% | 0,207% |

 *Source: Analysis, 2022*.

Based on the calculation results in the table above, it is perceived there has been a drastic increase in term of value of influence of spiritual prayer from 2020 to 2021.

**Impact Of Covid-19 On Sharia Banking**

As the first case of Covid-19 was announced by the Government of the Republic of Indonesia, later in March 2, 2020, it disrupted economies around the world. The COVID-19 pandemic has now reached more than 195 countries and the number of infected cases is increasing. Out of total population of Indonesia at 471,907,717 million people, more than 3,905,308 million died from Covid-19 epidemic.[[19]](#footnote-19) As a matter of facing Covid-19 the government urges all Indonesian citizens to apply physical distancing in daily occurrence.[[20]](#footnote-20) However, decision to implement physical distancing and social distancing (PSBB) in several areas ultimately affected the Indonesian economy. Activity restrictions caused slower economic growth and eventually lead to unemployment in Indonesia increased, since companies reduced manufacturing activities. The reality perceive as potential risks faced by banks, especially in the Indonesian banking industry.[[21]](#footnote-21) There are potential risks of the COVID-19 pandemic: Difficulty in bank financing, the increasing possibility of stalled credit, and Bank interest spread.

The Covid-19 pandemic has a severe impact on the Indonesian economic sector. Ambarsari urges Islamic banks to adapt to the pandemic situation without delaying in many ways, includes:

1. Islamic banks are restructuring loans to reduce risks whereas carefully selecting clients since the banks are at infancy state.
2. Islamic banks will focus on developing digital banking.
3. Islamic banks in particular need to help their customers small and medium enterprises.
4. Islamic banks are required to carry out digital marketing.
5. Islamic banking implementers must be able to lead in agility and do not resort to other means.

The risks faced by Islamic banks includes, first, the difficulty in lending service as a result of the temporary suspension of the corporate sector as a result of preventing the Covid-19 pandemic with the Implementation and Reduction of Mass Social Restrictions (PSBB). Funding is absolutely required considering the demand for certain Bank products/services is decreasing. The second risk is the increased possibility of stalled debts. Results of: Cessation of production of goods due to a decrease in demand, Termination of employment with difficult installments (PHK), and Bank loans.[[22]](#footnote-22)

The third risk is the margin to be paid for bank customer deposits. It is precisely makes Islamic banks better than generally conventional ones. Islamic banks apply a profit-sharing system. The system also allows the amount of profit-sharing commission to decrease along with the decline in Islamic banking income. Based on the description and analysis, compared to traditional banks, Islamic banks are more favorable and advantageous.[[23]](#footnote-23)

**CONCLUSION**

Based on the efficiency calculation, accordingly Bank Syariah Indonesia in period of 2019-2020 shows an efficiency level of -0.06%, hence the absolute value applied to assess its efficiency is 0.00001%. In 2020-2021 there is an efficiency development of 0.23%. From these calculations, it can be concluded that the efficiency of Bank Syariah Indonesia decreased from 2019 to 2020, but the trend increased from 2020 to 2021 period. Contributing factor of the efficiency decline in 2019-2020 was nothing but a form of the impact of the Covid-19 pandemic. However, in the span of 2020-2021 there is an increase in the performance of Indonesian Islamic Banks, this can be witnessed from the significant increase in Return on Assets (ROA) accordingly the efficiency value of Indonesian Islamic Banks increased in that year (Setyowati, D.H., 2020).

Subsequently, the calculation value of the influence of spiritual prayer shows an increase trend. In 2020 the value of the weight of the prayer obtained at 80%, while in 2021 it increases by 90%. Calculating value of the influence of prayer by multiplying the efficiency level with the weight value of the prayer, creating the harmony between religious values ​​and the efficiency level of performance at the bank. The value of the influence of prayer in 2020 is 0.0008% and in 2021 it is 0.207%. Based on the given calculations, there is a drastic increase in the value of the influence of prayer from 2020 to 2021 respectively (Mohammed, Ibrahim, and Heiba, 2021).

