

HEURISTICS AND DYNAMICS OF ECONOMIC DECISION- MAKING IN PESANTREN: AN EXPLORATORY QUALITATIVE APPROACH

**Rais Abdullah¹, Abiyajid Bustami², Darihan Mubarak³, and Norfaizah
Othman⁴**

^{1,2,3}*Universitas Mulawarman*

Jl. Kuaro, Gn. Kelua, Kec. Samarinda Ulu, Kota Samarinda, Kalimantan Timur 75117

³*Universitas Islam Internasional Indonesia*

Jl. Raya Bogor No.KM 33, RW.5, Cisalak, Kec. Sukmajaya, Kota Depok, Jawa Barat 16416

⁴*Universiti Islam Selangor*

Bandar Seri Putra, 43000 Kajang, Selangor, Malaysia

Email: darihanmubarak@feb.unmul.ac.id

ABSTRACT

This study aims to examine the heuristics and dynamics of economic decision-making in Pesantren by integrating perspectives from behavioural economics and Islamic economics. Unlike the assumption of full rationality in neoclassical economics, this study views economic decisions as the result of interactions among cognitive limitations, actors' experiences, institutional structures, and normative values. The study used an exploratory qualitative approach, with in-depth interviews conducted with nine key informants from two Pesantren in East Kalimantan and West Nusa Tenggara. The results of the study show that decision-makers in pesantren generally use heuristics as an adaptive strategy in dealing with uncertainty and information limitations. In the process, cognitive biases such as anchoring, loss aversion, and overconfidence emerge, with varying intensities depending on governance capacity and the level of decision centralisation. The findings also show that Islamic values, particularly trust, prudence, and benevolence, do not negate the existence of heuristics and biases but play an important role in shaping how economic decisions are justified, evaluated, and studied. The differences among Pesantren reflect greater variations in institutional capacity than in value orientation. This research makes an empirical contribution to understanding the economic decision-making process in Pesantren and offers implications for strengthening governance aligned with Islamic principles and behavioural economic insights.

Keywords: Heuristic, Behavioural Economics, Pesantren, Economic Decision Making, Islamic Economics

ABSTRAK

Studi ini bertujuan untuk meneliti heuristik dan dinamika pengambilan keputusan ekonomi di pesantren dengan mengintegrasikan perspektif dari ekonomi perilaku dan ekonomi Islam. Berbeda dengan asumsi rasionalitas penuh dalam ekonomi neoklasik, studi ini memandang keputusan ekonomi sebagai hasil interaksi antara keterbatasan kognitif, pengalaman aktor, struktur kelembagaan, dan nilai-nilai normatif. Studi ini menggunakan pendekatan kualitatif eksploratif, dengan wawancara mendalam yang dilakukan dengan sembilan informan kunci dari dua pesantren di Kalimantan Timur dan Nusa Tenggara Barat. Hasil studi menunjukkan bahwa pengambil keputusan di

pesantren umumnya menggunakan heuristik sebagai strategi adaptif dalam menghadapi ketidakpastian dan keterbatasan informasi. Dalam prosesnya, bias kognitif seperti anchoring, loss aversion, dan overconfidence muncul, dengan intensitas yang bervariasi tergantung pada kapasitas tata kelola dan tingkat sentralisasi keputusan. Temuan juga menunjukkan bahwa nilai-nilai Islam, khususnya kepercayaan, kehati-hatian, dan kebajikan, tidak meniadakan keberadaan heuristik dan bias tetapi memainkan peran penting dalam membentuk bagaimana keputusan ekonomi dibenarkan, dievaluasi, dan dipelajari. Perbedaan antar pesantren mencerminkan variasi yang lebih besar dalam kapasitas kelembagaan daripada dalam orientasi nilai. Penelitian ini memberikan kontribusi empiris untuk memahami proses pengambilan keputusan ekonomi di pesantren dan menawarkan implikasi untuk memperkuat tata kelola yang selaras dengan prinsip-prinsip Islam dan wawasan ekonomi perilaku.

Kata kunci: Heuristik, Ekonomi Perilaku, Pesantren, Pengambilan Keputusan Ekonomi, Ekonomi Islam

1. INTRODUCTION

Economic decision-making is no longer understood as a process of rational optimisation alone, but rather as the result of a complex interaction among cognitive limitations, subjective experiences, and mental states shaped by organisational and institutional contexts (Giarlotta & Petralia, 2024). The literature on behavioural economics contemporaries also affirms that emotions, intuition, and socio-cultural norms play an essential role in shaping the economic preferences and choices of individuals and institutions (Hasan et al. 2025). The neoclassical economic paradigm fundamentally assumes that economic decision-making is carried out by rational agents with comprehensive information-processing capabilities, so that economic behaviour can be modelled as a consistent effort to maximise utility, although this assumption has since been widely debated in contemporary literature (Esposito & Mastromatteo, 2024; Munien & Telukdarie, 2025). However, since the criticism of bounded rationality, the assumption of full rationality has been considered inadequate for explaining real decisions, especially in situations of uncertainty, complexity, and limited information resources. In such conditions, economic actors tend to rely on Heuristics (simple ways of thinking) as an adaptive strategy to simplify choices and speed up action.

The behavioural economics literature shows that heuristics facilitate more efficient decision-making by reducing the effort required and the information needed (Cristofaro, 2025). Still, they can also trigger consistent and systematic deviations from rational behaviour (bias) (Botzen et al. 2025). In their classical studies, Tversky & Kahneman (1974) show that the heuristics of availability, representativeness, and anchoring cause human judgments to deviate consistently from the normative rational model. In situations involving risk, Prospect Theory explains that people's choices are often influenced by how the option is presented (framing) and by loss aversion: ordinary people Are More Afraid of Loss than they are happy to profit from the same value. Therefore, decisions regarding investment, spending/consumption, and the

distribution of funds or resources are subject to change (Fortin & Hlouskova, 2024; Sun, 2025). Therefore, the dynamics of economic decisions need to be understood as the result of interactions between limited rationality, attention and memory mechanisms, emotions, and institutional contexts.

Contemporary research increasingly shows that the use of intuition, heuristics, and cognitive biases is not only characteristic of laypeople but also significantly influences experienced decision-makers within organisations, including top executives and CEOs. Studies have confirmed that such biases can arise in strategic decision-making and lower the overall quality of organisational decisions (Shepherd et al., 2024; Theodorakopoulos et al., 2025). In other words, a level of experience, expertise, or formal authority does not automatically eliminate cognitive bias. In fact, in an organisational context characterised by time pressures, heavy responsibility burdens, and environmental complexity and uncertainty, decision-makers increasingly rely on heuristics as cognitive shortcuts, which can ultimately magnify the potential for distortions in judgments and strategic choices.

Although behavioural economics is growing rapidly, its empirical focus remains primarily on financial markets, consumer behaviour, and modern organisations, and it often emphasises quantitative/experimental design. Such approaches are excellent for examining general patterns and causality. Still, they are not always sufficient to capture: (i) the subjective meaning of the perpetrator when justifying decisions, (ii) moral justification, and (iii) the role of social norms/identities that frame the decision-making process in value-based institutions. From the perspective of institutional social economics, social identities and norms directly shape preferences and the boundaries of action. For example, social identity provides non-material utility that influences choices and behaviours (Hett et al., 2020), while social norms can shape preferences and determine what is considered acceptable in terms of identity and behaviour (Lipari, 2018). Therefore, the context of religious institutions is a critical space for testing how heuristics and behavioural biases operate.

