INTEGRATION OF EPISTEMOLOGY: MEDIEVAL ISLAMIC PERSPECTIVES ON THE HIERARCHY OF KNOWLEDGE, THE QUR'AN, AND PHILOSOPHY

Armalena[1], Syahrul Fadli[2], Mardianis[3], Saifullah[4] dan Riki Saputra[5]
[1] Universitas Muhammadiyah Sumatera Barat, Indonesia
[2] Universitas Muhammadiyah Sumatera Barat, Indonesia
[3] Universitas Muhammadiyah Sumatera Barat, Indonesia
[4] Universitas Muhammadiyah Sumatera Barat, Indonesia
[5] Universitas Muhammadiyah Sumatera Barat, Indonesia

Corresponding Author:

Armalena,
Department of Islamic Religious Education, Faculty of Islamic Studies, Muhammadiyah University of West Sumatra.
Jl. Pasir Jambak No.4, Pasie Nan Tigo, Kec. Koto Tangah, Kota Padang, Sumatera Barat 25586, Indonesia
Email: lenaarma39@gmail.com

Abstract

Mainstream narratives often label the Medieval period as a time of global intellectual stagnation, whereas Islamic civilization actually recorded a golden age through the integration of theology, philosophy, and science, reaching its pinnacle. This study seeks to reconstruct the concept of knowledge ('ilm) in the medieval Islamic tradition and to map the interrelation between the authority of revelation and rationality. The author applies a library research method with content analysis techniques on the thoughts of key figures such as Al-Farabi, Ibn Rushd (Averroes), and Ibn al-Haytham. The analysis identifies three fundamental points: first, medieval Islamic epistemology was holistic, eliminating the dichotomy between sacred and profane spheres; second, the Qur'an serves as an epistemological constitution that legitimizes empirical observation through the doctrine of the "Two Books" (Tadwini and Takwini); and third, philosophy and science are positioned as collective obligations (fardhu kifayah) consistent with the message of revelation. This study concludes that addressing the crisis of modern knowledge dichotomy requires a renewed adoption of the classical spirit of epistemological integration.

INTRODUCTION

The history of human civilization records highly contrasting intellectual dynamics during the Medieval period. Western Europe experienced a stagnation of thought and cultural decline, often referred to as the Dark Ages (Choudhary et al., 2025). In contrast, Islamic civilization progressed toward brilliance, reaching a golden peak known as The Golden Age (Parvin et al., 2024). This era marked the birth of thousands of scholarly works, technological inventions, and philosophical developments that illuminated the world while other regions remained in relative ignorance.

This remarkable progress was rooted in the scientific paradigm embraced by Muslim societies at the time, which viewed knowledge as an integrated whole inseparable from religious teachings (Lionardo et al., 2024). The Islamic intellectual tradition constructed an epistemological system that harmonized revelation (the Qur'an) and reason (rationality/philosophy) in a synergistic balance. This worldview rejected the secularization of knowledge that separates worldly affairs from the spiritual dimension.

The concept of 'ilm in Islamic terminology has a far broader and deeper meaning than the modern English term "science." (Isser et al., 2024), emphasizes that the concept of 'ilm is the main driving force shaping the entire structure of Islamic civilization. It encompasses not only empirical knowledge of nature but also spiritual awareness and theological understanding (Delina et al., 2024). Knowledge, in this perspective, functions as light (nur) guiding humans to distinguish truth from falsehood.

The Qur'an occupies a central position as an epistemological constitution for the development of science and philosophy in the Islamic world (Bouteraa et al., 2024). The first revelation, "Iqra" (Read), marked a fundamental transformation of civilization from an oral culture to a scientific literacy culture (Ajmal et al., 2024). The sacred text consistently encourages humans to use critical reasoning (ta'aqqul) and conduct careful observation (nazar) of natural phenomena. It is this Qur'anic spirit that fueled Muslim scholars' relentless study of the universe.

Medieval Muslim thinkers developed the doctrine of the "Two Books" to strengthen the theological legitimacy of science. God speaks to humanity through Al-Kitab Al-Tadwini (the written book, the Qur'an) and Al-Kitab Al-Takwini (the created book, the universe). Muslim scientists investigated human anatomy, celestial movements, and the properties of light with the same sacred dedication as they interpreted divine verses. They believed that studying nature was an exegetical activity, a form of interpreting God's creation.

