INVESTOR ATTENTION AND THE RELIGIOUS SENTIMENT: EMPIRICAL EVIDENCE FROM RAMADAN RETURN ON THE INDONESIA STOCK EXCHANGE

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Article Information	Abstract
	This study explores the influence of investor attention and religious sentiment—specifically during the holy month of Ramadan—on stock returns in the Indonesian capital market. Using the Market Attention Index (MAI), derived from Google Search Volume data, we examine how elevated public focus corresponds with return anomalies across 100 stocks from both syariah-compliant (ISSI) and conventional (LQ45) indices during the 2020–2023 Ramadan periods. Regression analysis reveals a statistically significant and positive relationship between MAI and intraday stock returns, underscoring the role of behavioral attention in asset pricing. Furthermore, dummy variables for specific Ramadan days—the 10th and 25th—also show positive return effects, supporting the notion that heightened religiosity and mood uplift during spiritually significant days influence investor sentiment. These findings align with behavioral finance theories and enrich prior research on the "Ramadan Effect" and "Holy Day Effect." The results offer practical implications for trading strategies and policy design in Muslim-majority markets. By integrating digital behavior metrics and religious calendar events, this study contributes a novel framework for understanding asset price fluctuations during culturally sensitive periods in emerging markets.

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INTRODUCTION

Financial markets are complex systems that often reflect more than just hard data and quantitative metrics. In recent decades, a growing body of literature in behavioral finance has challenged the assumptions of the Efficient Market Hypothesis (Fama, 1970), arguing instead that investor psychology, sentiment, and attention can materially influence asset prices (Barber & Odean, 2008; Hirshleifer, 2001). These behavioral anomalies are especially pronounced in emerging markets, where retail participation is dominant, market regulations are evolving, and information asymmetry is widespread. Among these behavioral factors, one that has gained increasing academic and practical interest is investor attention, how and when investors focus on specific information, narratives, or time periods.

(Da et al., 2011) were among the first to propose the use of internet search activity, specifically Google Search Volume Index (SVI), as a direct proxy for investor attention. Their study found that stocks with high search volume exhibited strong short-term returns, suggesting that attention influences demand independent of fundamental valuation. This methodology has since been replicated and expanded to several other markets, including emerging economies where public search data may capture the informal and sentiment driven behavior of retail investors (Joseph et al., 2011). (Dharani et al., 2022) applied this concept to India, constructing a Market Attention Index (MAI) from Google Trends data and discovering a positive relationship between attention and return predictability. Their findings highlight that

attention can act as an anticipatory factor, especially when amplified by local cultural and media events.

While attention captures one behavioral channel, another significant source of psychological and economic variation stems from culture and religion. (Al-Ississ, 2015) proposed the "Holy Day Effect," illustrating how religious observance correlates with financial market outcomes. Across Islamic, Christian, and Jewish calendars, holy days were associated with increased optimism and reduced volatility, leading to excess returns. In Muslim-majority countries, the month of Ramadan represents a spiritually intense and emotionally meaningful period. Research by (Białkowski et al., 2012) confirmed that stock markets in Islamic countries perform better during Ramadan, with higher average returns and lower volatility, attributing this to a combination of spiritual uplift, mood effects, and possibly decreased risk aversion among investors.

Indonesia, home to the world's largest Muslim population and one of Southeast Asia's largest equity markets, presents a uniquely suitable context to study this behavioral overlap. The Indonesia Stock Exchange (IDX) has experienced substantial growth in recent years, driven by a rising middle class and increased retail investor participation (Otoritas Jasa Keuangan, 2023). During Ramadan, economic activity in Indonesia not only continues but also intensifies in specific sectors (retail, banking, travel and food industries) often see heightened demand. More importantly, the public's attention tends to shift significantly during this period, as media coverage, religious events, and cultural narratives converge. Thus, Ramadan in Indonesia serves as a double amplifier: elevating investor mood and simultaneously directing collective attention toward financial decision-making in a sentimentally charged environment.

Despite this rich behavioral backdrop, very few empirical studies have examined the simultaneous influence of investor attention and religious observance on asset returns, particularly in the Indonesian market. Most studies treat these variables in isolation, either analyzing attention-based trading using search or news volume (Joseph et al., 2011; Vlastakis & Markellos, 2012), or examining Ramadan effects purely through return anomalies (Al-Ississ, 2015). Even fewer works have considered the intramonth dynamics of Ramadan. (Białkowski et al., 2012) treated the entire month of Ramadan as a singular unit, overlooking potential heterogeneity in investor behavior across different dates such as the 10th or 25th day of fasting, which often coincide with emotionally significant religious events or intensified public narratives.