In the context of Muslim society, Islamic economics is understood as a normative framework based on Sharia by placing economic activities in ethical corridors and goal-oriented *maqāsid sharia*, so that the direction of economic policies and practices not only pursues material achievements but also moral values and sustainability (Anwar et al., 2025; Marwah et al., 2025). The basic principles of Islamic economics, such as justice, trust, prudence (avoiding excessive uncertainty/risk), and benefit orientation, will guide economic decisions not only to pursue efficiency or profit, but also to weigh social impacts, responsible governance, and moral accountability (Dasmadi et al., 2024; Nurdiana et al., 2025). Although empirical research on Islamic economics continues to develop, studies that specifically examine the Heuristics and Dynamics of economic decision-making in Pesantren, especially when Pesantren actors face uncertainty, limited resources, and demands to remain in harmony with sharia principles, remain relatively scarce. This is where behavioural economics is relevant; it provides a descriptive tool

for reading real decisions (which are often not ideal), while Islamic economics provides a normative tool for assessing the direction of decisions (which should be) and governance designs (how decisions should be directed).

The context of the pesantren is highly relevant and unique for testing this slice. Pesantren are not only educational institutions and religious knowledge transmission, but also socio-economic entities that manage financial resources, run business units (e.g., cooperatives, consumption services, production, or economic partnerships), and regulate allocation decisions for operational needs, student welfare, and social services (Ramadini et al., 2023; Adamin et al., 2024). In many Pesantren, Kiai Authority Structure, culture of compliance, and Moral Legitimacy of Leaders Shaping the decision-making process: starting from information collected and filtered to report to leadership as the basis for decisions, interpreting and responding to risks/uncertainties (Hanafi et al., 2021), to how the results obtained social validation because the Kiai is seen as a central figure with religious authority and moral example (Musaddad, 2024; Karim et al., 2025). Pesantren have institutional peculiarities and organisational cultures that shape how managers weigh the institution's priorities, mandates, and sustainability, and therefore have the potential to give rise to heuristic patterns and biases that differ from those in pure business organisations.

Furthermore, a body of literature shows that religious values don't stop as personal beliefs. Still, it shapes the way people and organisations behave in the economic sphere: religiosity can influence Organisational decision-making processes and how the company justifies ethical behaviour (e.g., to employees) (Brunner-Kirchmair et al., 2025). At the leadership level, the CEO's religious identity tends to affect CSR when ethical values align with a CSR orientation and are strengthened by empathy, proactivity, and the ability to act (Breton-Miller et al., 2024). At the workplace level, religious-spiritual practices/work environments are generally related to employee well-being and driving better organisational outcomes (e.g., job satisfaction and performance (Syahir et al., 2025)). These findings reinforce the urgency of placing pesantren as an essential unit of analysis: their economic decisions cannot be read solely as calculations, but also as expressions of values, identities, and institutional structures.

However, until now, research specifically examining the dynamics of heuristics and behavioural biases in economic decision-making in Pesantren remains very limited. Many pesantren studies focus on educational, institutional, or economic impacts, while the cognitive processes and subjective considerations underlying managers' decisions are relatively neglected. On the other hand, Islamic economic studies often assume actors' adherence to sharia principles without examining in depth how intuition, situational pressures, attention constraints, and judgment biases interact with these values in practice. This gap lies at the intersection of behavioural economics, Islamic economics, and Pesantren, particularly at the micro-process level: how decisions arise, are justified, maintained, or revised.

In response to this gap, this study aims to explore in depth how the heuristics and dynamics of economic decision-making unfold in pesantren through qualitative interviews. By design, this study interviewed nine key informants from two provinces: the first, in East Kalimantan, was conducted through a field study, and the second, in Lombok, through telephone interviews. Qualitative choices allow researchers to capture the internal logic of the actors: how they interpret risk, weigh options, and link economic decisions to trust and benefit, which are often difficult to reduce to mere survey variables. The novelty of this research lies in the effort to integrate two lenses that frequently run separately: (1) the descriptive lens of behavioural economics to map the heuristics and biases that actually occur, and (2) the normative lens of Islamic economics to read the ethical direction and goals of Sharia that frame decisions. This integration is expected to produce a micro-empirical contribution to how economic decisions in pesantren are shaped by the interaction among intuition, experience, authority structures, and religious values, and to open up a space for decision-governance recommendations that are more behaviorally informed yet still in line with Islamic principles.

2. LITERATURE REVIEW

2.1 BEHAVIOURAL ECONOMICS: LIMITED RATIONALITY, HEURISTICS, AND BIAS

From the perspective of Behavioural Economics, economic decision-making doesn't always work like a counting machine that can process all the information. The literature emphasises that more realistic decisions are understood as the result of interactions among cognitive limitations, subjective experience, emotions/intuition, and organisational and institutional contexts (Giarlotta & Petralia, 2024). Neoclassical economics generally assumes that consumers always act rationally (based on expected utility) and can accurately update their beliefs, even though the complexity of real-world economics shows that individuals often deviate due to cognitive, emotional, and imperfect-information biases (Wei et al., 2025).

Simon (1955) argues that the concept of the Economic Man is too simplistic because it assumes that humans possess extensive knowledge and can perfectly calculate all options; in reality, rationality is constrained by access to information and the ability to process it. Because of these limitations, in complex, rapidly changing environmental conditions, people often do not seek the optimal option but instead choose a good-enough one (satisficing) (Simon, 1959). Even when they can't find the best path, they tend to take only adequate options (Simon, 1956). In complex organisations, bounded rationality manifests as limitations in calculation and bias, leading people to rely on heuristics in decision-making. At the same time, uncertainty shapes decision-making (Esposito & Mastromatteo, 2024).

When faced with such situations, individuals and organisational managers tend to use Heuristics (simple ways of thinking/shortcuts) to simplify choices and speed up actions. The heuristic has two inseparable sides. On the

one hand, heuristics allow individuals, including organisational decision-makers, to act more quickly and efficiently, especially in situations marked by uncertainty and decision pressure. In this context, heuristics serve as a bounded-rationality mechanism that helps economic agents act even when the available information is incomplete or ambiguous (Lu et al., 2025; Faroque et al., 2026). Heuristics can be understood as rules of thumb or mental shortcuts that help individuals, including managers within organisations, make decisions faster and more efficiently in complex, uncertain, time-limited, and incomplete situations (Jain et al., 2023).

2.2 ISLAMIC ECONOMICS AND DECISION MAKING

Maqāsid sharia as a moral compass in Islamic economics, guiding economic/financial policies and practices so that decision-making not only pursues efficiency and material profits but also upholds ethical values and Benefits (Karimullah 2023; Güneş 2024; Dasmadi et al., 2024; Hotman & Luthfi, 2025). This concept is rooted in the thought of Al-Ghazālī and Al-Shatibi, and was developed contemporaneously by Azid & Asutay (2007) and Auda (2008), who affirm that ethics, justice, and social welfare are integral parts of Islamic economic rationality. This perspective views the moral and religious dimensions as integral to economic behaviour, rather than merely complementary to rational calculations.

Empirical findings in the field of Islamic finance show that economic decisions do not always follow the logic of material profit and loss alone, but are influenced Islamic values/identity and how actors assess risk: laboratory experiments found investors were more likely to choose labeled instruments Islam even when it comes to receiving Lower return and/or higher risk, as well as showing Lower risk sensitivity When the instrument is perceived as Sharia compliant (Banuri et al., 2024). A survey of Indonesian Muslims shows that religiosity (together with Islamic financial literacy) is related to financial management behaviour and economic welfare, with a framework of behavioural finance that emphasises the role of psychological factors and Risk tolerance in financial decisions (Wijaya et al., 2024)

In this context, integrating behavioural economics with Islamic economics is important for enriching the understanding of how economic decisions are made within the framework of Sharia values. This approach is not intended to negate Islamic principles, but rather to provide a more realistic, contextually grounded understanding of Muslim economic behaviour. By examining how religious values in the pesantren context interact with intuition, experience, and cognitive limitations, this study seeks to bridge empirical studies of Islamic economics and insights from behavioural economics to explain the dynamics of economic decision-making, especially in the pesantren environment.

