



# Mutual fund investment performance: Indonesia Sharia stock index as characteristics moderating model

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## Abstract

**Purpose** – This study investigates how the Sharia stock price index influences the relationship between various factors, such as the expense ratio, portfolio turnover ratio, cash ratio, age, size, and characteristics of Sharia mutual funds, and their overall performance.

**Methodology** – This study employed a quantitative descriptive research method to analyze 316 populations. Purposive sampling was used to obtain a total of 51 samples. We used research tools for data collection and SMART PLS 4 statistical software to analyze the collected data.

**Findings** – The characteristics of ISSI-moderated mutual funds have a significant positive effect on the performance of Sharia mutual funds. To achieve better performance, investment managers must incur high costs in implementing active strategies. The more active the investment manager is in trading by looking at existing opportunities, the better the performance of the Sharia Mutual Funds.

**Implications** – The implications of this research indicate that the movement of the Sharia stock price index can strengthen the positive causal relationship between several characteristics of Sharia mutual funds. The effects of Sharia mutual fund portfolio instruments, including shares, bonds, and deposits from the Sharia banking industry, also contribute to improving the performance of Sharia mutual funds in Indonesia.

**Originality** – This study investigates the moderating role of the Sharia stock price index on several characteristics of Sharia mutual funds, including the expense ratio, portfolio turnover ratio, cash ratio, age of the mutual funds, and size of the mutual funds, in relation to their performance.

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## Introduction

This increase in financial literacy awareness has largely led to an increase in the number of Indonesian investors investing in stocks, bonds, and mutual funds. The number of investors grew by around 56%, reaching 3.87 million single investor identifications (SIDs) by the end of December 2020, a four-fold increase compared to the previous four years. By the end of April 2021, the number of investors had continued to increase by 32%, reaching a total of five million SIDs (Zouaoui, 2019). The increasing growth of Islamic mutual funds has attracted the attention of

academics worldwide. Mutual funds have gained in popularity in recent years. Apart from offering a low risk of investment, [Kamil et al. \(2021\)](#) Islamic equity portfolio also offers a substantial amount of return annually. Since mutual funds are diversified in portfolios, their asset value fluctuates owing to many factors ([Gad & Andrikopoulos, 2019](#); [Abdelsalam et al., 2014](#)). [Ardhani \(2020\)](#) finds that many macroeconomic factors, such as inflation, money supply, and gross domestic product, have a positive and significant effect on the net asset value of Islamic mutual funds. This highlights the intricate relationship between economic indicators and financial products in the Indonesian Islamic stock market ([Abbes & Trichilli, 2015](#)). [Ghallabi et al. \(2024\)](#) provide insights to portfolio managers and policymakers regarding important decisions such as portfolio construction, hedging, and market stability.

Mutual funds enhance the liquidity of the investment market, facilitating the trading of investment products with greater transparency and equitable pricing systems. This liquidity not only supports smoother market operations but also encourages broader participation by diverse investor segments. [Castro et al. \(2020\)](#) investigate Sharia Mutual Funds, which adhere to Islamic Sharia rules and appeal to both Muslim and non-Muslim investors as an alternative investment option. [Hassan \(2022\)](#) states that the objective is to study the phenomenon of collecting and developing waqf funds by the waqf institution and to provide recommendations on techniques to maximize the collection and development of Shariah funds. The evaluation of portfolio performance involves more than simply assessing the investment rate of return. Therefore, it is crucial to consider additional elements that provide a comprehensive view of their effectiveness and sustainability. Factors such as the expense ratio, which affects profitability by indicating the cost efficiency of managing the fund, and the portfolio turnover ratio, which measures trading activity and potential tax implications, play pivotal roles ([Lagu, 2020](#)).

In 2020, the smallest expense ratio value was for Manulife Stock Syariah Golden Asia at 0.0063, and the largest was for Cipta Syariah Balance at 0.0963. In 2021, the smallest is the Batavia China Impact Sharia Equity at 0.0032, and the highest is the Syailendra Sharia Equity Fund at 0.0845. Research shows that effective mutual fund management occurs automatically when costs are very low. By carefully analyzing these additional factors, investors can make more informed decisions about which mutual funds best suit their investment goals. However, keep in mind that past performance is not necessarily indicative of future results. Therefore, conducting thorough research and consulting with financial advisors can help investors navigate the complex world of mutual fund investments and maximize their potential returns. Ultimately, well-managed low-cost mutual funds can be a valuable addition to a diversified investment portfolio. In a recent study, [Chowdhur et al. \(2024\)](#) found that funds typically gravitate toward large-cap stocks because small-cap stocks are more expensive to trade. They conjecture that, in equilibrium, funds optimally choose the trade-off between trading costs and the potential for higher returns on small-cap stocks.