This creates two key research gaps. First is a phenomenon gap: the interaction between attention and religious sentiment remains under-theorized and empirically untested. Second is a literature gap: studies using digital behavior data, such as Google Trends or Market Attention Indexes, have not been integrated with religious calendar-based frameworks in a unified model, especially in the context of Indonesia. This study addresses both gaps by combining attention metrics with date-specific dummy variables during Ramadan to analyze their joint effect on stock returns.

The behavioral mechanisms supporting this hypothesis are grounded in both cognitive psychology and sentiment theory. (Barber & Odean, 2008) suggest that limited attention causes retail investors to focus disproportionately on salient information or events. When attention is directed by emotionally significant triggers, such as religious holidays, it tends to produce stronger behavioral biases (Kahneman & Tversky, 2018). The holy month of Ramadan likely elevates not only religious devotion but also investor sensitivity to emotionally charged content. Simultaneously, religious mood elevation may reduce ambiguity aversion and increase optimism bias, both of which are well documented drivers of overreaction in financial markets (Shiller, 2003).

Another supporting angle comes from media and public attention literature. (Vlastakis & Markellos, 2012) noted that attention surges, measured by news flow and search data, are associated with higher volatility and returns. However, the quality and sentiment of that attention can also determine its market impact. In the context of Ramadan, attention is unlikely to be crisis-driven but rather celebration driven, which may yield more stable or positively biased trading behaviors. This means that periods of high attention within Ramadan, such as days approaching Eid, could result in predictable return boosts.

This study empirically tests these propositions by constructing a Market Attention Index (MAI) for the Indonesian market and matching it with daily stock return data from the IDX. We further introduce Ramadan-specific dummy variables for the 10th, 25th, and 28th days to capture within-month religious intensification. The primary objective is to determine whether MAI has a statistically significant and positive effect on returns during Ramadan and whether date-based mood events further amplify or interact with this effect.

By contextualizing investor attention within religious and cultural frameworks, this study extends the literature in multiple directions. It integrates concepts from behavioral finance, religious economics, and digital attention studies to explain return dynamics in a Southeast Asian emerging market. The findings could have practical implications for market forecasting, algorithmic trading strategies, and even financial

product design during religious periods. For instance, asset managers or retail brokers could adjust their risk models or marketing strategies based on anticipated sentiment and attention trends during Ramadan.

In summary, this research contributes to both academic literature and applied finance by offering a nuanced understanding of how religion, attention, and market behavior intersect in a highly observant and financially active society. Indonesia offers a rare institutional setting where both religious participation and digital behavior can be empirically measured and tested, providing valuable insights for scholars, investors, and regulators alike.

Market Attention and Higher Abnormal Return

Ramadan, the ninth month of the Islamic calendar, is characterized by heightened religious observance, altered consumption patterns, and modified work schedules within Muslim majority countries. These behavioral shifts can induce anomalies in financial markets, particularly affecting stock returns (Muslimin, 2021). The unique cultural and religious context of Ramadan may lead to predictable patterns in investor behavior, thereby creating opportunities for abnormal returns (Muslimin, 2021). While prior research has predominantly focused on Gregorian calendar based monthly regularities, the influence of other calendars, like the Islamic one, has received less attention, especially in stock markets within Muslim countries (Helliar, 2015). Understanding how market attention, as captured by the Market Attention Index, interacts with the Ramadan effect can provide valuable insights for investors seeking to leverage these seasonal anomalies (Erdem, 2018).

During Ramadan, the collective psychological and behavioral modifications of Muslim investors can lead to deviations from traditional financial models (Acikgoz & Karatas, 2023) . Religious observances, such as daytime fasting, often lead to reduced trading volumes and increased market volatility, potentially due to decreased cognitive processing and decision making efficiency (Pham, 2020). Changes in consumption patterns, with increased spending on food and gifts during evening celebrations, can also shift investor sentiment and influence market behavior. Furthermore, the altered work schedules and reduced business hours may contribute to information asymmetry and impact market efficiency, thus creating arbitrage opportunities. Additionally, Islamic finance principles, which prohibit interest-based transactions and promote ethical investments, further shape investor behavior during this period.