2.3 ECONOMIC DECISION MAKING IN PESANTREN

Pesantren is an Islamic educational institution with significant social and economic roles. In addition to carrying out educational and da'wah functions,

Pesantren also manages various economic activities, such as operational funds, productive business units, and community empowerment programs (Agusti et al., 2019; Fahmi & Aswirna, 2023). The process of economic decision-making in Pesantren takes place in a unique context in which economic considerations interact with Kiai, institutional traditions, and deeply rooted Islamic values (Fauroni & Quraisy, 2020).

This characteristic makes pesantren a relevant empirical context for examining the dynamics of economic decision-making from the perspectives of behavioural economics and Islamic economics. Economic decisions in Pesantren are often based not only on formal rational analysis, but also on intuition, experience, beliefs, and the moral legitimacy of leaders. However, academic studies that specifically examine cognitive processes and behavioural factors in economic decision-making in Pesantren remain very limited.

2.4 PREVIOUS STUDIES

The study of heuristics and behavioural biases in economic decision-making is rooted in a critique of the neoclassical assumption of full rationality. Classic research by Tversky & Kahneman (1974) introduced the concept of heuristics as simple rules of thinking that individuals use to simplify decision-making under uncertainty, and demonstrated that their use can lead to systematic, recurring errors or biases in economic valuation and choice. Since then, the study of heuristics and biases has been an essential foothold in behavioural economics because it shows that when individuals make decisions under uncertainty, they often rely on heuristics that give rise to deviations from normative rationality that are consistent and systematic (Botzen et al., 2025).

Research by Jain et al. (2023) with data from 432 investors on the National Stock Exchange (India), measuring heuristic biases (overconfidence, representativeness, anchoring, availability) on investment decisions through mediating perceptual risk. It shows that heuristics measurably influence decisions, that behavioural biases arise from quick decisions with limited information, and that a structural model can predict these biases. Botzen et al. (2025) note that in decisions about climate change risks, people often rely more on intuition and heuristics when faced with complex or unfamiliar information. As a result, risk assessment can be biased or incorrect; for example, people may judge the risk of flooding as too high or too low, which can influence the protection or adaptation decisions they make. Similar findings emerged in the study of investment decisions, where heuristics lead people to make quick decisions when the situation is uncertain. Still, the bias that often arises leads decisions to stray, and the pattern tends to recur due to the assumption of rationality in economic models (Pathak & Thapa, 2024).

Research at the organisational and institutional levels has expanded understanding of heuristics and behavioural biases. Midtgård & Selart (2025) show that cognitive bias not only affects judgments at the individual level but can also shape organisational strategic decisions, as these are generally generated through interactions among decision-makers and collective

processes within the organisation. In this context, experience and authority structures play an important role in shaping decision-making. This means that even experienced decision-makers still rely on heuristics, especially when dealing with strategic complexity and uncertainty. In the context of Muslim societies and Islamic economics, studies on heuristics and behavioural biases remain relatively limited, although research on religiosity and economic behaviour has advanced rapidly. Some empirical studies show that religious values influence preferences, risk attitudes, and the justification of economic decisions, but do not automatically eliminate behavioural biases. Satria et al. (2025), for example, found that budding Muslim investors remain influenced by various biases (herding, overconfidence, mental accounting, loss aversion, status quo), which can negatively affect investment decisions. They also explained that such bias can intersect with religious considerations; for example, loss aversion can be triggered by concerns about violating sharia principles (*riba/maysir*), and trust and sharia compliance can affect responses to bias. Baharsyah & Mawardi (2024) found that familiarity bias and herding significantly affect Muslim investors' investment decisions in the capital market.

However, most previous research in both behavioural economics and Islamic economics remains dominated by quantitative methods, surveys, and laboratory experiments, focusing on the individual as the primary unit of analysis. Qualitative studies that explore the cognitive processes, narratives, and subjective justifications of decision-makers remain relatively rare, especially within religious institutions. In addition, research that explicitly situates pesantren as the context for economic decision-making is almost absent from the international literature. In fact, pesantrens have distinctive institutional characteristics in which religious authority, collective traditions, and moral values play central roles in decision-making. Based on the previous study's analysis, there is a significant research gap in three main areas. First, the limitations of empirical studies that integrate heuristics and behavioural biases with contextual Islamic economic perspectives in Pesantren. Second, there is a lack of qualitative research that explores the economic decision-making process from actors' perspectives, especially in value-based institutions. Third, no study has specifically examined the dynamics of economic decision-making in pesantren through the lens of behavioural economics. This study seeks to fill this gap by presenting a qualitative analysis based on in-depth interviews to understand how the heuristics and dynamics of economic decision-making take place in the context of Pesantren.

3. RESEARCH METHODS

3.1 RESEARCH DESIGN

This study uses an exploratory qualitative approach to understand in depth the dynamics of heuristic and economic decision-making in pesantren as value-based institutions. The qualitative approach was chosen because the main

purpose of the research is not to test causal relationships or to quantify bias frequency, but to explore the cognitive processes, subjective considerations, and normative justifications that underlie economic decisions under conditions of uncertainty, limited information, and institutional pressure. Theoretically, the design of this research departs from a critique of the assumption of full rationality in neoclassical economics and adopts a framework bounded rationality and heuristics and biases in behavioral economics, which views economic decisions as the result of the use of mental shortcuts to simplify options in complex situations (Simon, 1955; Tversky & Kahneman, 1974) This descriptive framework is then combined with the perspective of Islamic economy, which places economic decision-making within the ethical corridor and purpose of *maqāṣid sharia*, such as trust and benefit (Chapra, 2008; Auda, 2008) The integration of these two lenses allows the research to capture not only How economic decisions are taken, but also How the decision is interpreted and justified in a religious context.

This study is designed as a multi-context case study to understand decision-making as a complex, highly context-dependent social phenomenon, as case studies are intended to examine a case in depth while maintaining a holistic, real-world perspective (Yin, 2018). This approach is used to capture the dynamics of decision-making as an institutional and contextual phenomenon, as well as to explore how heuristics, behavioural biases, and the role of authority structures and pesantren norms in framing economic decisions. The exploratory qualitative approach is considered the most appropriate to address research limitations. Quantitative and experimental research tend to be strong at statistical measurements but often less capable of capturing The nuances of experience and subjective meaning; In contrast, qualitative research focuses on the world's meaning, motive, beliefs, values, and interpretations, which is difficult to reduce to measurable variables (Almeida, 2017; Usman et al., 2025).

3.2 SAMPLING AND DATA COLLECTION PROCEDURES

The selection of informants is carried out using purposive sampling, with the main criterion being direct involvement in Pesantren economic decision-making at both the strategic and operational levels. Informants include pesantren leaders and economic unit managers who are responsible for resource allocation, business management, and risk and uncertainty management. The purposive technique was chosen because it allows researchers to obtain rich information from actors with direct and reflective experience of the decision-making process under study (Xu et al., 2025). This research involves nine key informants from two Pesantren located in East Kalimantan and Lombok, West Nusa Tenggara. This variety of locations was chosen to capture differences in the socio-economic and institutional contexts of Pesantren, as well as to examine how heuristics and behavioural biases operate across different institutional environments within the same framework of Islamic values.