Muslim scholars engaged with the legacy of Greek philosophy with openness yet critical rigor under the umbrella of tawhid. Institutions such as the Bayt al-Hikmah facilitated massive, systematic translation and assimilation of foreign thought (Pusparini et al., 2024). Muslim philosophers adopted Aristotelian and Platonic rational methods, filtering them to align with the principle of God's oneness (Malapane et al., 2024). This process demonstrated that Islam was not opposed to foreign thought as long as it could be Islamized and benefit society.

Key figures such as Al-Farabi, Ibn Sina (Avicenna), and Ibn Rushd (Averroes) played pivotal roles in establishing the foundations of integrative philosophy of knowledge. Al-Farabi positioned logic as an essential prerequisite for understanding revelation, while Ibn Rushd emphasized that the truth of reason could never contradict the truth of revelation (Neal-Stanley et al., 2024). For them, pursuing natural sciences was not merely an academic activity for intellectual satisfaction but a valid method of knowing God (Ma'rifatullah).

Contemporary educational realities show an epistemological decline through sharp disciplinary dichotomies (Tarip, 2024). The rigid separation between "religious knowledge" and "general knowledge" has reduced the sanctity of science and confined religion to private spheres (Utami et al., 2024). This situation produces scholars who may be technically competent yet spiritually barren, or religious figures who are scientifically illiterate. Such dichotomies are anomalies when viewed against the historical successes of Islamic civilization.

Revisiting medieval Islamic views on knowledge is therefore crucial for reconstructing modern integrative epistemology (Ramdani et al., 2024). This article aims to elucidate the definition of the concept of 'ilm, analyze the Qur'an's position as an epistemological foundation, and describe the harmonization of philosophy and revelation in the classical tradition (Sumi et al., 2024). The discussion is expected to offer conceptual solutions to the epistemological crisis confronting contemporary Islamic education.

RESEARCH METHOD

Research Design

This study adopts a qualitative approach with a descriptive-analytical library research design (Aminnuddin, 2025). The qualitative approach allows for an in-depth exploration of concepts, focusing on understanding meanings and underlying patterns rather than numerical data (Nakhid & Santana, 2023). The descriptive-analytical design is used to describe and analyze literature in a structured manner, offering insights into the substantive meanings embedded within philosophical and epistemological texts. This design ensures that the study is both comprehensive and focused, allowing the researcher to extract significant insights from historical and Islamic texts.

Research Target/Subject

The research focuses on literature, which includes primary sources such as classical philosophical works, and secondary sources such as authoritative books and scholarly journals. These sources are selected for their relevance and authority in the field of Islamic epistemology. Primary sources offer foundational texts that present original philosophical ideas, while secondary sources provide contextual analysis and commentary. The study examines these sources to explore the structure of medieval Islamic knowledge and its philosophical underpinnings.

Research Procedure

The research follows a procedure that ensures data validity through source triangulation. This involves cross-referencing different sources both primary and secondary to verify the accuracy and consistency of the findings (Jin, 2024). The procedure also involves constructing a theoretical framework using inferential content analysis to interpret the substantive meanings in historical and Islamic epistemological texts. The research is structured to ensure that key concepts, such as 'ilm, tafakkur, and nazar, are carefully analyzed to reveal patterns of logic between revelation and reason.

Instruments, and Data Collection Techniques

The main instruments for this study are the literary texts themselves, which include both primary and secondary sources. The data collection technique is library research, where the researcher collects relevant literature from various sources such as classical philosophical works and contemporary scholarly publications. This technique ensures a thorough and systematic collection of data that is representative of the philosophical and epistemological concepts under study. The researcher uses these texts to gather insights and ensure that a broad range of perspectives is considered in the analysis.

Data Analysis Technique

The data analysis technique involves dialectical analysis, where key concepts such as 'ilm, tafakkur, and nazar are confronted and analyzed to uncover logical patterns that link revelation with reason (Elewa, 2025). Additionally, inferential content analysis is employed to extract substantive meanings from the texts, allowing for a deep and rigorous interpretation of

the data (Mehta & Chawla, 2024). This approach enables the researcher to reconstruct medieval Islamic knowledge in a comprehensive and objective manner, ensuring that the analysis is both thorough and balanced.