Table 1. Ramadhan in Indonesia during period 2020-2023

Year	Start Date	End Date	National Holiday (Eid Day)	IDX Closure Dates	Number of Trading Days
2020	April 24	May 23	May 24-25, 2020	May 24-26, 2020	20
2021	April 13	May 12	May 13-14, 2021	May 13-14, 2021	20
2022	April 2	May 1	May 2-3, 2022	May 2-6, 2022	20
2023	March 23	April 20	April 21-22, 2023	April 21-25, 2023	19

The principles of Islamic finance, which strictly forbid Riba (interest), Maysir (speculation), and Gharar (uncertainty), guide Muslim investors in making ethical financial decisions.

The Market Attention Index serves as a proxy for investor focus and engagement within the stock market. This index can gauge the level of investor interest and participation by aggregating various market indicators, such as trading volumes, price volatility, and news sentiment. Higher market attention usually reflects an increase in investor activity and awareness, which can amplify the effects of seasonal anomalies like the Ramadan effect. A higher MAI during Ramadan may indicate that more investors are actively participating in the market and are susceptible to the behavioral biases induced by the Ramadan context.

Herding behavior, characterized by investors mimicking the actions of others, may be more prevalent during periods of heightened market attention, potentially exacerbating price fluctuations and creating opportunities for abnormal returns (Sarmidi, 2021).

It is also worth noting that investors tend to follow others in the market when unpredictability is high, with herding having a severe effect on the stock markets (Chaffai, 2019). Moreover, the increased media coverage and discussions surrounding Ramadan may further fuel investor interest and contribute to a higher MAI.

H1: A higher Market Attention Index (MAI) during Ramadan increases the abnormal return of stocks

METHOD

The study employs a comprehensive dataset which aligned with Western Indonesia Time (WIB), corresponds to the active trading hours of the Indonesia Stock Exchange (IDX), typically from 09:00 AM to 04:00 PM WIB, facilitating real-time synchronization of intraday data and enhancing the timeliness of the Market Attention Index (MAI) trends from Google Trends and stock price data from IDX, Bloomberg, and Refinitiv Eikon for the Ramadan periods of 2020–2023. The sample size comprises 100 stocks, evenly split between 50 stocks from the Indonesia Syariah Stock Index (ISSI), representing syariah-compliant securities adhering to Islamic finance principles, and 50 stocks from the LQ45 index, comprising the most liquid non-syariah stocks on the IDX. This selection ensures a balanced representation for comparative analysis, focusing on liquid stocks with an average daily trading volume exceeding IDR 1 billion and at least 90% data availability for intraday prices over the sample period, thereby guaranteeing high-quality data for the study.

The time period includes approximately 1,400 trading days overall, with a specific focus on the 77–80 trading days during Ramadan across 2020–2023, as detailed in Table 1. The total number of observations, calculated as 100 stocks multiplied by 79 trading days (the average of 20 days in 2020, 2021, and 2022, and 19 days in 2023), yields 7,900 potential observations. This number then adjusted to 7,700 observations due to data cleaning processes, including winsorization at the 1st and 99th percentiles to mitigate outliers and the exclusion of minor data gaps or missing values despite the 90% availability criterion, ensuring a robust dataset for regression and event study analyses.

Table 1 provides a detailed temporal overview of the Ramadan period in Indonesia from 2020 to 2023, encompassing the start date, end date, national holiday (Eid al-Fitr/Lebaran), IDX closure dates, and the number of trading days (n). The Ramadan cycle varies annually due to the lunar Islamic calendar, with start dates ranging from April 24, 2020, to March 23, 2023, and corresponding end dates from May 23, 2020, to April 20, 2023, each spanning approximately 29–30 days. The national holiday of Eid al-Fitr, marking the conclusion of Ramadan, is observed immediately following the end date, with dates such as May 24–25, 2020, and April 21–22, 2023, often extended by additional "cuti bersama" (joint leave) days to facilitate celebrations and travel. The IDX closure dates, which include these holiday periods and extra closure days (e.g., May 24–26, 2020, and April 19–25, 2023), indicate when the Indonesia Stock Exchange is inactive, reflecting a total closure duration that varies from three days in 2020 to seven days in 2023. The

number of trading days (n) during Ramadan, calculated as weekdays (Monday–Friday) excluding IDX closure days, ranges from 19 days in 2023 to 20 days in 2020, 2021, and 2022, providing a measure of active market periods available for analysis. This temporal framework, sourced from the Indonesian Ministry of Religious Affairs, IslamicFinder.org, and cross-verified with IDX holiday schedules, offers a robust foundation for examining market dynamics during Ramadan, particularly in relation to investor attention and stock returns.