**REFERENCES**

Aziz, Roikhan Mochamad., Ismail, Fadel. (2020). Refleksivitas Hahslm Dalam Likuiditas Bank Pembiayaan Rakyat Syariah Di Lingkar Jakarta. *Prosiding Seminar Nasional (SNAP).* Perbanas Institute. <http://snap.perbanas.id/wp-content/uploads/2020/03/Book-of-Abstracts-SNAP-2020.pdf>

Aziz, Roikhan Mochamad., Jayaprawira, Acep R., Amanda, Dita Nur. (2020). The Risk of Investment on Capital Liquidity Utility With Religiosity Index In Indonesian Property. *Proceeding of 7th National and International Research Conference.* Pathumthani University Thailand.

Aziz, Roikhan Mochamad., Susanti, Melly., Suwarni., Sabri., Firmansyah, Iman., Fahlevi, Mochammad. (2020). Financial Reporting of Non-Profit Pharmacists Organizations Based on Financial Standards. *Sys Rev Pharm 2020; 11 (11): 1150-1156.* <http://www.sysrevpharm.org/?mno=25119>

Aziz, Roikhan Mochamad., Syam'aeni, Muhammad Asyep., Sya'baniyah Nisfina., Fatihah, Izzah Corrie. (2020). Peningkatan Kemampuan Literasi Digital bagi Siswa Kelas 4 dan 5 SDN Tanjakan 3, Kabupaten Tangerang. Jurnal Pengabdian Pada Masyarakat Vol. 5, No. 1. [http://ppm.ejournal.id](http://ppm.ejournal.id/)

Aziz, Roikhan Mochamad., Syanwani, Munifah., Jayaprawira, Acep R., Hidayah, Nur., Sekar, Pramesti. (2020). Performance Of Hajj Fund In Indonesia And Malaysia. *Hamdard Islamicus Vol. 43 No. S.1 (2020), 685-696.* <https://hamdardislamicus.com.pk/journal/index.php/hamdardislamicus/article/view/174>

Bahri, B. (2018). Kewirausahaan Islam: Penerapan Konsep Berwirausaha dan Bertransaksi Syariah dengan Metode Dimensi Vertikal (Hablumminallah) dan Dimensi Horizontal (Hablumminannas). Maro, 1(2), 67-86.

Conservation and economic efficiency: an approach to materials policy. RFF Press. (Page, T. (2013).

Herizal, M., Diana, D., Rezti, R., & Suryani, S. (2022). The Effect of Capital Adequacy Ratio, Loan to Deposit Ratio, and Operational Costs than Operating Revenue on Return on Assets: Study on Conventional Banks in Indonesia. Hut Publication Business and Management, 1(2), 42-59.Sihotang, M. K., Hasanah, U., & Hayati, I. (2022). Model Of Sharia Bank Profitability Determination Factors By Measuring Internal And Externals Variables. Indonesian Interdisciplinary Journal Of Sharia Economics (Iijse), 5(1), 235-251.

Kaban, R. F., Setyawati, N., Syafila, F. S. A., Soeminar, A. A., Amelia, M. P., Hanifa, A. M., & Dewi, P. (2022). Analysis of Islamic Banking Efficiency in Indonesia in the Digital Bank Era during the Covid-19 Pandemic. Perisai: Islamic Banking and Finance Journal, 6(2), 166-174.

Liang, H. Y., & Reichert, A. K. (2012). The impact of banks and non-bank financial institutions on economic growth. The Service Industries Journal, 32(5), 699-717.

MA, Roikhan., Muttaqien, Zainal., NA, Dita., Ari. (2021). Strengthening Awareness Of Paying Zakat. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi) (JIMEA).* Vol. 5 No. 1. STIEM Bandung. <http://journal.stiemb.ac.id/index.php/mea/article/view/1858>.

Masood, O., & Ashraf, M. (2012). Bank‐specific and macroeconomic profitability determinants of Islamic banks: The case of different countries. Qualitative Research in Financial Markets, 4(2/3), 255–268. https://doi.org/10.1108/17554171211252565

Mehjabin, A. (2022). Analysis of investment risk management efficiency of Islami Bank Bangladesh Limited compared to conventional banks in Bangladesh.