Data is collected through semi-structured in-depth interviews. Semi-structured interviews are used to collect qualitative data. This type of interview begins with the main question, then proceeds to excavation and follow-up questions that may differ for each interviewee, allowing the interviewer to adjust the questions and to capture new themes that arise during the interview process (Rubin & Rubin, 2012). The interview guide was developed by adapting the main themes of the behavioral economics literature regarding heuristics and cognitive biases such as research conducted by Ahmad & Wu, (2025) about the bias triggered by heuristics as a mental shortcut in investment management activities and research conducted by how the CEO develops managerial heuristics (simple rules), by formulating 4-phase process model: dissonancing, realizing, crystallizing, and organizing about how the heuristic was born from the CEO's experience and reflection. In line with this approach, interviews are conducted using an open-ended question framework as an outline and are not limited to rigid questions, allowing for in-depth exploration of the informant's experience, intuition, and justification for decisions. Open-ended questions were chosen because they allow respondents to answer without restrictions and to explain their answers freely, thereby conveying their views on the interview topic (Tarnoto et al., 2023). Additionally, open-ended questions can also help explore knowledge gaps by highlighting key points and respondents' personal experiences (Chintakrindi et al., 2022).

Data analysis in this study was conducted manually using thematic analysis. After the interviews were completed, all interview data were transcribed and read repeatedly to understand the patterns of meaning emerging from the informants' experiences. Next, the authors assigned initial codes to sections of the data related to the economic decision-making process, the use of heuristics, the emergence of cognitive biases, the authority structure of Islamic boarding schools, and the Islamic values that inform decision-making. Codes with similar meanings were then grouped into broader categories. From these categories, the researcher formulated the main themes used in presenting the research findings. To maintain trustworthiness, this study employed source triangulation by comparing information from informants with different roles, including the Islamic boarding school leader, treasurer, shop manager, and business unit manager.

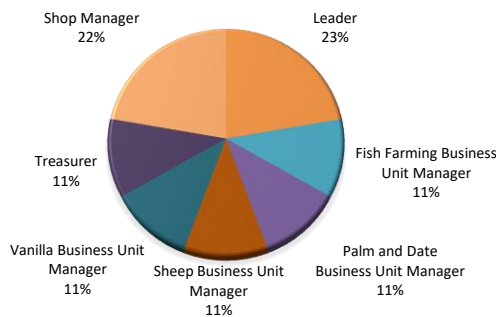
In addition, direct quotes from informants were used to strengthen interpretations, and the researcher cross-checked transcripts, codes, categories, and themes to ensure that the findings remained consistent with the interview data. In the Pesantren with simpler economic management, three informants were deemed sufficient for triangulation, as the organisational structure was more concise and the main actors involved in decision-making were covered: the boarding school leader, treasurer, and shop manager. Meanwhile, in pesantren with more developed economic governance, triangulation was conducted with six informants, including the boarding school leader and several business unit managers, allowing researchers to compare information across different economic functions.

Substantively, the interview guide is directed to delve into:

1. Economic decision-making context and situation.
2. The use of heuristics as an adaptive strategy in conditions of uncertainty.
3. The emergence of behavioural biases such as anchoring, loss aversion, overconfidence, and the influence of social norms.
4. How economic decisions are framed and justified in the language of Islamic values, such as trust, prudence, and welfare. This approach allows researchers to capture the dynamics of economic decisions arising from the interaction among cognitive processes, the structure of pesantren authority, and the normative orientation of Islamic economics.

Interviews at East Kalimantan pesantren were conducted through fieldwork, while interviews with informants in Lombok were conducted by telephone, adjusting for geographical and access limitations. The data collection process continues until conceptual saturation is reached, i.e., when additional interviews no longer yield substantive new themes related to the heuristics and dynamics of economic decision-making (Guest et al. 2006). We successfully conducted interviews with 9 respondents, as described in Figure 1.

Figure 1. Number of Respondents



The details of the respondents and the interview process are presented in Table 1.

Table 1. Interview Details

Interview Code	Informant Role	Pesantren Location	Governance Context	Date of Interview	Interview Mode	Duration
I1	Pesantren leader	Grogot, Paser Regency, East Kalimantan	More established management	December 15	Fieldwork / face-to-face interview	Conducted within 09:00–15:00 WITA fieldwork session
I2	Fish farming business unit	Grogot, Paser Regency, East	More established management	December 15	Fieldwork / face-to-face interview	Conducted within 09:00–15:00 WITA fieldwork

Interview Code	Informant Role	Pesantren Location	Governance Context	Date of Interview	Interview Mode	Duration
I3	manager Palm and date business unit	Kalimantan Grogot, Paser Regency, East	More established management	December 15	Fieldwork / face-to- face interview	session Conducted within 09:00– 15:00 WITA fieldwork
I4	manager Sheep business unit	Kalimantan Grogot, Paser Regency, East	More established management	December 15	Fieldwork / face-to- face interview	session Conducted within 09:00– 15:00 WITA fieldwork
I5	manager Vanilla business unit	Kalimantan Grogot, Paser Regency, East	More established management	December 15	Fieldwork / face-to- face interview	session Conducted within 09:00– 15:00 WITA fieldwork
I6	manager Shop	Kalimantan Grogot, Paser Regency, East	More established management	December 15	Fieldwork / face-to- face interview	session Conducted within 09:00– 15:00 WITA fieldwork
I7	leader Pesantren	East Suralaga District, East Lombok Regency, West Nusa Tenggara	Simpler economic management	December 17	Telephone interview	Approximately 1 hour
I8	Treasurer	East Suralaga District, East Lombok Regency, West Nusa Tenggara	Simpler economic management	December 18	Telephone interview	Approximately 1 hour
I9	manager Shop	East Suralaga District, East Lombok Regency, West Nusa Tenggara	Simpler economic management	December 19	Telephone interview	Approximately 1 hour

4. RESULTS AND DISCUSSION

Based on a thematic analysis of in-depth interviews with 9 informants from two pesantren in East Kalimantan and West Nusa Tenggara, this study identifies 4 main themes describing the heuristic dynamics and economic

decision-making in Pesantren. These findings show that economic decisions in pesantren result from interactions among situational contexts, decision-makers' cognitive processes, institutional authority structures, and the normative orientation of Islamic economics.

4.1 CONTEXT AND SITUATION OF ECONOMIC DECISION MAKING

The findings show that there are variations in the distribution of economic decision-making roles and authority across Pesantren, which are related to differences in management complexity and the need for internal coordination. In Pesantren, with relatively more established economic governance, economic decision-making is not completely centralised in a single figure, although the kiai still holds final authority. There is a division of functional roles among leaders, business unit managers, and treasurers, especially during the stages of information provision, initial discussion, and post-decision evaluation. This pattern allows economic decisions to be shaped through a collective process that remains within the framework of leadership authority.

"If the big decision is still in the Kiai, but before that, we usually have a meeting first. There are financial statements, although simple. So, the decision doesn't just come out of nowhere." (Business unit managers, pesantren with more established management).

In contrast, in Pesantren, with simpler economic management, decision-making tends to be more focused on leadership, mainly due to a more concise organisational structure and the need for quick responses. Other actors play a significant role in implementing decisions and delivering information, while formal deliberations are conducted on a limited basis.

"Usually, I am the one who decides. Others just do it because they believe in me." (Pesantren leader, simple management).

This pattern shows that the centralisation of decision-making in the context of pesantren with simple management does not merely reflect governance weaknesses but also serves as an adaptive mechanism for the limitations of organisational resources and operational demands. The findings of this study can be understood within the framework of the literature on heuristics and biases, which confirms that decision-making in an organisation is often not entirely rational but is influenced by cognitive limitations, operational pressures, and existing authority structures. Heuristics serve as mental shortcuts that allow decision-makers to respond quickly and efficiently, especially under conditions of limited information and resources, but can also give rise to systematic bias in judgments and choices (Berthet et al., 2022; Leite et al., 2020).

In the context of different organisations, i.e., companies, with a relatively low level of managerial complexity, centralisation of decision-making can be understood as an adaptive mechanism to maintain clarity of direction, ensure policy consistency, and improve corporate performance in small and medium-sized companies (Fan et al., 2022). In line with the findings of Baldassarri & Grossman (2011), the concentration of authority (e.g. monitoring and sanctioning) on one authorized party can be understood as a

more efficient mechanism to address coordination and free-riding. Arena helps avoid uncoordinated sanctions (over-punishment). Although in practice the authorities can use a rapid assessment strategy (heuristic) when taking action against violations (Baldassarri & Grossman, 2011). Thus, the centralisation of decisions does not solely reflect governance weaknesses, but rather reflects contextually rational structural choices, while at the same time opening up space for the role of heuristics and behavioural biases in the economic decision-making process.