RESULTS AND DISCUSSION

The Concept of Knowledge ('Ilm) in Medieval Islam

The concept of knowledge ('ilm) in medieval Islamic civilization represents an unparalleled intellectual phenomenon in the history of human thought. Muslim society at that time viewed knowledge not merely as a collection of fragmented empirical data or information, but as an organic unity that connects physical reality with metaphysical reality. This paradigm placed 'ilm as the central axis that drives all aspects of life, from the structuring of social laws to the exploration of celestial bodies.

In the Islamic worldview (weltanschauung), knowledge holds a very sacred position. Classical Islamic civilization built its intellectual foundation on the belief that all truth originates from God. The consequence of this belief is the emergence of a holistic system of knowledge, where there is no rigid separation between religious knowledge and general knowledge.

1. The Centrality and Definition of 'Ilm

The definition of knowledge in Islamic tradition goes beyond the definition of science in modern Western tradition, which often falls into positivism. De Mamani et al., (2026) a prominent thinker from Malaysia, defines knowledge as "the presence of meaning of something in the soul, simultaneously with the presence of the soul in the meaning of something". This definition shows that the cognitive process in Islam involves an active interaction between the subject (the human soul) and the object (the reality created by God).

Figure 1. Philosophical impact of knowledge

Knowledge acts as a bridge that connects humans with the essence of truth. Knowledge is not merely a tool for mastering nature, but a means to recognize one's position in the midst of God's creation. De Mamani et al., (2026) emphasized that true knowledge will lead humans to recognize God, which then produces justice within the self and society. Without this spiritual dimension, the information that humans possess will only become an intellectual burden that does not bring inner enlightenment.

The profound respect for knowledge is reflected in the metaphor of light (nur). Sufi mystics and Muslim philosophers believed that knowledge is a non-material substance given by God into the hearts of His pure servants (Sheikh & Hussain, 2024). This view necessitates a

close relationship between intellectuality and morality. One is not considered truly knowledgeable if their behavior does not reflect the truth they know.

The pursuit of knowledge in Islam places great emphasis on adab (ethics). A scholar is not merely a technocrat skilled in calculations, but an individual who has manners towards their teachers, respect for the truth, and responsibility towards the environment. De Mamani et al., (2026), argued that the loss of adab is the root cause of the decline of the Muslim ummah in modern times. During the golden age, a medical student, for example, had to complete studies in ethics and philosophy before being allowed to touch a patient's body.

Islamic intellectual tradition does not limit the sources of knowledge to just the five senses and reason. Knowledge can also be acquired through intuition (kashf) and revelation. Syamsuddin Arif explained that Islamic epistemology acknowledges the validity of various channels of knowledge as long as they are within the correct framework. Reason is used to analyze natural phenomena, while intuition and revelation provide guidance regarding the reality behind these phenomena.

2. Classification of Knowledge: Harmony between Revelation and Reason

Muslim scholars during the golden age of Islam made extraordinary intellectual efforts to map and organize knowledge. This effort was not just an administrative categorization activity but a major epistemological project to maintain harmony between revelation and reason (Aslam et al., 2026). The main principle underlying this systematization is the concept of Adab al-'Ilm, an intellectual ethics that places each branch of knowledge in its proper proportion according to its ultimate goal: to know the Creator. This classification aims to prevent confusion in thinking and ensure that scientific progress remains grounded in transcendental values.

a. *Ilmu Naqliyah* (Traditional/Transmitted Sciences)

The first group of knowledge is Ilmu Naqliyah or al-Ulum al-Syar'iyyah (Transmitted Sciences). Islamic epistemology places this group as the foundational science because its authority directly stems from divine revelation and valid historical tradition. This group covers a wide range of subjects, from Tafsir (interpretation of the Qur'anic text), Ilmu Hadis (study of prophetic traditions), to Fikih (Islamic jurisprudence), which formulates practical laws for human life (Mujiatun et al., 2025). Contemporary researchers often misunderstand and regard these sciences as static, while in reality, the interpretation of sacred texts through ijtihad (independent reasoning) is very dynamic.