In 2020, the portfolio turnover ratio for Manulife Saham Syariah Golden Asia was 0.0066, whereas that of Trim Syariah Shares was the highest at 5.9123. In 2021, the lowest was Avrist Equity at 0.0116, with Trim Syariah Shares having the highest at 5.5692. By 2022, Aurora Sharia Equity had the lowest value, and Trim Syariah Shares had the highest at 4.2474. These variations indicate differing levels of trading aggressiveness among the mutual funds. Similarly, the cash ratio in 2020 saw Aurora Syariah Saham Amanah with the highest at 1 and PAN Arcadia Dana Saham Syariah with the lowest at 0.0007. In 2021, PAN Arcadia Dana Saham Syariah had the lowest value at 0.0001, and EastSpring Syariah Money Market Khazanah had the highest value at 0.9996. In 2022, Batavia China Impact Sharia Equity had the highest value at 0.9962, whereas Aurora Sharia Equity had the lowest value at 0.0010. These differences were influenced by investment managers' strategies during the Covid-19 pandemic, with some opting to hold cash for stability.

Danareksa Indeks Syariah, with an age of 16.7912 years, is the longest-running Sharia equity mutual fund, reflecting the experience and reliability of its investment manager. Studies such as [Bouzekouk and Mansor \(2024\)](#) and [Al Rahahleh and Bhatti \(2023\)](#) highlight the significance of various factors in decision-making, including investor demographics, fund management characteristics, and fund attributes. Experienced managers, like those at Danareksa, provide stability and long-term growth, which is crucial during uncertain times like the Covid-19 pandemic.

The decision to maintain cash reserves can help protect against market volatility. Research also shows that Sharia mutual funds, which initially preferred medium-cap stocks in Islamic countries, are now trending towards large-cap stocks, a trend consistent in non-Islamic domiciles. This shift demonstrates managers' strategic adaptation to optimize fund performance.

The movement of the expense ratio, portfolio turnover ratio, cash ratio, age of mutual funds, and mutual fund portfolio size can provide consideration for investment managers regarding their professionalism in managing the performance of Sharia mutual funds for both Muslims and non-Muslims. Muslim communities that become investors can obtain welfare benefits that are equal to the maximum net asset value of the mutual fund. Islamic funds, such as funds in general, refer to standard investment management practices that combine investors' financial goals with religious considerations. Therefore, Islamic funds in Islamic and non-Islamic countries are actively organized so that fund managers rebalance their portfolios to achieve investment objectives (Peillex et al., 2019). However, the objectives may vary, especially depending on the investment style, as indicated by the characteristics that moderate Islamic capital market performance.

## Literature Review

Assessing the performance of mutual fund portfolios is crucial for investors. The performance of Mutual Funds reflects the best competing products in the market, resulting in the creation of an efficient portfolio (Sawant et al., 2023). Many factors, including the fees, contribute to fluctuating returns on mutual fund investments. The expense ratio reveals only the costs incurred. The expense ratio reflects the efficiency of the investment manager in managing the mutual funds. The high operating costs demonstrate the investment manager's insufficient preparation to create good stock mutual fund performance. Babalos et al. (2009) reveal a significant negative impact of the expense ratio on mutual fund performance. His research explains that a higher expense ratio indicates a higher likelihood of the investment manager failing to manage the funds raised efficiently and effectively. Large operational expenses prevent investors from maximizing their returns. Other studies by Dwiprakasa and Dharmastuti (2016), who found the same significant negative effect between the expense ratio and performance, support the results of this study.

H<sub>1</sub>: The expense ratio negatively affects the performance of Islamic mutual funds.

Portfolio turnover reflects how aggressive or active a fund manager is in managing mutual funds. A high portfolio turnover means that the company can cope with fluctuating stock and mutual fund market conditions (De Mingo-López & Matallín-Sáez, 2018). The company understands when to rotate its portfolio, leading to a proper reflection of the mutual fund's performance. Thus, the ROP of the stock mutual fund will be profitable. Research by Champagne et al. (2018) and Chen et al. (2004), who also find a positive relationship between portfolio turnover ratio and mutual fund performance, supports the results of this study.

H<sub>2</sub>: Portfolio turnover ratio has a positive effect on the performance of Islamic Mutual Funds.

The cash ratio is the ratio of cash and cash equivalents to the total assets managed by mutual funds. A mutual fund's cash ratio can affect performance, because there may be liquidity constraints. Calculating the cash ratio in a company generally provides two main benefits: determining the level of liquidity security within the company and addressing various liquidity issues. Knowing the cash ratio value will help the company's management take strategic steps. If a company encounters financial difficulties, it can use this step as a solution. The results of research by Azis et al. (2022) show a positive effect of the cash ratio on mutual fund performance. Therefore, a better liquidity position results in better mutual fund performance. Graef et al. (2019) also support the positive effect of the cash ratio and negative effect of mutual fund size, implying that large funds generally face liquidity constraints.

H<sub>3</sub>: The cash ratio has a positive effect on Islamic mutual funds' performance.