In the context of the type of economic decision faced, the two pesantren face a relatively similar type of economic decision, including:

- a. allocation of operational funds,
- b. management of pesantren business units,
- c. financial risk management, and
- d. determination of priority expenditure for students and facilities.

The main difference does not lie in the type of decision, but in how it is treated and categorised. In Pesantren, with more established economic governance, there is a distinction between routine and strategic decisions, which affects the level of prudence and the deliberation that accompanies them.

"There are direct daily decisions, but there are also those that we consider strategic; it cannot be rushed." (Person in charge of business unit, more established management).

Meanwhile, in Pesantren, with simpler economic management, most decisions are perceived as situational and urgent, requiring quick responses to maintain the continuity of Pesantren activities.

"For us, almost everything is important and urgent, so it can't be long." (Treasurer of Pesantren, simple management).

These findings suggest that approaches to economic decisions are heavily influenced by operational context and organisational capacity, rather than by individual decision-makers' preferences alone.

In the context of time pressure and limited information, all informants admitted that economic decision-making in pesantren often takes place under incomplete information. However, responses to these limitations vary according to each Pesantren's governance capacity. In Pesantren with relatively better economic governance, information limitations are addressed by delaying decisions and conducting additional analysis, especially when decisions are expected to have a long-term impact. However, in short-term decisions, intuition also predominates in Pesantren with better management.

"If the data is not clear, we usually postpone it first or look for additional information." (Leader of Pesantren).

On the other hand, in pesantrens with simpler economic management, limited information tends to encourage the use of intuitive assessments to ensure operational sustainability.

"If we wait for complete data, the program will not run. In the end, we use feelings." (Leader of Pesantren, simple management).

This pattern is in line with the findings in behavioral decision research, time pressures and limited information processing resources prompt

individuals to turn to simpler decision strategies (heuristics) as an adaptive response when more complex analyses are difficult to implement, for example, in the high time pressure, the choice of inference strategy is better predicted by simple heuristics and understood as adaptation to the situation (Rieskamp & Hoffrage, 2008), and when complex strategy can't be executed due to time constraints, heuristics become a sensible alternative (Bobadilla-Suarez & Love, 2018).

Table 2. Comparison of Contexts and Situations in Economic Decision

Dimensions of Analysis	Pesantren with Relatively More Established Economic Governance	Pesantren with Relatively Simpler Economic Management
Distribution of decision-making roles	Sharing functional roles (leaders, business unit managers, treasurers) with the leadership as the final authority.	The decision-making role is more centralised within leadership, with other actors focusing on implementing and delivering information.
The logic of centralising decisions	Partial centralisation in the framework of collective coordination and evaluation.	Centralisation as an adaptive mechanism to maintain clarity of direction and speed of response.
Types of economic decisions faced	Fund allocation, business unit management, financial risk, and expense priorities.	Fund allocation, business unit management, financial risk, and expense priorities.
Categorisation of results	Differentiation between routine and strategic decisions.	Decisions are generally perceived as situational and urgent.
Response to information limitations	Decision delays and additional analysis for long-term impact decisions; intuition is applied to short-term decisions.	Use of intuitive assessments to ensure operational continuity.
Time pressure	Managed through prioritisation and decision selection.	Managed through quick and direct decision-making.

4.2 THOUGHT PROCESS AND USE OF HEURISTICS

The initial step in assessing the economic decision situation in the two pesantren shows a uniform pattern. Both in pesantren with more established economic governance and in pesantren with simpler economic management, the decision-making process begins with an initial assessment that is heuristic, experience-based, and intuitive. This assessment is used to frame the issue, filter out irrelevant information, and determine the initial direction of the decision before it is further processed. In both pesantren contexts, heuristics do not function as stand-alone decision rules, but rather as a starting point (entry point) that triggers the following evaluation process. Thus, no substantive differences were found between the types of pesantren in the role of heuristics in the early stages of economic decision-making; the differences that exist have more to do with procedural variation and institutional context than with basic cognitive mechanisms. This aligns with research by Love et al. (2025) in a different context that explains that fast and frugal heuristics are quick and simple ways to make decisions. However, they can still be effective when the situation is uncertain. Heuristics are selected as needed and usually follow three steps: searching for relevant information (search rules), determining when to stop searching, and then making a decision (decision rules). Table 3 presents a comparison of the contexts, processes, and uses of heuristics in Pesantren economic decision-making.

Table 3. Use of Heuristics in Pesantren Economic Decision

Dimensions of Analysis	Pesantren with more established economic governance	Pesantren with simpler economic management
The initial step of evaluating the results	Initially assess based on experience and intuition to understand the problem.	Initially assess based on experience and intuition to understand the problem.
The role of heuristics in the early stages	Heuristic is used as a first step, then usually followed by another evaluation.	Heuristic is used as a first step, then usually followed by another evaluation.
Differences in cognitive mechanisms	There is no major difference in the basic way of thinking.	There is no major difference in the basic way of thinking.
Primary sources of variation	The difference is more due to work procedures and institutional capacity.	The difference is more due to work procedures and institutional capacity.

4.3 COGNITIVE BIAS AND PESANTREN NORMS

The findings suggest that cognitive biases such as anchoring, loss aversion, and overconfidence appear in both types of Pesantren but differ in intensity. In line with the framework, bounded rationality explains that real decisions often deviate from full rationality due to cognitive limitations and organisational context (Giarlotta & Petralia, 2024). Empirical studies also show that biases such as anchoring and overconfidence can influence decisions (e.g., investment decisions) through psychological mechanisms, with risk perception serving as a mediator (Jain et al., 2023). The bias does not originate solely with the individual but also interacts with the institutional context and the authority of the Pesantren. Related anchoring, previous economic decisions are generally used as an initial reference. In Pesantren with more established economic governance, this reference is flexible and can be revised as conditions change.

"That was a good decision, but we're still looking at the situation." (Managers of Pesantren, more established management).

In Pesantren, with simpler economic management, previous decisions more often serve as stable, practical guidelines, as they are considered tested and reduce uncertainty.

"Those that have been on the road and are safe, that's what we usually use." (Leader of Pesantren, simple management).

Loss aversion bias is also prominent in both pesantren. Decision-makers tend to focus more on avoiding potential losses than on pursuing profits. In pesantren with more established governance, this prudence is mediated through discussion, while in pesantren with simple management, it functions as a strategy to maintain operational stability.

"The important thing is that pesantren do not lose." (Leader of Pesantren).

These findings align with Prospect Theory, which holds that losses are perceived as more severe than gains of equivalent value (Fortin & Hlouskova, 2024; Sun, 2025).

Table 4. Comparison of Cognitive Bias and Decision Authority

Dimensions of Analysis	Pesantren with Relatively More Established Economic Governance	Pesantren with Relatively Simpler Economic Management
The role of past decisions (<i>Anchoring</i>)	Become an initial reference that can be revised through discussion and evaluation.	Being a relatively stable and tested practical guideline.
Flexibility to changing conditions	Relatively high; Old results are reviewed as context changes.	Relatively limited; Old decisions are maintained to maintain certainty.