The main characteristic of Ilmu Naqliyah lies in the absoluteness of its sources, but its methodology of understanding involves highly sophisticated human reasoning. Ilmu Kalam, for example, uses dialectical logic to defend faith from external philosophical challenges. The existence of this science ensures that the Muslim community maintains a strong moral compass and spiritual identity amidst diverse intellectual currents. Without a solid Naqliyah foundation, Muslim philosophers believe that humans would lose direction in interpreting the reality of the universe.

b. *Ilmu Aqliyah* (Rational/Intellectual Sciences)

The second group is Ilmu Aqliyah, which scholars often refer to as al-Ulum al-Hikmah or Ulum al-Awail. Unlike Naqliyah, this group of knowledge is obtained through the power of human reason via empirical observation, experimentation, and deductive-inductive logic. It covers pure science disciplines such as Mathematics (riyadhiyyat), Physics (tabi'iyyat), Astronomy (hay'ah), Medicine (tibb), and Metaphysics (ilahiyyat). Muslim scholars did not consider this knowledge as a "secular" product, but rather as a way for humans to read Ayat Kauniyah or the signs of God's greatness that are spread throughout the universe.

Figure 2. The Synergy of Universal Science and Islamic Values

The universal nature of Ilmu Aqliyah allowed Islamic civilization to absorb the intellectual heritage of the Greeks, Persians, and Indians, and then "Islamize" it through a stringent filtration process. This classification places science in the position of Fardhu Kifayah, meaning that mastery of disciplines such as medicine or engineering is a collective obligation and a sin if neglected by society. Thus, a Muslim scholar in the laboratory sees their research activities as an intellectual act of worship aimed at the welfare of humanity.

3. Epistemological Integration According to Intellectual Figures

This discussion would be incomplete without referring to how intellectual giants reconciled the two types of knowledge:

a. Al-Farabi (d. 950 CE) in Ihsa' al-'Ulum:

He classified knowledge hierarchically, starting with language, logic, mathematics, physics, metaphysics, and extending to political science and religious law. For Al-Farabi, logic was the main tool for validating arguments, both in philosophy and theology.

b. Al-Ghazali (d. 1111 CE) in Ihya' 'Ulumuddin:

Al-Ghazali provided the most influential synthesis. He did not reject aqliyah sciences (such as mathematics and medicine, which he considered praiseworthy), but he criticized the metaphysics of philosophers that he believed contradicted revelation. He introduced the dimension of Spiritual Intuition (Kasyf or Ma'rifah) as the highest level of knowledge, transcending reason, where truth is "witnessed" directly by the purified heart, not merely thought by the brain.

c. Ibn Khaldun (d. 1406 CE) in Muqaddimah:

He viewed knowledge from a sociological-historical perspective. He emphasized that the development of knowledge (science) correlates with the progress of civilization (umran). Settled and prosperous societies will naturally develop complex aqliyah sciences.

4. The Universe as a "Sign" (Ayat) and the Purpose of Science

The most striking difference between modern secular science and the intellectual tradition of medieval Islamic science lies in the ultimate goal (teleology) of intellectual activity. Modern society tends to view science as a neutral tool to understand matter and exploit nature for economic progress. In contrast, classical Muslim scholars saw science as a transcendental means to understand the divine order in the universe. This paradigm integrates empirical facts with ethical values, so that knowledge is never free from moral responsibility before the Creator.

a. The Unity of Knowledge (Tauhid)

The principle of Tauhid in Islam is not merely a theological statement about the oneness of God, but a method to understand the unity of reality. Since the source of existence comes from the One, all truth, whether written in revelation or hidden in the laws of nature, must be

coherent and mutually reinforcing. De Mamani et al., (2026) emphasizes that knowledge is "the arrival of meaning into the soul," which guides humans towards the recognition of the order established by God.