The age of mutual funds is a numeric category that shows the age of each mutual fund calculated from its effective date of the mutual fund. Mutual funds that are younger tend to have higher risk. Mutual fund investors prefer funds with mature investment management experience.

Investors are more inclined to invest their assets in mutual funds at a more mature age, hoping for optimal income. Based on the results of Dewi and Nurwulandari (2022), it appears that the age of mutual funds has a positive and significant effect on the performance of stock mutual funds, meaning that if the age of mutual funds increases, the performance of stock mutual funds will also increase. The age of mutual funds reflects an investment manager's experience in managing funds. Sumaningrum and Mahfud (2016) support the results of this study, demonstrating a positive and significant effect of mutual funds' age.

H<sub>4</sub>: The age of mutual funds has a positive effect on Islamic mutual funds' performance.

The size of mutual funds influences their performance. Because the size of the mutual fund affects the level of market capitalization, the larger the mutual fund, the greater the possibility of diversifying assets. Therefore, as the size of mutual fund assets under management increases, it provides flexibility and increases bargaining power, leading to economies of scale. This, in turn, reduces the costs incurred by the investment manager, thereby improving mutual fund performance. Asriwahyuni (2017) reveals a positive correlation between the age of mutual funds and their performance.

H<sub>5</sub>: Indonesia's Sharia Stock Index (ISSI) positively affects the performance of Islamic mutual funds.

Indonesia's Sharia Stock Index (ISSI) affects Islamic mutual funds' performance. This is due to the fact that almost all Islamic mutual funds invest in stocks included in the Indonesia sharia stock index (ISSI), Endri (2019) which serves as an indicator of capital market activity. Thus, if investment performance in sharia-based stocks moves positively, it will also increase the total net asset value of Islamic Mutual Funds. This implies that it also enhances Islamic mutual funds' performance. Ding et al. (2013) found a positive effect of the stock price index on mutual fund characteristics. Ridlo et al. (2021) supported the results of this study, demonstrating the same effect.

H<sub>6</sub>: Mutual fund characteristics moderated by ISSI positively affect Islamic mutual fund performance.

## Research Methods

The research is designed using quantitative methods and secondary data, such as Performance Sharia Mutual Funds (PMFT), Expense ratio (ER), Portfolio turnover (PT), Cash ratio, Age of mutual fund (AG), Size of Mutual Fund (SIZE), and Indonesia Sharia Stock Index (ISSI), which are derived from the annual financial statements of the Reksadana company that manages the Sharia account with the denomination ratio. The data can be obtained through the websites <https://www.idx.co.id/id> and <https://id.investing.com/charts/indices-charts> and several websites of reksada companies. Then, the data are processed using Smart PLS-, by passing through the steps required by this Smart PLS 4 statistical program, and then the PMF<sub>t</sub> model is obtained. Table 1 summarizes the specifications of the variables.

The research population comprises mutual funds listed on the Indonesia Stock Exchange and the Financial Services Authority (Otoritas Jasa Keuangan, OJK) in 2021-2022. The purposive sampling technique selects the sample based on specific criteria, including active Islamic stock mutual funds in the form of Collective Investment Contracts (KIK), among others. The sample used was the Reksa Sharia equity fund with the currency of rupiah and US dollars as many as 51 companies, and the data analysis technique used in this study is quantitative data analysis and Variance Based Structural Equation Modeling (SEM) with the help of SmartPLS version 3.2.9. The SmartPLS software version 3.2.9 facilitates the use of structural equation modeling (SEM) as a research instrument.

In the data analysis, the outer model test was used to assess the validity and reliability of the construct and inner model test. In addition, hypothesis tests, such as the P-values test and R-square ( $R^2$ ) test. In addition, some of the evaluation criteria used included reliability and construct validity, discriminant validity, cross-loading, Heretroit-Monotrait Ratio (HTMT), average variance extracted (AVE), collinearity statistics (VIF), goodness of fit model (GoF), and others. Overall, software version 3.2.9 provides researchers with a comprehensive toolkit for conducting rigorous structural equation modeling analysis (Dash & Paul, 2021; Purwanto & Sudargini, 2021; Shmueli et al., 2016).