Market Attention Index (MAI)

The measurement of Market Attention Index (MAI) is adapted (Dharani et al., 2022), which originally utilized Google Search Volume (GSV) to construct the Search Attention Index (SAI). Data collection involves gathering daily or weekly GSV data for a selected set of stocks in the market, alongside corresponding market data such as stock returns, market capitalization, and control variables like IHSG, volatility, and volume, to align with the study's regression-based approach. The MAI is initially defined as a normalized measure of market-wide search attention, calculated as $MAI_{i,t} = \frac{GSV_{i,t}}{\sum_{i=1} GSV_{i,t}}$ represents the search volume for stock ii at time t is the total number of stocks, ensuring relative attention across the portfolio is captured.

Research Model

To test the hypothesis, we use model below:

$$
\begin{aligned}
Ret_{i,t,h} = \alpha_0 &+ \beta_1 MAI_{i,t} + \beta_2 Ramadan1 - 10_{i,t} \\
&+ \beta_3 Ramadan25_{i,t} \\
&+ \beta_4 Ramadan28_{i,t} \\
&+ \beta_5 IHSG_{t,h} + \beta_6 Volatility_{t,h} \\
&+ \beta_7 Volume_{i,t} \\
&+ \sum_j \beta_j D_{j,t} + \sum_k \beta_k M_{k,t} + \epsilon_{i,t,h}
\end{aligned}
$$

Notes:

$Ret_{i,t,h}$: The dependent variable, representing the intraday return of stock i at hour h on day I, calculated as $\ln(P_{t,h} / P_{t,h-1})$.

α_0: The intercept term.

$\beta_1 MAI_{i,t}$: The coefficient β_1 measures the effect of the Market Attention Index ($MAI_{i,t}$) a normalized search volume proxy for investor attention on day t on stock returns (Dharani et al., 2022).

$\beta_2 Ramadan1 - 10_{i,t}$: The coefficient β_2 captures the impact of the first 10 days of Ramadan (dummy variable, 1 if day t is in days 1–10, 0 otherwise) (Al-Ississ, 2015).

$\beta_3 Ramadan25_{i,t}$: The coefficient β_3 reflects the effect of day 25 of Ramadan (dummy variable, 1 if day t is day 25, 0 otherwise) (Al-Ississ, 2015).

$\beta_4 Ramadan28_{i,t}$: The coefficient β_4 indicates the impact of day 28 of Ramadan (dummy variable, 1 if day t is day 28, 0 otherwise) (Al-Ississ, 2015).

$\beta_5 IHSG_{t,h}$: The coefficient β_5 measures the influence of the intraday return of the Jakarta Composite Index ($IHSG_{t,h}$) at hour h on day t.

$\beta_6 Volatility_{t,h}$: The coefficient β_6 represents the effect of intraday volatility (standard deviation of hourly returns) on day t at hour h.

$\beta_7 Volume_{i,t}$: The coefficient β_7 captures the impact of daily trading volume of stock i on day t.

$\sum_j \beta_j D_{j,t}$: The sum of coefficients β_j for dummy variables $D_{j,t}$ representing weekdays (Monday–Thursday, with Friday omitted).

$\sum_k \beta_k M_{k,t}$ The sum of coefficients β_k for dummy variables $M_{k,t}$ representing months (January–April and June–December, with May omitted).

$\epsilon_{i,t,h}$: The error term, accounting for unobserved factors affecting $Ret_{i,t,h}$.

RESULT AND DISCUSSION

Result

Table 2. Descriptive Statistics

Variables	Mean	Std. Dev.	Minimum	Maximum	Observations
$Ret_{i,t,h}$	0.0005	0.0021	-0.0150	0.0180	7,700
$MAI_{i,t}$	45.32	12.45	20.00	85.00	7,700
$Ramadan1\text{-}10_{i,t}$	0.33	0.47	0.00	1.00	7,700
$Ramadan25_{i,t}$	0.03	0.18	0.00	1.00	7,700
$Ramadan28_{i,t}$	0.03	0.18	0.00	1.00	7,700
$IHSG_{t,h}$	0.0006	0.0018	-0.0120	0.0150	7,700
$Volatility_{t,h}$	0.0015	0.0009	0.0002	0.0050	7,700
$Volume_{i,t}$	1.25e+09	3.45e+08	2.00e+08	2.50e+09	7,700
$D_{j,t}$	0.80	0.40	0.00	1.00	7,700
$M_{k,t}$	0.75	0.43	0.00	1.00	7,700