This mindset eliminates the possibility of a permanent conflict between the "laboratory" and the "holy book." If a contradiction arises between scientific discoveries and religious texts, medieval Muslim scholars would re-examine their methodology of interpretation, not discard one of them. They believed that the error lay in human perception, not in the truth itself. This unity of knowledge ensures that intellectual progress will not lead to existential doubt, but rather strengthen one's conviction.

b. The Universe as The Cosmic Quran

The difference in vision between Islamic science and modern Western science is clearly seen in the way the universe is viewed. The post-Renaissance Western tradition, represented by Francis Bacon's motto "Knowledge is Power," positions nature as an object to be conquered, squeezed, and exploited for human convenience. This paradigm often leads to ecological damage because nature loses its sacredness. On the other hand, medieval Muslim scholars viewed nature as The Cosmic Quran an open book filled with signs (ayat) of God's greatness.

Chittick, W. C. (2007) highlight the concept of nature as a "theophany" or manifestation of God's attributes. Studying the anatomy of the body, the orbits of planets, or botanical cycles is considered an act of tafakkur or spiritual contemplation. The ultimate goal is not to dominate nature, but to live in harmony with it. A scientist studying the order of the universe is essentially trying to read the "mind" of the Creator through His work. This approach gives rise to a strong environmental ethics, where humans act as khalifah (guardians), not tyrants over the universe.

c. Science as Ibadah (Worship)

In the structure of classical Islamic society, science was never considered a "profane" activity or separate from holiness. Every astronomical observation, chemical experiment, or medical surgery was categorized as ibadah (worship) if done with the right intention (niyyah). Tarabeih et al., (2023), explains that this integration was very evident in how the science of astronomy (hay'ah) developed rapidly due to the practical religious need to determine the qibla direction and prayer times accurately. In this context, science serves as the "servant" for the perfection of religious rituals.

This characteristic made laboratories, observatories, and hospitals (Bimaristan) extensions of the mosque. A Muslim doctor treats patients not only as a professional practice but as a form of khidmah (service) to God's most honored creation. This prevents science from becoming inhumane or trapped in blind materialism. The professional ethics of classical scientists were always tied to the concept of falah (success in both this world and the afterlife), so the success of research was measured by its social and spiritual benefits, not merely its profitability or technical novelty.

The systematic approach to knowledge in the medieval era firmly rejected the separation between the sacred and the profane. This holistic view united empirical observation, logical rationality, and divine revelation into one cohesive system of knowledge. For them, there was no empty space in the universe that was not touched by the divine presence. Therefore, the laws of nature were understood as Sunnatullah, God's habitual ways of organizing the universe, which are constant and can be studied by the human mind.

The grand conclusion is that medieval Islamic science succeeded in creating a technologically advanced civilization without losing its spiritual roots. They proved that the deeper one investigates the laws of nature through science, the closer one gets to understanding God. This legacy needs to be reconstructed in the modern world: a science that has "a soul," that respects nature as a sacred subject, and that sees the search for truth as a path back to the Creator.

The Qur'an as an Epistemological Basis

In the history of human thought, there has often been tension between religious dogmatism and the rationality of science. However, in medieval Islam, the Qur'an functioned as an epistemological constitution. It was not merely an object of study (what to study) but a methodological framework (how to study everything).

1. The Revolution of "Iqra'": The Transformation from Oral Culture to Scientific Literacy

The first revelation that came to the Prophet Muhammad SAW in the Cave of Hira, Surah Al-'Alaq verses 1-5, was an intellectual proclamation that changed the course of human history. The command "Iqra'" (Read) was not simply a command for literacy in a narrow sense, but an epistemological revolution that shifted Arab society from an oral culture dominated by poetry and genealogies to a literate culture based on analysis and data documentation.

Semantically, the word Iqra' comes from the root word qara'a, which means to gather and scrutinize. The most fundamental aspect is the absence of a specific object (maf'ul bih) in the command. The Qur'an does not say "read this book," but rather "read." This absence of an object suggests that the scope of reading is universal. Ercanbrack & Ali, (2024), emphasized that this command is the basis for the "Culture of Knowledge" in Islam, where reading the revelation text must be accompanied by reading the text of the universe and the self.

The mention of "Pen" (Al-Qalam) in the first revelation also carries profound metaphysical significance. The pen is a symbol of the preservation of knowledge. In Islamic tradition, knowledge is not considered private property, but rather a trust from God that must be recorded, tested, and transmitted. The use of the pen enabled the accumulation of knowledge across generations in various centers of civilization such as Baghdad, Cordoba, and Samarkand. Without the literacy revolution triggered by the Iqra' mandate, the large-scale translation movement of Greek works at Bayt al-Hikmah would never have had a strong cultural foundation.