Dimensions of Analysis	Pesantren with Relatively More Established Economic Governance	Pesantren with Relatively Simpler Economic Management
Loss aversion	Prudence is mediated through collective discussion and long-term consideration.	Prudence is a strategy for maintaining operational stability.
Attitude towards profit opportunities	Profits are considered to the extent that they do not increase the risk of overuse.	Secondary advantages of security and sustainability.
Confidence function	Increase decision rigor with internal corrections.	Enabling quick decisions in uncertain conditions.
Authority structure	Leadership authorities are equipped with a screening and information enrichment mechanism.	Leadership authority serves as the primary source of legitimacy.
Conveying information to leaders	Information is selected and summarized before a decision.	Information is conveyed in a concise and essential manner.
Acceptance of results	Underpinned by collective rationalization and moral legitimacy.	Backed by trust and compliance norms.
Implications for Bias	Mediated and relatively controlled bias.	Bias has the potential to be more dominant, but adaptive.

4.4 ISLAMIC VALUES IN ECONOMIC DECISION MAKING

The findings show that financial management and accountability are not understood solely as technical matters, but are also tied to spiritual values such as trust and integrity (*siddiq*), and are even positioned as a practice that challenges the procedural view of accountability (Zahirah & Suhaedi, 2025). In line with that, the practice of accountability in Pesantren is also explained as a form of dual responsibility; to Allah and to humankind (*hablunminallah–hablunminannas*), which encourages the management to frame financial decisions/activities as a mandate that must be accounted for (Buanaputra et al., 2025). This finding is consistent with Islamic accounting studies, which emphasise that accountability in religious institutions is closely related to trust, managerial competence, and transparency in managing communal funds, as in research conducted by Najmudin & Bayinah (2022). In addition, the principle

of *Ihtiyat*, or prudence, is seen as very important for maintaining financial stability. By minimising risks and avoiding rash decisions, pesantren can remain resilient in the face of uncertain economic situations. This aligns with the research by Fadilah et al. (2024), which emphasises that financial information should be presented carefully rather than carelessly. These values serve as a normative framework that guides decision-makers in evaluating options, justifying choices, and assessing the consequences of economic decisions. In both types of Pesantren, the value of trust emerged as a dominant principle that emphasises moral responsibility to students, institutions, and society. Economic decisions are rarely perceived as individual rights, but rather as a burden of responsibility that must be ethically accounted for.

"This is not personal money. If it is mismanaged, the impact will be on students and Pesantren." (Leader of Pesantren).

Ihtiyat also consistently influences how economic options are evaluated. Many informants stated that potentially more economically advantageous choices are not always taken when they are considered to involve difficult-to-control risks. In this context, caution often intersects with loss aversion, but framed in the language of morality and responsibility. In addition, *maslahah* is the main justification in weighing the long-term impact of economic decisions. Decisions are judged not only in terms of efficiency or financial surplus, but also in terms of their contribution to the sustainability of the pesantren, the welfare of students, and the moral reputation of the institution (Meutia & David, 2021). Reflection on inappropriate decisions appears in almost all informants. Past mistakes related to fund allocation, business management, and risk assessment are recognised as part of the learning process. However, the way this experience is internalised differs between Pesantren. In Pesantren, with more established economic governance, reflection tends to lead to improvements in procedures or adjustments to decision-making mechanisms. Meanwhile, in pesantren with simpler economic management, reflection more often leads to adjustment of intuition and personal prudence.

Table 5. Islamic Values and Learning in the Economic Decision of Pesantren

Dimensions of Analysis	Pesantren with Relatively More Established Economic Governance	Pesantren with Relatively Simpler Economic Management
Dominant Islamic values	Trust, prudence, and benefit are the framework for evaluating decisions.	Trust, prudence, and benefit are the basis for the legitimacy of the decision.
Framing economic decisions	Decisions are positioned as a moral responsibility that requires procedural considerations.	Decisions are positioned as a leadership mandate that demands firmness.

Dimensions of Analysis	Pesantren with Relatively More Established Economic Governance	Pesantren with Relatively Simpler Economic Management
Religious justification	Islamic values are used for reflection and evaluation before and after decisions.	Islamic values are used to affirm good intentions and the purpose of decisions.
Response to inaccurate decisions	Followed by the evaluation and adjustment of decision-making mechanisms.	Followed by increased caution and intuitive adjustment.
Learning patterns	Learning tends to be institutionalized (procedural and collective).	Learning tends to be personalized and experiential-based.

5. CONCLUSION

This study shows that economic decision-making in pesantren cannot be understood solely as a rational-formal process, but as the result of an interaction between cognitive limitations, the use of heuristics as an adaptive strategy, institutional authority structures, and Islamic normative values. Heuristics are used by decision-makers as a starting point for assessing the economic situation, especially in conditions of uncertainty and limited information. In the process, cognitive biases such as anchoring, loss aversion, and overconfidence manifest with varying intensities, depending on the governance capacity and the level of decision centralisation in each Pesantren. The findings also confirm that Islamic values, especially trust, prudence, and benevolence, do not eliminate heuristics and biases, but play an important role in shaping how economic decisions are justified, evaluated, and studied. Thus, economic decisions in Pesantren can be understood as a process that combines limited rationality, moral considerations, and experiential learning. The main contribution of this research is to provide micro-empirical evidence that bridges the descriptive perspective of behavioural economics with the normative framework of Islamic economics in the context of Pesantren.

This research has several limitations that should be noted. First, the relatively limited number of informants and the focus on two research areas limit the generalizability of the findings to all Pesantren in Indonesia, which vary widely in size, tradition, and institutional capacity. Second, the interview-based qualitative approach relies heavily on informants' narratives and subjective reflections, so it cannot fully capture the consistency of decision-making behaviour over the long term. Third, this study has not integrated

quantitative data or direct observation of the economic decision-making process, which could enrich the analysis and strengthen the validity of the findings.

Given these limitations, further research is recommended to develop a mixed-methods approach combining qualitative interviews and quantitative surveys to test heuristic patterns and biases more broadly. Comparative studies involving Pesantrens from different regions, sizes, and governance models are also important for a more comprehensive understanding of institutional variation. In addition, further research can explore the role of financial literacy, sharia governance mechanisms, and behavioural insight-based interventions in mitigating decision bias without ignoring Islamic values. This approach is expected to strengthen the practical contribution of research to the development of more adaptive, accountable, and sustainable economic governance in Pesantren.

6. ACKNOWLEDGMENT

The authors state that the use of AI in preparing this article was limited and ethical. AI is used to help improve grammar, sentence clarity, and neatness in academic writing. AI is not used in data collection, data analysis, coding, interpretation of findings, preparation of references, or preparation of conclusions. All content and academic considerations in this article are the full responsibility of the authors.

7. REFERENCES

- Adamin, M., Firdaus, A., & Ali, Z. M. (2024). *Determinants of Successful Economic Independence in Pesantren : SEM Analysis*. *The Economic Review of Pesantren*, 3(2). <https://doi.org/10.58968/erp.v3i2.550>
- Agusti, Kantun, S., & Sukidin. (2019). The Role of Pesantren on the Economic Empowerment of the Society. *International Journal of Research in Humanities and Social Studies*, 6(3), 56–62.
- Ahmad, M., & Wu, Q. (2025). Heuristic-driven biases as mental shortcuts in investment management activities : a qualitative study. *Qualitative Research in Financial Markets*, 16(2), 291–309. <https://doi.org/10.1108/QRFM-10-2022-0167>
- Almeida, F. (2017). Strength and Limitations of Qualitative and Quantitative Research Methods. *European Journal of Education Studies*, 3(9), 369–387. <https://doi.org/10.5281/zenodo.887089>
- Anwar, D. R., Wahab, A., & Waris, W. (2025). Maqasid Syariah and Sustainable Development: Integrating Islamic Objectives into Economic Planning. *Formosa Journal of Multidisciplinary Research (FJMR)*, 4(6), 2601–2618.