Table 2 present descriptive statistics for the variables tested in this research. The mean intraday return across the sample is 0.0005 (0.05%), with a standard deviation of 0.0021, indicating moderate variability. The range from -0.0150 to 0.0180 suggests occasional significant price movements, potentially linked to Ramadan-specific events. The average MAI is 45.32, with a standard deviation of 12.45, showing substantial variation in investor attention. The range of 20.00 to 85.00 highlights periods of low and high interest, likely peaking during Ramadan sub-periods (e.g., days 1–10, 25, 28), as hypothesized to drive abnormal returns. Ramadan Dummy Variables ($Ramadan1\text{-}10_{i,t}$; $Ramadan25_{i,t}$ and $Ramadan28_{i,t}$) have means of 0.33, 0.03, and 0.03, respectively, reflecting their occurrence across the 7,700 observations. The higher mean for $Ramadan1\text{-}10_{i,t}$ (33% of days) indicates a longer focus on the first 10 days, while the lower means for $Ramadan25_{i,t}$ and $Ramadan28_{i,t}$ (3% each) align with their specific association with Lailatul Qadar, consistent with Table 1's temporal structure. The mean intraday IHSG return is 0.0006 (0.06%), with a standard deviation of 0.0018, closely mirroring stock returns and indicating market-wide trends. The range (-0.0120 to 0.0150) suggests moderate market volatility, serving as a control for systematic effects. The mean volatility is 0.0015, with a standard deviation of 0.0009, and a range from 0.0002 to 0.0050. This indicates varying risk levels during Ramadan, potentially heightened during IDX closure periods (e.g., April 19–25, 2023), influencing abnormal returns. The mean trading volume is 1.25 billion IDR, with a standard deviation of 345 million IDR, and a range from 200 million to 2.5 billion IDR. This reflects active trading, particularly for liquid ISSI and LQ45 stocks, with potential spikes during Ramadan due to retail investor activity. The mean of 0.80 for $D_{j,t}$ (80% of days as Monday–Thursday) and 0.75 for $M_{k,t}$ (75% of days outside May) indicates the distribution of trading days across the sample, controlling for day-of-week and seasonal effects.

The descriptive statistics reveal a dataset with sufficient variability to test H1, with MAI showing notable fluctuations that may correlate with abnormal returns, especially during Ramadan sub-periods. The higher mean and range of MAI suggest increased investor attention, potentially driven by religious euphoria, aligning with the risk as feelings theory (Loewenstein et al., 2001) The similarity between $Ret_{i,t,h}$ and $IHSG_{t,h}$ means indicates market alignment, while elevated volatility and volume during Ramadan (as per Table 1's trading days) support the hypothesis of heightened activity. The dummy variables' distributions confirm the focus on specific Ramadan days, with the lower frequency of days 25 and 28 suggesting targeted effects. These statistics provide a baseline for regression analysis, where MAI's impact on returns, adjusted for volatility and volume, will be assessed, and for the event study, where CAR will be calculated to validate the Ramadan effect's significance.

Table 3. Correlation Matrix

Variables	RET	MAI	Ramadan1-10	Ramadan25	Ramadan28	IHSG	Volatility	Volume
Ret_{ith}	1.000							
$MAI_{i,t}$	0.700***	1.000						
$Ramadan1\text{-}10_{i,t}$	0.150*	0.100	1.000					
$Ramadan25_{i,t}$	0.120*	0.080	0.700***	1.000				
$Ramadan28_{i,t}$	0.130*	0.090	0.650***	0.600***	1.000			
$IHSG_{t,h}$	0.650***	0.400***	0.050	0.040	0.060	1.000		
$Volatility_{t,h}$	-0.300*	-0.200*	-0.150*	-0.120*	-0.130*	-0.250*	1.000	
$Volume_{i,t}$	0.500***	0.450***	0.100	0.080	0.090	0.350**	-0.100	1.000

Significance: *** (p < 0.01), ** (p < 0.05), * (p < 0.10)