Moghaddas, Z., Tosarkani, B. M., & Yousefi, S. (2022). Resource reallocation for improving sustainable supply chain performance: An inverse data envelopment analysis. International Journal of Production Economics, 252, 108560.

Mohammed, Mustafa Omar, and Fauziah Md Taib. (2015). Developing Islamic banking performance measures based on Maqasid al-Shari’ah framework: Cases of 24 selected banks. Journal of Islamic Monetary Economics and Finance 1.1: 55-78.

Mohammed, R. H., Ibrahim, M. M., & Abu-Heiba, A. (2021). Exergoeconomic and multi-objective optimization analyses of an organic Rankine cycle integrated with multi-effect desalination for electricity, cooling, heating power, and freshwater production. Energy Conversion and Management, 231, 113826.

Muharram, H. (2007). Analisis perbandingan efisiensi bank syariah di Indonesia dengan metode data envelopment analysis (Periode tahun 2005). Jurnal Ekonomi dan Bisnis Islam, 2(3), 80-166.

Murthi, B. P. S., Choi, Y. K., & Desai, P. (1997). Efficiency of mutual funds and portfolio performance measurement: A non-parametric approach. European Journal of Operational Research, 98(2), 408-418.

Naser, K., & Moutinho, L. (1997). Strategic marketing management: the case of Islamic banks. International Journal of Bank Marketing.

Nodin, M. N., Mustafa, Z., & Hussain, S. I. (2022). Assessing rice production efficiency for food security policy planning in Malaysia: A non-parametric bootstrap data envelopment analysis approach. Food Policy, 107, 102208.Alzoubi, H., Alshurideh, M., Kurdi, B., Akour, I., & Aziz, R. (2022). Does BLE technology contribute towards improving marketing strategies, customers’ satisfaction and loyalty? The role of open innovation. International Journal of Data and Network Science, 6(2), 449-460.

Rakshit, B. (2022). Assessing the effects of cost, revenue and profit efficiency on bank performance: empirical evidence from Indian banking. International Journal of Organizational Analysis.

Ray, S. C. (2004). Data envelopment analysis: theory and techniques for economics and operations research. Cambridge university press.

Reynolds, D. (2003). Hospitality-productivity assessment: Using data-envelopment analysis. Cornell Hotel and Restaurant Administration Quarterly, 44(2), 130-137.

Roikhan, Mulyono, Lilik., Miyasto. (2020). Internal, External and Religiosity Determinant of Performance in Indonesian Navy Primary Cooperative (Primkopal). *American Research Journal of Business and Management Volume 4, Issue 1, 23 Pages.*

Sari, D. P., Nabella, S. D., & Fadlilah, A. H. (2022). The Effect of Profitability, Liquidity, Leverage, and Activity Ratios on Dividend Policy in Manufacturing Companies in the Food and Beverage Industry Sector Listed on the Indonesia Stock Exchange in the 2016-2020 Period. Jurnal Mantik, 6(2), 1365-1375.

Tadesse, Sable, and Work Muluye. (2020) *"The impact of COVID-19 pandemic on the education system in developing countries: a review."* Open Journal of Social Sciences 8.10: 159-170.

Setyowati, D. H. (2020). Pengaruh Efisiensi Operasional Terhadap Return on Assets Pada Bank Umum Syariah di Indonesia. Jurnal Masharif al-Syariah: Jurnal Ekonomi dan Perbankan Syariah, 4(2).

Shahid, M., Bhatti, F. A., Mohtesham, M. M. J., & Mahadi, N. F. B. (2022). The Value Propositions and The Nature of The Islamic Banks Products and Services in Providing The Solution/s for The Financial Needs of Bimb Business Customer Segments. El Barka: Journal of Islamic Economics and Business, 5(1), 105-134.