- Auda, J. (2008). *Maqasid Al-Shariah: An Introductory Guide*. IIIT Publishers.
- Azid, T., & Asutay, M. (2007). Does ethico-moral coalition complement to economic coalition?: A response in the periphery of Islamic economics. *Humanomics*, 23(3), 153–173. <https://doi.org/10.1108/08288660710779380>
- Baharsyah, A. I., & Mawardi, I. (2024). Muslim Investor Psychology and Decision-Making in Islamic Stock Investment. *Jurnal Ekonomi Syariah Teori Dan Terapan*, 11(4), 419–430. <https://doi.org/10.20473/vol11iss20244pp419-430>
- Baldassarri, D. & Grossman, G. (2011). Centralized sanctioning and legitimate authority promote cooperation in humans. *Social Sciences*, 108(27), 11023–11027. <https://doi.org/10.1073/pnas.1105456108>
- Banuri, S., Murgia, L. M., & Haq, I. U. (2024). The power of religion: Islamic investing in the lab. *International Review of Financial Analysis*, 96(2024), 103690. <https://doi.org/10.1016/j.irfa.2024.103690>
- Berthet, V., Silva, S. Da, & Berthet, V. (2022). The Impact of Cognitive Biases on Professionals ' Decision-Making: A Review of Four Occupational Areas. *Frontiers in Psychology*, 12(January). <https://doi.org/10.3389/fpsyg.2021.802439>
- Bobadilla-suarez, S., & Love, B. C. (2018). Fast or Frugal, but Not Both: Decision Heuristics Under Time Pressure. *Journal of Experimental Psychology*, 44(1), 24–33.
- Botzen, W. J. W., Thepaut, L. D., & Banerjee, S. (2025). Kahneman ' s Insights for Climate Risks : Lessons from Bounded Rationality , Heuristics and Biases. *Environmental and Resource Economics*, 88, 2663–2688. <https://doi.org/10.1007/s10640-025-00980-4%0AKahneman's>
- Breton-Miller, I. Le, Miller, D., Tang, Z., & Xu, X. (2024). CEO Religion and Corporate Social Responsibility : A Socio - behavioral Model. *Journal of Business Ethics*, 195(1), 167–189. <https://doi.org/10.1007/s10551-024-05650-x>
- Brunner-Kirchmair, T. M., Hiebl, M. R., Thaller, J., & Wolf, T. Feldbauer-Durstmüller, B. Pernsteiner, H. Dick, M. Mayr, S. Wagner, E. (2025). Religion logic and family firms' ethical behavior towards employees. *Review of Managerial Science*, 19(6), 1819–1857. <https://doi.org/10.1007/s11846-024-00814-5>
- Buanaputra, V. G., Astuti, D., & Sugiri, S. (2025). Accountability and legitimacy dynamics in an Pesantren. *Journal of Accounting & Organizational Change*, 18(4), 553–570. <https://doi.org/10.1108/JAOC-02-2021-0016>
- Chapra, M. U. (2008). The Islamic Vision of Development in the Light of Maqasid Al-Shari'ah. *Islamic Research and Training Institute*, 11.

- Chintakrindi, S., Jordan, M., Littlepage, E., Wooley, S., Pinedo, C., Duran, M., & Olivant, K. (2022). Beyond the Numbers: Qualitative Analysis of Open-Ended Responses for Identifying Student Success Indicators. *Intersection: A Journal at the Intersection of Assessment and Learning*, 3(1), 1–16.
- Cristofaro, M. (2025). A framework for Understanding heuristic shifts and adaptation. *Mind & Society*, 24, 413–435. <https://doi.org/10.1007/s11299-025-00340-1%0AA>
- Dasmadi, D., Hadi, S., Junchu, Y., Wahyuningtyas, N., & Wedadjati, R. S. (2024). Maqasid al-Shariah and Organizational Performance: A Systematic Literature Review. *Global Review of Islamic Economics and Business*, 12(2), 106–119.
- Esposito, L. & Mastromatteo, G. (2024). Behavioral economics and the nature of neoclassical paradigm. *Mind & Society*, 23(3). <https://doi.org/10.1007/s11299-024-00303-y>
- Fadilah, E. N., Amanda, E. D., Nabilla, H. R., Lathifah, I. A., Mukaromah, L., Ningrum, C. A. W., & Yudhanti, A. L. (2024). Pengoptimalan Pengelolaan Keuangan Pesantren : Integrasi Nilai-nilai Islam dalam Akuntansi Syariah untuk Pengurus Pesantren PPM. *Welfare : Jurnal Pengabdian Masyarakat*, 2(4), 723–729.
- Fahmi, R., & Aswirna, P. (2023). Development of Islamic Economy through the Empowerment of Boarding School as Economically Independent Institutions in Indonesia. *JoIE: Journal of Islamic Economic and Business*, 3(2), 141–153. <https://doi.org/10.21154/joie.v2i2.7478>
- Fan, X., Chen, C., & Yuan, L. (2022). Centralization and Firm Performance: New Evidence on the Role of Firm Size. *Hindawi Wireless Communications and Mobile Computing*, 2022. <https://doi.org/10.1155/2022/2233484>
- Faroque, A. R., Rahman, A., Osman, M., & Hoque, I. (2026). Heuristics and decision rationality in entry mode choice : Implications for decision effectiveness and international performance. *International Business Review*, 35(1), 102521. <https://doi.org/10.1016/j.ibusrev.2025.102521>
- Fauroni, R. L., & Quraisy, M. (2020). Pesantren Agility in Community Economic Development. *Muqtasid*, 10(2), 155–168.
- Fortin, I., & Hlouskova, J. (2024). Prospect theory and asset allocation. *Quarterly Review Of Economics and Finance*, 94, 214–240.
- Giarlotta, A. & Petralia, A. (2024). Simon’s bounded rationality. *Decisions in Economics and Finance*, 47(1), 327–346. <https://doi.org/10.1007/s10203-024-00436-2>

- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews are Enough?: An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Güney, N. (2024). Maqasid al-Sharia in Islamic Finance: A Critical Analysis of Modern Discourses. *Religions*, 15(114). <https://doi.org/10.3390/rel15010114>
- Hanafi, Y., Taufiq, A., Saefi, M., Ikhsan, M. A., Diyana, T. N., Thoriquattyas, T., & Anam, F. K. (2021). The new identity of Indonesian Pesantren in the “ new normal ” : the education leadership response to COVID-19. *Heliyon*, 7(2021). <https://doi.org/10.1016/j.heliyon.2021.e06549>
- Hasan, M., Karim, F. & Ripon, B. B. (2025). Behavioral Economics and Consumer Decision-Making: An Integrative Review. *Business and Social Science*, 3(1), 1–8.
- Hett, F., Mechtel, M., & Kroll, M. (2020). The Structure and Behavioural Effects of Revealed Social Identity Preferences. *The Economic Journal*, 130(632), 2569–2595. <https://doi.org/https://doi.org/10.1093/ej/ueaa055>
- Hotman, H., & Luthfi, M. (2025). The Influence of Maqasid al-Shariah on Sustainable Investment Decisions in Islamic Finance. *Economics Studies and Banking Journal*, 2(1), 295–309.
- Jain, J., Walia, N., Singla, H., Singh, S., Sood, K., & Grima, S. (2023). Heuristic Biases as Mental Shortcuts to Investment Decision-Making : A Mediation Analysis of Risk Perception. *Risk*, 11(72), 1–22.
- Karim, A., Fathurohman, O., Sulaiman, S., Marlioni, L., Kurniawan, F. F., Nugraha, F., Muaripin, M., Meliani, F., Ridwan, M., & Sianturi, R. (2025). Islamic spiritual leadership of kyai in fostering santri s ’ entrepreneurial spirit and independence in boarding school. *Social Sciences & Humanities Open*, 12. 101817. <https://doi.org/10.1016/j.ssaho.2025.101817>
- Karimullah, S. S. (2023). Exploration of Maqasid Al-Shariah Concepts in The Development of Islamic Economic Policies. *Mu’amalah : Jurnal Hukum Ekonomi Syariah*, 2(2), 153–172. <https://doi.org/10.32332/muamalah.v2i2.7747> This
- Leite, H., Hodgkinson, I. R., & Gruber, T. (2020). New development: ‘Healing at a distance’—telemedicine and COVID-19. *Public Money and Management*, 40(6), 483–485. <https://doi.org/10.1080/09540962.2020.1748855>
- Lipari, F. (2018). This Is How We Do It: How Social Norms and Social Identity Shape Decision Making under Uncertainty. *Games*, 2018(9), 4. <https://doi.org/10.3390/g9040099>