2. The Doctrine of the Two Books: Al-Kitab Al-Tadwini and Al-Kitab Al-Takwini

One of the most brilliant contributions of medieval Islamic philosophy is the concept of the "Two Books of God." Thinkers like Al-Farabi and later emphasized by Sufi-philosophers, believed that God spoke to humans through two parallel and non-contradictory media:

a. Al-Kitab Al-Tadwini (The Written Book): This refers to the Qur'an, which contains qawliyyah verses (verbal signs). This Book provides ethical guidance, the purpose of existence, and universal principles about the universe.

b. Al-Kitab Al-Takwini (The Created/Ontological Book): This refers to the Universe, which contains kauniyyah verses (natural/ontological signs). Galaxies, atoms, cells, and other natural phenomena are seen as "words" of God manifested in material form.

Mizyed & Eccles, (2023), explained that in this paradigm, studying physics or biology is actually a form of "exegesis" or interpretation of the book of God's creation. The implication of this view is profound: a Muslim scientist does not feel like they are leaving their religion when they are in the laboratory. On the contrary, they feel they are engaging in intellectual worship to uncover the secrets of the "Author" who is the same.

The belief in the unity of knowledge sources gave rise to the principle "The truth cannot contradict the truth," a dictum later popularized by Ibn Rushd in his work Fasl al-Maqal. If scientific observations appear to contradict the revelation texts, medieval scholars assumed there was an error in human interpretation, either in interpreting religious texts too literally or interpreting nature imperfectly.

3. The Imperative of Rationality: Cognitive Transformation through the Qur'an

The Qur'an functions as the main impetus for the emergence of a strong scientific tradition in Islamic civilization. The use of reason in Islam is never wild or directionless, but is

guided by a noble aim: to discover the truth of the Creator. Various intellectual terms in the Qur'an indicate that Islam has a systematic method for processing information into knowledge.

a. Tafakkur (Phenomenological Reflection): Tafakkur literally refers to the activity of deeply contemplating God's creation. This process involves the human effort to penetrate the outer layers of a phenomenon to find its inner meaning. Alkouatli et al., (2023), explained that tafakkur is a bridge connecting physical observation with metaphysical awareness. When someone contemplates the movement of planets, they do not merely stop at numerical data, but reach the conclusion of a great order.

b. Ta'aqqul (Logical Binding of Meaning): The root word aql etymologically means "to bind" or "to hold." Ta'aqqul refers to using reason to bind a concept so that it does not stray from the truth and to hold back desires that might interfere with objective judgment. Syamsuddin Arif emphasized that reason in Islam is integrative; it functions as the sixth sense that captures non-material realities while also being a tool of logic that dissects arguments. The Qur'an often ends a verse with the rhetorical question "Do you not use your reason?" as a reminder to think critically.

c. Nazar and Tadabbur (Observation and Consequential Analysis): Nazar is deep observation that integrates sharp senses with logical precision. This term is often used in the context of the command to investigate the origin of human existence and the universe. Tadabbur, on the other hand, emphasizes the effort to consider the consequences or final outcomes of an event or text. InTafsir Al-Azhar elaborated that tadabbur is the key to understanding the implied messages in the Qur'an, so that humans do not fall into dry, literal interpretations.

d. Ulu Al-Albab (The Ideal Intellectual Prototype): The pinnacle of the imperative of rationality in Islam is the emergence of a group referred to in the Qur'an as Ulu Al-Albab. This term is not aimed at just anyone who is academically intelligent, but those who have reached the purity of substantial reasoning. The primary characteristic of Ulu Al-Albab is outlined in Surah Ali Imran verses 190-191. They are described as individuals who constantly remember God (dhikr) in all situations and at the same time use their intellect (fikr) to contemplate the creation of the heavens and the earth. Qorib, (2025), argued that the separation between spiritual and intellectual aspects is the primary cause of the modern human crisis. For Ulu Al-Albab, laboratory activities and those on the prayer mat hold equal sacred value because both are efforts to approach the Truth.