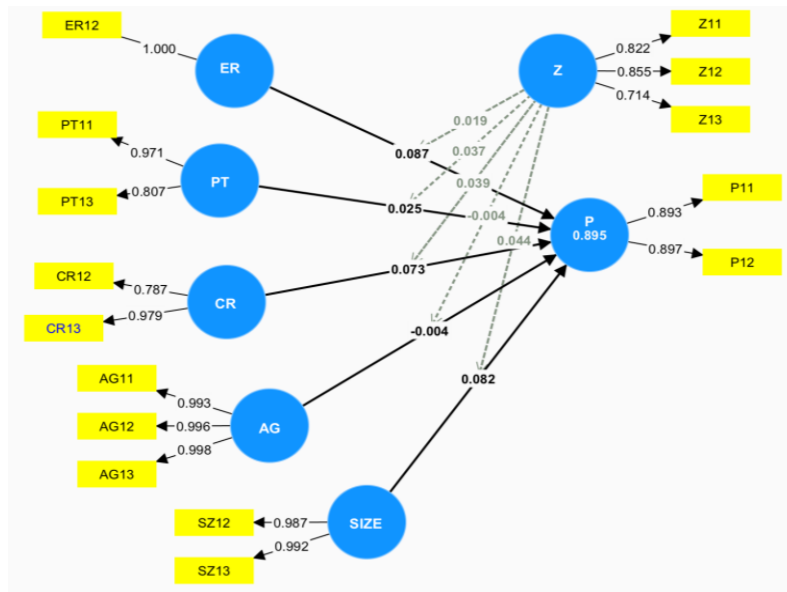
**Table 1.** Summary of operational variables

Type of Variable	Variable	Definition	Denomination
Dependent	Performance of Sharia Mutual Funds (PMF <sub>T</sub> )	<p>comparing the portfolio risk premium with its standard deviation</p> $R/V = \frac{\overline{R_P} - R_F}{\sigma_P}$ <p>R/V =Reward to variability ratio  <math>\overline{R_P}</math>= Average portfolio return, i.e. gain minus sales/purchase costs and administrative costs  <math>R_F</math>=Risk free rate  <math>\sigma_P</math>=Standard portfolio return deviation rejects risk measure</p>	Ratio
Independent	Expense ratio (ER)	The ratio of the Fund's operating expenses (including custodial fees and management fees) to the total funds under management.	Ratio
	Portfolio turnover (PT)	The ratio of sales or purchases of the Fund's portfolio (whichever is smaller) in a certain period, divided by the total assets held by the Fund.	Ratio
	Cash ratio (CR)	The proportion of cash and cash equivalents to total assets under management of the Fund. A Fund's cash ratio may affect performance as there may be liquidity constraints.	Ratio
	Age of mutual fund (AG)	The age of the Mutual Fund when the Mutual Fund is effectively traded on the stock exchange floor	Number
	Size of mutual fund (SIZE)	Fair market value of securities and other assets of the Fund less liabilities (debt).	Number
Moderation	Indonesia sharia stock index (ISSI) (Z)	Composite index of sharia stocks listed on the Indonesia Stock Exchange	Ratio

Source: Data processing

By utilizing the outer model test, researchers can ensure the accuracy and consistency of their constructs, whereas the inner model test allows for the evaluation of the overall model fit. Hypothesis tests such as the P-values test and R-Square test further enhanced the statistical analysis capabilities of the software. By incorporating various evaluation criteria, such as reliability, construct validity, and discriminant validity, researchers can confidently interpret their findings and draw meaningful conclusions from their SEM analysis. This study reviews SmartPLS and discusses its various features, thereby providing researchers with concrete guidance that fits their analytical research goals (Cheah et al., 2024).

The fair market value of securities and assets of the fund minus any liabilities is a key factor in determining the overall performance and stability of the Mutual Fund. Quarterly financial reports published by the Financial Services Authority provide valuable insights into funds' financial health and performance. Additionally, the moderation of the Indonesia sharia stock index (ISSI) and the composite index of Sharia stocks listed on the Indonesia Stock Exchange play a crucial role in evaluating funds' performance and market trends (Clarke, 2015). By analyzing these ratios and indices, investors can make more informed decisions about a fund's potential for growth and stability. Keeping a close eye on these indicators can help investors stay ahead of market trends and accordingly adjust their investment strategies. Ultimately, understanding and interpreting these ratios and indices is essential for investors seeking to maximize their returns in mutual funds (see Figure 1).



**Figure 1.** Graphical output Data  
Source: Data processing

From Figure 1, the equation represents the factors that contribute to the prediction of the PMFt. Each coefficient indicates the strength of the relationship between the PMFt and the corresponding variable. The variables ERt, PTt, CRt, AGt, and SZt were all considered in the prediction model, where Z represents the interaction term with ERt, PTt, CRt, AGt, and SZt. By considering all of these factors and their interactions, we can better understand and predict the value of PMFt. Additionally, by analyzing the coefficients of each variable and their interactions, we can identify the factors that have a greater impact on the prediction of PMFt. For example, a higher coefficient for ERt suggests that the Expense Ratio plays a significant role in determining PMFt, whereas a negative coefficient for AGt indicates that age funds may have a negative impact on PMFt. Understanding these relationships can help organizations make informed decisions and implement strategies to improve their PMFt.