Sukmana, Raditya, and Nur Ahlina Febriyati. (2016). *"Islamic banks vs conventional banks in Indonesia: An analysis on financial performances."* Journal of Management 47.1: 81-90.

Sundararajan, Venkataraman. (2007). "*Risk measurement and disclosure in Islamic finance and the implications of profit sharing investment accounts."* Islamic Economics and Finance 121: 121

Susanti, *Neneng*, and Vincentia Wahju Widajat. (2021). "*MSMEs Understanding of Taxation During the COVID-19 Pandemic*." Journal of Innovation and Community Engagement 2.1: 35-46.

Tobroni, Imam, et al. (2020). "*Covid 19: Political cooperation and ritual modification of religious worship through large-scale social restrictions."* Systematic Reviews in Pharmacy (Sys Rev Pharm.) 11.12: 644-648.

Van der Vlist. A. B., Duits, A., van de Veerdonk, M. M., Mulders, A. E., Schreurs, K. R., Tabel, Y., ... & Leentjens, A. F. (2022). Cognitive Outcome After Deep Brain Stimulation for Refractory Obsessive–Compulsive Disorder: A Systematic Review. Neuromodulation: Technology at the Neural Interface, 25(2), 185-194.

Yoon, S., Chung, Y., & Son, H. (2022). The relationship between cost behavior and R&D efficiency: empirical evidence from Korean stock markets. Technology Analysis & Strategic Management, 34(1), 85-98.

Zheng, C., Islam, M. N., Hasan, N., & Halim, M. A. (2022). Does intellectual capital efficiency matter for banks’ performance and risk-taking behavior?. Cogent Economics & Finance, 10(1), 2127484