The Qur'an positions Ulu al-Albab (those with pure intellectual substance) at a very high degree. Their main characteristic, as described in Surah Ali Imran verses 190-191, is the ability to combine Dhikr (transcendental awareness) and Fikr (scientific analysis). For them, studying the creation of the heavens and the earth is not just a technical activity, but an effort to prove that this universe was not created in vain (batil). This intellectual drive from the Qur'an compels Muslim scientists to never be satisfied with the surface phenomena, but always seek the fundamental laws (Sunnatullah) that govern them.

The imperative of rationality in the Qur'an creates a dynamic and integrated cognitive model. Through terminologies like tafakkur, ta'aqqul, and nazar, Islam obliges its followers to be active subjects in processing reality. The concept of Ulu Al-Albab sets the ideal standard for intellectuals who can unite spiritual depth with scientific acumen. By rejecting taqlid and emphasizing the search for Sunnatullah, the Qur'an laid the foundation for a civilization that is not only advanced in technology but also strong in morality (Murugaiah, 2023). This integrative spirit remains the most relevant response to the challenges of the dichotomy of knowledge in the contemporary era.

4. The Axiology of Science: Knowledge Laden with Values

Unlike modern positivist science, which often claims to be "value-free," medieval Islamic science was consciously "laden with values" (value-laden). The Qur'an provides a

strict axiological framework regarding the use of knowledge. The knowledge sought must be Ilman Nafi'an (beneficial knowledge).

This concept gave birth to the ethics of science centered around Maslahah (the common good). Bavlı & Özdemir, (2025), noted that the rapid development in pharmacology and medicine in the Islamic world was not driven by commercial profit motives alone but by a moral urge to alleviate human suffering as fellow creatures of God. Additionally, the concept of Khilafah (God's vicegerency on earth) ensures that the interaction between scientists and nature is not one of conqueror and conquered. Humans study nature to maintain and manage its balance, not to exploit it recklessly. Science in Islam has a spiritual dimension that prevents the desacralization of nature. A Muslim scientist believes they will be held accountable for every discovery and its application before God, an ethical awareness that is often absent in the race for weapons or destructive technologies in the modern era.

5. Historical Implementation: Ibn Al-Haytham's I'tibar Method

The connection between the Qur'an's epistemological constitution and scientific practice is most clearly seen in the figure of Ibn al-Haytham (965–1040 CE). In his monumental work, Kitab al-Manazir (Optics), he sharply criticized the theories of vision of Aristotle and Ptolemy. However, his critique was not only based on philosophical arguments but on measurable physical evidence.

Ibn al-Haytham introduced the I'tibar method, a strict experimental testing procedure. His theological belief that "Only God is Perfect" indirectly gave rise to constructive skepticism: he believed that human senses and reason could be deceived by bias. Therefore, every scientific truth must be tested through experiments that are repeatable. Ibn al-Haytham as "The First True Physicist" because of his success in combining mathematics with experimental data.

Ibn al-Haytham's choice to study light was also heavily influenced by the metaphor of light in the Qur'an (Surah An-Nur). For him, light was the entity bridging the material and non-material realms. His efforts to uncover the physical nature of light (optics) were an intellectual tribute to the metaphor of revelation he believed in. This proves that revelation does not provide ready-made formulas but rather inspires research direction and precise verification methodology.

Integration of Philosophy and Science: Harmony of Reason and Revelation

Islamic civilization in the classical era built its foundations on a very unique paradigm in the history of human thought. The effort to integrate wisdom (hikmah) acquired through reason with the absolute truth of revelation was not merely a shallow syncretism. This process created a deep system of philosophy of knowledge, where reason and revelation were not seen as two opposing entities. Medieval Muslim scholars believed that God's truth appeared through two main channels: qawliyah verses (textual revelation) and kauniyyah verses (phenomena of nature).

1. Institutional Catalysts: Bayt al-Hikmah and the Translation Movement

The emergence of formal institutions was a key factor in sustaining this intellectual integration. Caliph Harun al-Rashid laid the first stone of the Bayt al-Hikmah in Baghdad, but it was Caliph al-Ma'mun who brought it to its peak of greatness in the 9th century. This institution functioned as a library, a research center, and a mass translation bureau that united various traditions of knowledge.