**Table 2.** Statistical descriptive

Name	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness	Cramér-von Mises p value
ER11	285.96	254.00	63.00	963.00	176.84	3.03	1.40	0.03
ER12	358.18	328.00	19.00	845.00	200.25	-0.40	0.53	0.12
ER13	6489.92	365.00	91.00	309957.00	42917.83	50.99	7.14	0.00
PT11	11629.75	9252.00	66.00	59123.00	12244.82	5.24	2.11	0.00
PT12	12793.63	8782.00	43.00	55692.00	13155.13	2.04	1.53	0.00
PT13	10587.35	7166.00	46.00	42474.00	9445.77	1.30	1.25	0.00
CR11	946.49	490.00	7.00	10000.00	1892.04	19.48	4.38	0.00
CR12	769.77	497.00	1.00	9996.00	1398.39	38.01	5.83	0.00
CR13	843.55	384.00	10.00	9962.00	1889.22	19.87	4.48	0.00
AG11	70.35	71.00	12.00	117.00	30.55	-0.91	-0.16	0.34
AG12	78.35	78.00	16.00	120.00	27.26	-0.53	-0.29	0.49
AG13	86.14	85.00	39.00	123.00	22.77	-0.77	-0.09	0.45
SZ11	96947.41	101203.00	58363.00	119821.00	16306.67	-0.21	-0.86	0.00
SZ12	97159.10	101373.00	58891.00	118864.00	15296.66	-0.13	-0.84	0.00
SZ13	95746.20	100351.00	40818.00	118296.00	17131.14	0.92	-1.13	0.00
Z11	25716.73	20546.00	758.00	91145.00	17773.23	4.02	1.89	0.00
Z12	35111.41	31889.00	530.00	93876.00	22826.60	0.10	0.73	0.06
Z13	39018.80	21153.00	1770.00	97763.00	31069.87	-1.23	0.57	0.00
P11	27188.14	21792.00	4458.00	91145.00	18726.75	3.05	1.81	0.00
P12	35111.41	31889.00	530.00	93876.00	22826.60	0.10	0.73	0.06
P13	39018.80	21153.00	1770.00	97763.00	31069.87	-1.23	0.57	0.00

Source: Data processing

Table 2 inform that if ERT (Expense ratio) increases by 1 unit, PMFt (performance of mutual funds) is predicted to increase by 0.087 units. Similarly, if ERT interacts with Z (another variable), the impact on PMFt will be even greater, showing how multiple factors can influence performance outcomes. However, if ERT increases by 1 unit but PTt (Portfolio turnover) decreases by 0.5 units simultaneously, the overall impact on PMFt may not be as straightforward as predicted. This highlights the importance of not only considering individual variables but also their interactions in predicting performance outcomes accurately. If ERT increases by 1 unit and PTt decreases by 0.5 units, the net effect on PMFt may be influenced by the strength of the relationship between ERT and PTt. If the two variables have a strong positive correlation, the decrease in PTt may offset the increase in ERT, resulting in a smaller increase in PMFt than predicted. On the other hand, if ERT and PTt have a weak or negative correlation, the decrease in PTt may have little impact on the overall performance outcome. This underscores the importance of analyzing not just individual variables but also their interplay and potential synergies or trade-offs in determining performance outcomes.

## Results and Discussion

Islamic equity mutual funds adhere to Islamic Sharia rules and do not invest in shares of companies that violate the Sharia principles. This requires a license and fatwa from the National Shariah Council under the Indonesian Ulema Council (Majelis Ulama Indonesia, MUI). Islamic equity investments are evaluated every six months. Despite having advantages such as investment diversification, professional management, and Sharia investment principles, Islamic equity mutual funds also have disadvantages such as fluctuations in returns, low liquidity, and investment manager risk. The expense ratio measures a mutual fund's operating expenses relative to the total funds it manages. All Islamic mutual funds have expense ratios below 1%, which indicates efficient management. However, significant differences may exist between funds. Portfolio turnover ratio reflects the extent to which an investment manager conducts active trading in a fund's portfolio. Some funds have varying levels of trading aggressiveness.

The cash ratio shows a fund's ability to cover short-term debt with available cash. The cash ratio values may vary between mutual funds, indicating differences in cash allocation policies. Mutual Fund Age reflects the age of the mutual fund and the experience of its investment manager. The longer a mutual fund operates, the better its experience. Mutual fund size reflects the size of the mutual fund based on the total assets under management. Islamic equity mutual funds are generally large enough to generate economies of scale and reduce operational costs. Investment decisions in mutual funds should consider factors such as Sharia principles, fees, and fund-manager performance. Buying a mutual fund that suits one's goals and risk tolerance is an important step in building a successful investment portfolio.

## Data Instrument Test

Table 3. Reliability and validity test

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AG	0.996	0.999	0.997	0.992
CR	0.785	1.585	0.881	0.789
P	0.751	0.752	0.889	0.801
PT	0.782	1.273	0.886	0.797
SIZE	0.979	1.022	0.989	0.979
Z	0.722	0.759	0.841	0.639

Source: Data processing

Based on Table 3, all construct variables had Cronbach's alpha and rho\_A values  $> 0.7$ , and Composite Reliability  $> 0.6$ . Thus it can be stated that all construct variables qualify as having good reliability. The validity of all construct variables is seen from the Average Variance Extracted (AVE) value  $> 0.5$ . This value indicates that the validity requirements were well satisfied. Table 4 shows a Heretroit-Monotrait Ratio (HTMT) value of  $< 0.9$ . These results indicate that all construct

variables are different from each other. It can also be interpreted that all construct variables have uniqueness.