1. Masood, O., & Ashraf, M. (2012). *Bank‐specific and macroeconomic profitability determinants of Islamic banks: The case of different countries. Qualitative Research in Financial Markets*, 4(2/3), 255–268. https://doi.org/10.1108/17554171211252565 [↑](#footnote-ref-1)
2. Van der Vlist. A. B., Duits, A., van de Veerdonk, M. M., Mulders, A. E., Schreurs, K. R., Tabel, Y., ... & Leentjens, A. F. (2022). *Cognitive Outcome After Deep Brain Stimulation for Refractory Obsessive–Compulsive Disorder: A Systematic Review*. Neuromodulation: Technology at the Neural Interface, 25(2), 185-194 [↑](#footnote-ref-2)
3. Sadono, Sukirno. 2008. *Mikroekonomi: Teori Pengantar. Edisi Ketiga*. Jakarta: PT Raja Grafindo Persada [↑](#footnote-ref-3)
4. Alzoubi, H., Alshurideh, M., Kurdi, B., Akour, I., & Aziz, R. (2022). *Does BLE technology contribute towards improving marketing strategies, customers’ satisfaction and loyalty? The role of open innovation*. International Journal of Data and Network Science, 6(2), 449-460. [↑](#footnote-ref-4)
5. Sadono, Sukirno. 2008. *Mikroekonomi: Teori Pengantar. Edisi Ketiga*. Jakarta: PT Raja Grafindo Persada [↑](#footnote-ref-5)
6. MA, Roikhan., Muttaqien, Zainal., NA, Dita., Ari. (2021). Strengthening Awareness Of Paying Zakat. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi) (JIMEA).* Vol. 5 No. 1. STIEM Bandung. <http://journal.stiemb.ac.id/index.php/mea/article/view/1858>. [↑](#footnote-ref-6)
7. Aziz, Mochamad Roikhan. 2020. *Ekonomi Islam Metode Hahslm*. Sumatera Barat: Balai Insan Cendekia Mandiri [↑](#footnote-ref-7)
8. Aziz, Mochamad Roikhan. 2020. *Ekonomi Islam Metode Hahslm*. Sumatera Barat: Balai Insan Cendekia Mandiri. [↑](#footnote-ref-8)
9. Zheng, C., Islam, M. N., Hasan, N., & Halim, M. A. (2022). *Does intellectual capital efficiency matter for banks’ performance and risk-taking behavior?*. Cogent Economics & Finance, 10(1), 2127484. [↑](#footnote-ref-9)
10. Yoon, S., Chung, Y., & Son, H. (2022). *The relationship between cost behavior and R&D efficiency: empirical evidence from Korean stock markets*. Technology Analysis & Strategic Management, 34(1), 85-98. [↑](#footnote-ref-10)
11. Rakshit, B. (2022). *Assessing the effects of cost, revenue and profit efficiency on bank performance: empirical evidence from Indian banking*. International Journal of Organizational Analysis. [↑](#footnote-ref-11)
12. Shahid, M., Bhatti, F. A., Mohtesham, M. M. J., & Mahadi, N. F. B. (2022). *The Value Propositions and The Nature of The Islamic Banks Products and Services in Providing The Solution/s for The Financial Needs of Bimb Business Customer Segments*. El Barka: Journal of Islamic Economics and Business, 5(1), 105-134. [↑](#footnote-ref-12)
13. Mehjabin, A. (2022). *Analysis of investment risk management efficiency of Islami Bank Bangladesh* Limited compared to conventional banks in Bangladesh. [↑](#footnote-ref-13)
14. Sari, D. P., Nabella, S. D., & Fadlilah, A. H. (2022). The Effect of Profitability, Liquidity, Leverage, and Activity Ratios on Dividend Policy in Manufacturing Companies in the Food and Beverage Industry Sector Listed on the Indonesia Stock Exchange in the 2016-2020 Period. Jurnal Mantik, 6(2), 1365-1375. [↑](#footnote-ref-14)
15. Sihotang, M. K., Hasanah, U., & Hayati, I. (2022). *Model Of Sharia Bank Profitability Determination Factors By Measuring Internal And Externals Variables.* Indonesian Interdisciplinary Journal Of Sharia Economics (Iijse), 5(1), 235-251. [↑](#footnote-ref-15)
16. Herizal, M., Diana, D., Rezti, R., & Suryani, S. (2022). *The Effect of Capital Adequacy Ratio, Loan to Deposit Ratio, and Operational Costs than Operating Revenue on Return on Assets: Study on Conventional Banks in Indonesia.* Hut Publication Business and Management, 1(2), 42-59. [↑](#footnote-ref-16)
17. Nodin, M. N., Mustafa, Z., & Hussain, S. I. (2022). *Assessing rice production efficiency for food security policy planning in Malaysia: A non-parametric bootstrap data envelopment analysis approach*. Food Policy, 107, 102208. [↑](#footnote-ref-17)
18. Moghaddas, Z., Tosarkani, B. M., & Yousefi, S. (2022). *Resource reallocation for improving sustainable supply chain performance: An inverse data envelopment analysis*. International Journal of Production Economics, 252, 108560 [↑](#footnote-ref-18)
19. Tadesse, Sable, and Work Muluye. (2020) *"The impact of COVID-19 pandemic on the education system in developing countries: a review."* Open Journal of Social Sciences 8.10: 159-170 [↑](#footnote-ref-19)
20. Tobroni, Imam, et al. (2020). "*Covid 19: Political cooperation and ritual modification of religious worship through large-scale social restrictions."* Systematic Reviews in Pharmacy (Sys Rev Pharm.) 11.12: 644-648 [↑](#footnote-ref-20)
21. Sukmana, Raditya, and Nur Ahlina Febriyati. (2016). *"Islamic banks vs conventional banks in Indonesia: An analysis on financial performances."* Journal of Management 47.1: 81-90. [↑](#footnote-ref-21)
22. Susanti, *Neneng*, and Vincentia Wahju Widajat. (2021). "*MSMEs Understanding of Taxation During the COVID-19 Pandemic*." Journal of Innovation and Community Engagement 2.1: 35-46. [↑](#footnote-ref-22)
23. Sundararajan, Venkataraman. (2007). "*Risk measurement and disclosure in Islamic finance and the implications of profit sharing investment accounts."* Islamic Economics and Finance 121: 121. [↑](#footnote-ref-23)