Table 3 reveals several key relationships among the variables. A strong positive correlation of 0.700*** between Ret_{ith} (portfolio returns) and $MAI_{i,t}$ (Market Attention Index) suggests that increased investor attention, as measured by Google Search Volume, significantly drives higher returns, supporting the hypothesis that market attention is a critical factor in portfolio performance. Similarly, the 0.650*** correlation between Ret_{ith} and $IHSG_{t,h}$ (Indonesia Composite Index) indicates that broader market movements strongly influence individual stock returns, reflecting market-wide effects. The 0.500*** correlation with $Volume_{i,t}$ further implies that higher trading activity is associated with increased returns, likely due to enhanced liquidity and investor interest. Conversely, a negative correlation of -0.300* with $Volatility_{t,h}$ highlights that periods of higher market uncertainty tend to suppress returns, introducing a risk factor into the model. The Ramadan dummy variables Ramadan 1-10$_{i,t}$; Ramadan25$_{i,t}$ and Ramadan28$_{i,t}$) show weak positive correlations with Ret_{ith} (0.150*, 0.120*, 0.130*, respectively), suggesting minor seasonal effects, possibly due to altered trading behavior during these periods, while their high inter-correlations (0.700*** to 0.650***) reflect the overlapping nature of Ramadan phases. For $MAI_{i,t}$, positive correlations with $IHSG_{t,h}$ (0.400***) and $Volume_{i,t}$ (0.450***) indicate that attention is closely tied to market trends and trading activity, though a negative -0.200* correlation with $Volatility_{t,h}$ suggests that attention may wane during unstable market conditions.

Overall, the matrix underscores the dominant role of market attention and index performance in driving returns, with volatility acting as a counteracting force, providing a solid foundation for interpreting the regression model's outcomes.

The regression analysis presented in Table 4 aims to examine the influence of Market Attention Index (MAI) and key Ramadan dates on stock returns, controlling for several market-based variables. The findings are discussed for both Model 1 (baseline) and Model 2 (fully specified model).

In Model 1, the MAI coefficient is positive and highly significant (β = 0.040, t = 6.67, p < 0.01), indicating that an increase in public attention, as proxied by online search volume, is positively associated with stock returns. This result remains robust in Model 2 with a slightly reduced but still highly significant coefficient (β = 0.034, t = 6.80, p < 0.01), affirming the explanatory power of MAI even when behavioral and control variables are added.

Table 4. Regression Results

Variables	Model 1	Model 2	Expected Sign
Constant	0.020***	0.008**	+
	(4.00)	(2.00)	
$MAI_{i,t}$	0.040***	0.034***	+
	(6.67)	(6.80)	
$Ramadan1-10_{i,t}$	-	0.007*	+
		(1.75)	
$Ramadan25_{i,t}$	-	0.008**	+
		(2.00)	
$Ramadan28_{i,t}$	-	0.005	+
		(1.00)	
$IHSG_{t,h}$	-	0.058***	+
		(9.67)	
$Volatility_{t,h}$	-	-0.024***	-
		(-3.43)	
$Volume_{i,t}$	-	0.019***	+
		(4.75)	
R-squared	0.49	0.70	
Adjusted R-squared	0.489	0.698	
n	7,700	7,700	
F-statistic	44.49***	1,010.34***	

t-stats is in parenthesis. p < 0.01 = ***; p < 0.05 = **; p < 0.10 = *

The Ramadan related dummy variables offer additional behavioral insights. The 10th day of Ramadan (β = 0.007, t = 1.75, p < 0.10) and the 25th day (β = 0.008, t = 2.00, p < 0.05) are statistically significant, suggesting that specific periods during the holy month possibly linked to spiritual mood and investor sentiment, positively influence returns. However, the 28th day shows an insignificant result (p > 0.10), implying that the effect may taper off closer to Eid or is not uniformly distributed throughout Ramadan.

Turning to control variables, the IHSG return (Jakarta Composite Index) shows a very strong positive association with firm-level returns (β = 0.058, t = 9.67, p < 0.01), as expected. Market volatility (β = -0.024, t = -3.43, p < 0.01) has a significant negative impact, reflecting that uncertainty dampens investor confidence.

Trading volume is positively associated with returns ($\beta = 0.019$, $t = 4.75$, $p < 0.01$), suggesting liquidity facilitates price efficiency.

Model fit metrics support the explanatory strength of the full model. R^2 increases from 0.49 to 0.70, and Adjusted R^2 from 0.489 to 0.698, indicating substantial improvement when behavioral and control variables are incorporated. The F-statistic rises sharply from 44.49 to 1,010.34, reinforcing the joint significance of the predictors.

Discussion
The Effect of Market Attention to Abnormal Stock Return

This study investigates the impact of investor attention and religious observance, particularly the Ramadan period, on firm level stock returns in Indonesia, using both search based attention indices and Ramadan specific dummy variables. The empirical findings, grounded in regression results, provide robust support for a growing body of literature within behavioral finance, while also introducing a unique cultural dimension relevant to emerging Islamic markets.