**Table 4.** Discrimination validity test

	AG	CR	ER	P	PT	SIZE	Z	Z x ER	Z x PT	Z x CR	Z x AG	Z x SIZE
AG												
CR	0.28											
ER	0.289	0.277										
P	0.097	0.181	0.195									
PT	0.283	0.226	0.331	0.074								
SIZE	0.601	0.495	0.219	0.135	0.217							
Z	0.187	0.209	0.107	1.234	0.165	0.113						
Z x ER	0.111	0.254	0.073	0.2	0.128	0.177	0.17					
Z x PT	0.157	0.232	0.148	0.297	0.488	0.29	0.315	0.118				
Z x CR	0.338	1.008	0.268	0.024	0.239	0.449	0.03	0.262	0.145			
Z x AG	0.257	0.401	0.142	0.102	0.162	0.33	0.107	0.356	0.176	0.315		
Z x SIZE	0.309	0.52	0.215	0.163	0.317	0.346	0.156	0.361	0.049	0.557	0.447	

Source: Data processing

As shown in [Table 5](#), the indicator had an outer loading value of  $> 0.7$ . This indicates that the entire indicator can represent the variable.

**Table 5.** External load test

	Outer loadings	Outer weights
AG11 $\leftarrow$ AG	0.993	0.35
AG12 $\leftarrow$ AG	0.996	0.314
AG13 $\leftarrow$ AG	0.998	0.34
CR12 $\leftarrow$ CR	0.787	0.264
CR13 $\leftarrow$ CR	0.979	0.809
ER12 $\leftarrow$ ER	1	1
P11 $\leftarrow$ P	0.893	0.554
P12 $\leftarrow$ P	0.897	0.563
PT11 $\leftarrow$ PT	0.971	0.77
PT13 $\leftarrow$ PT	0.807	0.312
SZ12 $\leftarrow$ SIZE	0.987	0.445
SZ13 $\leftarrow$ SIZE	0.992	0.566
Z11 $\leftarrow$ Z	0.822	0.426
Z12 $\leftarrow$ Z	0.855	0.507
Z13 $\leftarrow$ Z	0.714	0.304
Z x AG $\rightarrow$ Z x AG	1	1
Z x PT $\rightarrow$ Z x PT	1	1
Z x SIZE $\rightarrow$ Z x SIZE	1	1
Z x CR $\rightarrow$ Z x CR	1	1
Z x ER $\rightarrow$ Z x ER	1	1

Source: Data processing

[Table 6](#) displays an SRMR value of approximately 0.10. Therefore, we can conclude that the model satisfies the necessary requirements for its feasibility or suitability as a model. The results from [Table 6](#) state that each independent variable partially has a significant influence on the dependent variable. The P values  $> 0.05$  clearly demonstrate this. The R-square ( $R^2$ ) clearly demonstrates a value  $> 0.7$ . Thus, the independent variables used simultaneously have a significant 89.5% influence on the dependent variable.

Based on the Outer Model Analysis using the Construct Reliability and Validity test, the results show a value of Cronbach's alpha and  $\rho_A > 0.7$ , and Composite Reliability  $> 0.6$ . The



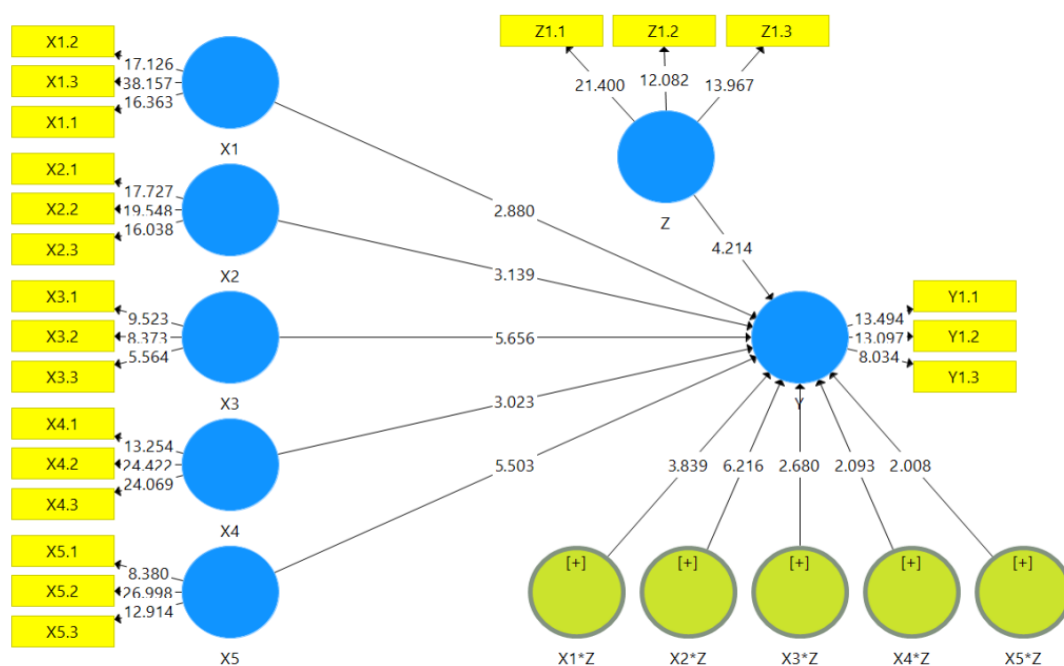
results were Average Variance Extracted (AVE) > 0.5, heterotrait ratio (HTMT) < 0.9, and Outer Loading > 0.7. Thus, the indicators of each research variable are considered valid and can be used to build this research model.