- Love, P. E. D., Matthews, J., & Ika, L. A. (2025). The management of operations fast-and-frugal heuristics: an exploration into building an adaptive toolbox to assess the uncertainty of rework. *Production Planning & Control*, 36(3), 251–266. <https://doi.org/10.1080/09537287.2023.2257178>
- Lu, Y., Lu, Y., Ren, X., & Zhang, H. (2025). Exploring the bounded rationality in human decision anomalies through an assemblable computational framework. *Cognitive Psychology*, 156, 101713. <https://doi.org/10.1016/j.cogpsych.2025.101713>
- Marwah, A., Sapa, N., & Syatar, A. (2025). Integrating Maqashid al-Shariah into Islamic Economic Practices: A Contemporary Analytical Framework and Its Applications. *El-Kahfi: Journal Of Islamic Economics*, 6(01), 36–44.
- Meutia, I., & Daud, R. (2021). The meaning of financial accountability in Pesantren : The case of Indonesia. *International Entrepreneurship Review*, 7(2), 31–41. <https://doi.org/10.15678/IER.2021.0702.03>
- Midtgård, K., & Selart, M. (2025). Cognitive Biases in Strategic Decision-Making. *Administrative Sciences*, 15(6), 227. <https://doi.org/10.3390/admsci15060227>
- Munien, I. & Telukdarie, A. (2025). Updating neoclassical economics with contemporary conceptions of homo economicus : a bibliometric analysis. *Quality & Quantity*, 59, 1123–1151.
- Musaddad, A. (2024). Leadership in Pesantren: Educational Management Approaches for Spiritual and Academic Development. *AKSI Jurnal Manajemen Pendidikan Islam*, 2(3), 186–194.
- Najmudin, F., & Bayinah, N. (2022). Kompetensi Takmir dalam Menjaga Kualitas Laporan Keuangan Masjid: Telaah Literatur. *Jurnal Akuntansi Dan Keuangan Islam*, 10(2), 129–147. <https://doi.org/https://doi.org/10.35836/jakis.v10i2.361>
- Nurdiana, N., Muin, R., & Wahab, A. (2025). Fundamental Principles of Islamic Economic System : Justice , Equity , and Moral Conduct. *Formosa Journal of Multidisciplinary Research (FJMR)*, 4(6), 2627–2646.
- Pathak, D. D., & Thapa, B. S. (2024). Beyond market anomalies : How heuristics and perceived efficiency shape investor behavior in developing markets. *Investment Management and Financial Innovations*, 21(2), 1–14. [https://doi.org/10.21511/imfi.21\(3\).2024.01](https://doi.org/10.21511/imfi.21(3).2024.01)
- Ramadani, K. N., Hasanah, N., & Irfany, M. I. (2023). Business Strategy in Pesantren: A Case Study of Pesantren Hidayatullah Depok Indonesia. *Bukhori: Kajian Ekonomi dan Keuangan Islam*, 3(1), 11–28. <https://doi.org/10.35912/bukhori.v3i1.2282>

- Rieskamp, J., & Hoffrage, U. (2008). Inferences under time pressure: How opportunity costs affect strategy selection. *Acta Psychologica*, 127, 258–276. <https://doi.org/10.1016/j.actpsy.2007.05.004>
- Rubin, A. H. J., & Rubin, I. S. (2012). *Qualitative Interviewing: The Art of Hearing Data* (3rd Editio). Sage Publications.
- Satria, R., Nugraha, N., Disman, D., & Purnamasari, I. (2025). Behavioral Biases in Islamic Retail Investing: The Moderating Role of Demographics. *SHARE: Jurnal Ekonomi dan Keuangan Islam*, 14(1), 494–515. <https://doi.org/10.22373/share.v14i1.28784>
- Shepherd, N. G., Lou, B., & Rudd, J. M. (2024). Going with the gut : Exploring top management team intuition in strategic. *Journal of Business Research*, 181, 114740. <https://doi.org/10.1016/j.jbusres.2024.114740>
- Simon, H. A. (1955). Behavioral Model of rational Choice. *Quarterly Journal of Economics*, 69(1), 99–118.
- Simon, H. A. (1956). Rational Choice and The Structure of The Environment. *Psychological Review*, 63(3).
- Simon, H. A. (1959). Theories of Decision-making in Economics and Behavioral Science. *The American Economic Review*, 49(3), 253–283.
- Sun, Y. (2025). The Influence of Loss Aversion and Framing Effect on Economic Behavior. *Proceedings of ICEMGD 2025 Symposium: Resilient Business Strategies in Global Markets*, 108–112. <https://doi.org/10.54254/2754-1169/2025.CAU28419>
- Syahir, A. N. A., Abidin, M. S. Z., Sa'ari, C. Z., & Rahman, M. Z. A. (2025). Workplace Spirituality and Its Impact on Employee Well-Being : A Systematic Literature Review of Global Evidence. *Journal of Religion and Health*, 64,(5). <https://doi.org/10.1007/s10943-025-02350-2>
- Tarnoto, N., Yuniawati, R., Wijayati, R. D., & Herdian. (2023). Social media use and various factors affecting Indonesian mental health during the COVID-19: a pathway to remember. *International Journal of Public Health Science*, 12(4), 1694–1700. <https://doi.org/10.11591/ijphs.v12i4.22390>
- Theodorakopoulos, L., Theodoropoulou, A., & Halkiopoulou, C. (2025). Cognitive Bias Mitigation in Executive Decision-Making: A Data-Driven Approach Integrating Big Data Analytics , AI , and Explainable Systems. *Electronics*, 14, 1–52. <https://doi.org/10.3390/electronics14193930>
- Tversky, A. & Kahneman, D. (1974). Judgment under Uncertainty : Heuristics and Biases. *Science*, 185(4157), 1124–1131.

- Usman, A. C., Al-hendawi, M., & Bulut, S. (2025). Approaches to qualitative research : A narrative literature review. *Adv Med Psychol Public Health*, 2(2), 81–95. <https://doi.org/10.5281/zenodo.128049>
- Wei, G. J., Ab-rahim, R., Hayy, A., Mohamad, H., & Ibrahim, M. S. (2025). The Current State of Behavioural Economics Studies: A Bibliometric Analysis. *International Journal of Economics and Financial Issues*, 15(4), 51–62.
- Wijaya, H. R., Hati, S. R. H., Ekaputra, I. A., & Kassim, S. (2024). The impact of religiosity and financial literacy on financial management behavior and well-being among Indonesian Muslims. *Humanities and Social Sciences Communications*, 2024, 1–13. <https://doi.org/10.1057/s41599-024-03309-6>
- Xu, Z., Wang, Y., & Qian, Y. (2025). The design and application of in-depth interviews in primary care research. *Chinese General Practice Journal*, 2(2), 100062. <https://doi.org/10.1016/j.cgpj.2025.100062>
- Yin, R. K. (2018). *Case Study Research and Application Design and Method*. SAGE Publications India Pvt. Ltd.
- Zahirah, S. Y., & Suhaedi, W. (2025). Optimizing financial management and reporting to increase accountability and transparency in Pesantren. *Journal of Islamic Economics Lariba*, 11(1), 25–44.