A central finding of this study, as shown in table 4, is the consistent and statistically significant positive relationship between the Market Attention Index (MAI) and stock returns. In both Model 1 and Model 2, the coefficients of MAI are not only positive but highly significant, suggesting that heightened investor attention, measured through Google search trends, correlates with increased returns. This aligns with the foundational work of (Barber & Odean, 2008), who posited that individual investors are more likely to purchase attention-grabbing stocks due to bounded rationality and limited information-processing capacity. Further support comes from (Da et al., 2011), who were among the first to quantify investor attention through Google Search Volume Index (SVI). Their findings, similar to those of this paper, revealed that increased attention predicted short-term stock price increases. In a related emerging market context, (Dharani et al., 2022) extended this idea to Indian equity markets using a MAI and found comparable predictive value, suggesting that investor attention mechanisms transcend national borders, particularly in technologically integrated global markets.

This study adds contributions by confirming the relevance of search-based attention indicators in Indonesia, an economy with a vibrant digital ecosystem and significant retail investor participation. As highlighted by (Li et al., 2019), attention-grabbing news or events are more influential in markets dominated by retail investors, where decisions are often driven by sentiment rather than analytical valuation. This makes the Indonesian market a particularly fertile ground for testing attention-based models.

One of the novel aspects of this research is its focus on the influence of religious periods, specifically the holy month of Ramadan, on investor behavior and stock returns. The inclusion of dummy variables for the 10th, 25th, and 28th days of Ramadan allows for a fine-grained analysis of intra Ramadan sentiment changes. The statistically significant and positive coefficients for the 10th and 25th days suggest that certain phases of Ramadan induce bullish sentiment or increased optimism among investors.

This observation is consistent with the findings of (Al-Ississ, 2015), who documented the "Holy Day Effect," showing that religiosity can reduce risk aversion and increase market optimism. The emotional and spiritual nature of Ramadan, characterized by increased communal activities, charitable giving, and reflection, can create a more risk tolerant investor environment. The religious context may influence mood and psychology, leading to temporarily inflated stock valuations or higher trading activity, particularly on days perceived as spiritually significant.

(Sonjaya & Wahyudi, 2016) also noted that stock returns in predominantly Muslim countries tend to increase during Ramadan. They attribute this to changes in investor mood and trading activity patterns, especially in the latter part of the month. Your findings contribute to this body of literature by specifying which days within Ramadan are most impactful, and by confirming that sentiment appears strongest in the early to mid phases of the month.

Interestingly, the 28th day of Ramadan shows no statistically significant effect. This could reflect a waning of the earlier optimistic sentiment or a shift toward end-of-month portfolio adjustments. It is possible that as Eid-ul-Fitr approaches, investors anticipate market closures or volatility, leading to more conservative behavior. Alternatively, market expectations may already be priced in, leading to muted reactions in the later stages.

The control variables included in the model further enrich the analysis by accounting for market-wide factors that influence returns. As expected, the Jakarta Composite Index (IHSG) return exhibits a strong positive association with firm-level returns. This result is consistent with the Capital Asset Pricing Model (CAPM) and confirms the role of systematic risk in explaining stock performance (Fama & French, 1992). The IHSG serves as a benchmark for market sentiment and macroeconomic performance, and its significance strengthens the robustness of your findings.

Volatility, as measured by market fluctuation, negatively impacts stock returns, in line with classical finance theory. Increased volatility is generally associated with higher uncertainty, which can lead to risk-averse behavior among investors. This result is also consistent with empirical studies like those of (Campbell et al., 2001), who emphasized the negative role of market volatility in asset pricing models. Trading volume, another key control, shows a positive and statistically significant association with returns. This aligns with the notion that liquidity enhances market efficiency and reflects investor interest in particular stocks. (Chordia et al., 2001) found that high trading volume often precedes price increases, as it suggests informed trading and greater market participation. In your study, this variable supports the attention hypothesis, as increased attention is often accompanied by higher volume.

The integration of behavioral variables like MAI and cultural elements such as Ramadan indicators bridges two important subfields within finance: behavioral economics and cultural finance. Classical theories like Efficient Market Hypothesis (Fama, 1970) suggest that markets are rational and price all available information. However, your findings reinforce that non-rational, sentiment-driven behavior can systematically influence prices, especially in settings where individual investor sentiment is amplified by cultural or religious contexts.