**Table 6.** Model fit: hypothesis testing, R square, f square and VIF

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
AG1 → P1	0.334	0.334	0.380	2.880	0.000
CR1 → P1	0.041	0.03	0.296	3.139	0.000
ER → P1	-0.226	-0.218	0.345	5.656	0.000
PT1 → P1	0.01	0.038	0.442	3.023	0.000
SZ1 → P1	0.476	0.464	0.317	5.503	0.000
Z1 → P1	0.067	0.077	0.315	4.214	0.000
Z1 x AG1 → P1	0.445	0.379	0.531	3.839	0.000
Z1 x ER → P1	-0.548	-0.504	0.451	6.216	0.000
Z1 x CR1 → P1	-0.423	-0.43	0.623	2.680	0.000
Z1 x PT1 → P1	-0.065	0.013	0.695	2.093	0.000
Z1 x SZ1 → P1	0.534	0.448	0.53	2.008	0.000
	R-square				R-square adjusted
P	0.895				0.866
	Saturated model				Estimated model
SRMR	0.069				0.069
d_ULS	0.57				0.569
d_G	1.435				1.435
Chi-Square	352.712				353.557
NFI	0.620				0.619

Source: Data processing

Furthermore, based on the Inner Model Analysis, the reductive relevance ( $Q^2$ ) value is > 0.05. These results indicate that the model has strong predictive value. The absence of collinearity problems was also indicated by the VIF value < 5. Finally, an SRMR value of < 10 indicates that the model is feasible, appropriate, and meets the criteria.



**Figure 2.** Graphical output  
Source: Data processing

The Path Coefisien test based on P Values shows that the effect of the Expense Ratio on Sharia Mutual Fund Performance is significant. These results show that the p-value is 0.000, which means that  $<0.05$ , and the T-statistic value is 0.880. [Figure 2](#) also confirms that the Expenditure Ratio has a positive and significant effect on Islamic Mutual Funds' performance. This means that the higher the Expenditure Ratio, the higher is the performance of Islamic Mutual Funds. This shows that an investment manager incurs considerable costs to obtain information from the market. This is because acquiring a superior investment portfolio requires a high fee. The largest element of the Expense Ratio is the management fee paid to the fund management company for consulting services.

The findings of this study corroborate those of [Asmoro and Syaichu \(2022\)](#), [Harminingtyas and Susetyarsi \(2021\)](#), and [Babalos et al. \(2009\)](#), who found that the expense ratio significantly and positively affects Sharia mutual fund performance. The results of the Path Coefisien test based on P Values show that the effect of Portfolio Turnover on Sharia Mutual Fund Performance is significant. These results show that the P-Values values are recorded at 0.000, which means  $<0.05$ , and the T-statistics value is 0.139. Thus, Portfolio Turnover has a positive and significant effect on Sharia Mutual Fund Performance. Thus, the higher the Portfolio Turnover, the higher the Sharia Mutual Fund Performance. This shows that the more active the investment manager is in trading, the better the performance of the Mutual Fund.

According to [Chen et al. \(2004\)](#) and [Marzuki and Worthington \(2015\)](#), portfolio turnover significantly affects the performance of Islamic mutual funds. The results of the Path Coefisien test based on P Values show that the effect of the Cash Ratio on Sharia Mutual Fund Performance is significant. These results show that the p-value is 0.000, which means that  $<0.05$ , and the T-statistic value is 0.656. Cash Ratio has a positive and significant effect on Sharia Mutual Fund Performance. This means that the higher the Cash Ratio, the higher is the performance of Islamic Mutual Funds. The interpretation of this result is that having enough cash provides an advantage for investment managers in managing investments during the crisis due to Covid-19.

Building on [Audita et al. \(2023\)](#) and [Graef et al. \(2019\)](#), the research highlights compelling insights into factors influencing Sharia Mutual Fund performance. Specifically, the positive and significant impact of cash ratio underscores its critical role in enhancing fund performance. This ratio not only indicates the fund's liquidity and ability to seize investment opportunities but also contributes to stability in varying market conditions. Moreover, the study emphasizes the substantial influence of mutual fund age on Sharia Mutual Fund performance, with statistical evidence supporting its significance (P value of  $0.000 < 0.05$  and T-statistics value of 0.023). As mutual funds age, there is a demonstrable improvement in performance, suggesting that seasoned investment management expertise plays a pivotal role. This experience enhances the fund's ability to navigate market complexities, optimize investment strategies, and deliver consistent returns over time. Together, these findings underscore the multifaceted dynamics at play in Sharia Mutual Fund performance, where prudent management of liquidity and the cumulative experience of fund managers are pivotal in achieving robust investment outcomes.

The study's findings align closely with prior research conducted by [Sukmaningrum and Mahfud \(2016\)](#), [Dewi and Nurwulandari \(2022\)](#), and [Dwiprakasa and Dharmastuti \(2016\)](#), all of which underscore the significant and positive impact of mutual fund age on Sharia Mutual Fund performance. This consistency in findings supports the notion that as mutual funds mature, they tend to exhibit improved performance metrics, reflecting the cumulative experience and refined strategies of fund managers over time. Furthermore, the study reveals compelling statistical evidence regarding mutual fund size and its influence on Sharia Mutual Fund performance. With a P-value of 0.000 (significantly less than 0.05) and a T-statistic value of 1.503, this research demonstrates that mutual fund size exerts a positive and significant effect on performance. Larger mutual funds tend to perform better, driven by economies of scale that lower investor costs and enhance operational efficiency. This scale advantage allows larger funds to spread fixed costs across a broader asset base, potentially resulting in higher investor returns. In summary, these findings underscore the dual importance of mutual fund age and size in shaping the performance of Sharia mutual funds. While age reflects managerial experience and strategic maturity, size leverages

economies of scale to optimize cost efficiency and enhance overall fund performance in the long term.

This study builds upon and supports the conclusions of [Asriwahyuni \(2017\)](#), highlighting a robust and positive correlation between mutual fund size and Sharia mutual fund performance. This research underscores that the size of mutual funds plays a pivotal role in influencing their performance metrics, with larger funds often demonstrating enhanced operational efficiencies and economies of scale that contribute to superior returns. Moreover, the study delves into the broader impact of mutual fund characteristics ([Rachmawati et al., 2020](#)), moderated by the Indonesian Stock Sharia Index (ISSI), on the performance of Islamic Mutual Funds. The statistical analysis reveals compelling insights: the expense ratio (T-statistics value of 0.839), portfolio turnover (1.216), cash ratio (0.680), age of the mutual fund (0.093), and size of the mutual fund (1.008) all exhibit significant effects with p-values of 0.000. When moderated by ISSI, these characteristics positively influence Sharia mutual fund performance. Furthermore, the findings of this study are consistent with those of [Ding et al. \(2013\)](#) and [Ridlo et al. \(2021\)](#), which similarly highlight that mutual fund characteristics, influenced by the Jakarta Composite Index (JCI) in their studies, significantly and favorably impact Sharia mutual fund performance. This consistency across different studies underscores the robustness of these relationships and their relevance in understanding the dynamics of Islamic mutual fund performance in the Indonesian market context.

## Conclusion

Research indicates that the expense ratio plays a pivotal role in influencing the performance of mutual funds in Sharia. The significant positive effect of the expense ratio suggests that investment managers incur substantial costs in executing active investment strategies, involving intensive efforts to gather and analyze information to identify high-quality stocks that align with the fund's investment criteria and Sharia principles. This strategic selection of securities directly impacts the overall asset growth and, consequently, the performance of Islamic mutual funds. Additionally, turnover and cash ratios also show significant positive influences on Sharia Mutual Fund performance, reflecting the importance of proactive and flexible management in responding to market dynamics.

The implications of these research findings are that efficiently managing expenses, turnover, and cash ratios is crucial for optimizing the performance of Sharia Mutual Funds. Investment managers must balance the costs incurred by the potential returns from well-chosen investments. Furthermore, the age of the mutual fund and the size of the assets under management also contribute positively to performance, with older funds and those with larger assets tending to yield higher returns. These factors, if well managed, can enhance the competitiveness of Sharia Mutual Funds in the Islamic financial market.

However, this research has some limitations, such as the scope of the data, which might be limited to a specific time period and economic conditions. Recommendations for future research include expanding the timeframe and considering different economic conditions to obtain a more comprehensive understanding of the factors influencing Sharia Mutual Fund performance. Additionally, further research could explore the impact of other specific characteristics, such as more in-depth investment strategies and sector-specific analysis, to provide a more complete insight into the management of Sharia Mutual Funds.

## Author contribution

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Investigation: Dedy Darmalaksana

Methodology: Dedy Darmalaksana

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