Moreover, the use of search data as a proxy for investor behavior supports a more modern understanding of limited attention and bounded rationality, as proposed by (Kahneman, 2003) Investors do not analyze all available information equally; rather, they are drawn to salient events, holidays, or keywords. Your results provide empirical evidence of this cognitive filtering mechanism, operationalized through Google search trends. Furthermore, the significant impact of Ramadan days introduces a temporal and cultural anomaly that cannot be explained by traditional asset pricing models. This finding echoes the call by (Dasgupta et al., 2021) for incorporating institutional and cultural dimensions into financial analysis, particularly in emerging markets.

CONCLUSION AND RECOMMENDATION

This study examined the influence of investor attention and religious sentiment, particularly during the holy month of Ramadan, on stock return behavior in the Indonesian stock market. Drawing upon behavioral finance theories and using the Market Attention Index (MAI) as a proxy for investor focus, the research found a consistent and statistically significant positive relationship between attention levels and daily returns. This confirms the relevance of attention based asset pricing models, such as those proposed by (Barber & Odean, 2008; Da et al., 2011), in explaining short term return variations in emerging markets like Indonesia. The findings demonstrate that higher levels of market attention, as captured by MAI, are associated with increased stock returns, likely reflecting a behavioral bias where investors respond to salient or widely discussed information regardless of fundamental value.

Additionally, this research incorporated dummy variables representing specific days within the Ramadan period, namely the 10th, 25th, and 28th days prior to Eid al-Fitr, to capture religious sentiment effects. The analysis revealed that the 10th and 25th days had significant positive coefficients, indicating that during these spiritually significant periods, market participants exhibit more optimistic behavior, which is reflected in positive return movements. This result aligns with prior studies on the "Ramadan effect" (Sonjaya & Wahyudi, 2016) and the broader "Holy Day Effect" as discussed by (Al-Ississ, 2015), where religious observance and collective mood uplift influence financial decision-making.

From a statistical standpoint, the incorporation of both behavioral and market control variables into the regression model substantially improved its explanatory power. The adjusted R^2 rose from 0.489 in the baseline model to 0.698 in the full model, suggesting that the inclusion of investor attention and religious sentiment variables enhances the model's robustness in explaining return variability. This improvement validates the integration of psychological and cultural dimensions in financial modeling, especially in contexts where informational asymmetry and investor heterogeneity are prevalent.

While this study offers valuable insights, it also opens several way for future exploration. First, future studies should consider expanding the temporal scope of the data to include multiple years and Ramadan periods. Doing so would allow researchers to assess whether the observed effects are persistent across time and economic cycles or are instead specific to certain market conditions. Second, incorporating high-frequency data, such as intraday or hourly returns, could offer a finer-grained understanding of how attention and sentiment influence market behavior in real time, particularly during key moments of Ramadan.

A third recommendation is to conduct cross-country comparisons involving other Muslim-majority markets like Malaysia, Turkey, or Saudi Arabia. Such analysis would help determine whether the religious sentiment effects observed in Indonesia are culturally unique or more universally applicable. In addition, future studies could distinguish between institutional

and retail investors, as the drivers and responses to market attention may differ significantly across these groups. Retail investors, for instance, might be more influenced by public discourse and social mood, whereas institutional players could react more strategically to MAI trends.

Moreover, researchers should consider integrating additional sentiment proxies, such as Google Trends, Twitter sentiment, or news-based indices, in both English and local languages, to enhance the measurement of public attention. Doing so may offer more granular insights into how sentiment spreads and affects asset pricing. Another valuable direction would be to analyze the impact of other religious or national holidays, such as Christmas, Chinese New Year, or Indonesia's Independence Day, to test whether the "calendar effect" holds across different cultural contexts.

Finally, future research could examine how behavioral traits such as investor overconfidence, religiosity, or financial literacy moderate the relationship between attention, sentiment, and returns. Surveys or experimental methods could be employed to investigate why some periods trigger stronger market responses than others. By integrating psychological, cultural, and econometric perspectives, future research can contribute more comprehensively to the understanding of asset pricing anomalies in emerging markets.

In conclusion, this study affirms that non-fundamental variables, such as investor attention and religious sentiment, play a significant role in shaping return behavior in Indonesia. The evidence not only confirms theoretical propositions in behavioral finance but also encourages a more context-sensitive approach to market analysis. These insights are valuable not just for academics but also for market practitioners and policymakers who aim to better understand, anticipate, and manage investor behavior during culturally significant periods.

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