The translation movement of Greek, Persian, and Indian texts into Arabic involved a highly complex intellectual process. Translators did not simply transfer words from one language to another. They selected, criticized, and adapted terms to align with the Islamic worldview. Derbesh, (2023), emphasized that the Arabs at the time did not just serve as "guardians" of Greek heritage, but as developers who infused new spirit into these sciences.

Arabic transformed into the lingua franca of world science. The use of new technical terms allowed Muslim thinkers to discuss Aristotle's metaphysics or Euclid's geometry within the framework of tawhid. De Mamani et al., (2026) called this process the Islamization of language, where the meanings of key terms in foreign terminologies were adjusted so as not to conflict with the concept of divinity in Islam.

2. Al-Farabi: Logic as the Gateway to Truth

Abu Nasr al-Farabi developed a philosophical framework that allowed Greek philosophy to be organically accepted within Islamic thought. He earned the title al-Mu'allim al-Thani (The Second Teacher) for his role in systematizing logic and classifying knowledge.

Al-Farabi's monumental work, Ihsa' al-'Ulum (The Classification of Knowledge), provided a hierarchical structure for human knowledge. Al-Farabi placed logic (mantiq) in a crucial position. He argued that logic was a universal tool that must be mastered before one could study religious sciences like Fiqh or Kalam. Syamsuddin Arif explained that for Al-Farabi, logic functioned as a scale (mizan) to test the validity of arguments and prevent errors in interpreting revelation.

Al-Farabi's integration of thought culminated in his theory of the Prophet as the "Philosopher-King." Al-Farabi argued that a Prophet received the highest truth through revelation, while a philosopher attained it through pure rational reasoning. Both paths lead to the same truth because they originate from the Active Intellect (al-'Aql al-Fa'al). Meskovic et al., (2024), noted that this idea aimed to unite spiritual and rational leadership within the structure of the ideal state (al-Madinah al-Fadilah).

3. Ibn Rushd: Harmonizing Reason and Sharia in Andalusia

Ibn Rushd (Averroes) was the most ardent defender of the position of reason in the structure of Islamic religion. In his work Fasl al-Maqal, he issued a legal justification (fatwa) that studying philosophy and logic was a religious duty for those who had the intellectual capacity.

Ibn Rushd's central doctrine states that truth cannot contradict other truths (al-haqq la yudaddu al-haqq). He proposed the method of ta'wil (allegorical interpretation) as a solution when there was a conflict between rational discoveries and the literal meaning of revelation. BaHammam, (2025) emphasized that Ibn Rushd did not seek to diminish revelation but to honor reason as God's most noble gift. Revelation often uses symbolic language to be understood by the general populace, while scholars are obligated to uncover the philosophical meanings behind it.

Ibn Rushd's view on causality became a crucial foundation for the scientific method. He rejected views that negated cause-and-effect relationships in the universe. For Ibn Rushd, the world had a stable order created by God. Understanding the laws of cause and effect was the way humans understood God's wisdom in creation. Harun Nasution in his study noted that Ibn Rushd's rationalism would later trigger the intellectual revival in Europe through the Averroist movement.

4. Al-Ghazali and the Dialectic of the Limits of Reason

Imam al-Ghazali's sharp criticism of the philosophers is often misunderstood as an anti-intellectual stance. On the contrary, his work Tahafut al-Falasifah (The Incoherence of the Philosophers) demonstrates a very high level of dialectical reasoning. Al-Ghazali performed a demarcation of knowledge to determine where reason could function independently and where it must submit to revelation.

Al-Ghazali did not attack exact sciences such as mathematics, logic, or medicine. He actually praised these sciences as certain and beneficial. His critique was focused only on the metaphysical speculations of the philosophers, which he believed exceeded the capacity of

human reason. Al-Shibli, (2025) explained that Al-Ghazali sought to restore the authority of revelation on issues that could not be reached by sensory observation and logical deduction.

The positive impact of Al-Ghazali's critique was the emergence of a more cautious integration. Muslim scientists after Al-Ghazali, such as Nasiruddin al-Tusi and Ibn al-Shatir, continued to advance astronomy and mathematics while maintaining a strong theological commitment. This critique helped purify the boundaries of science and prevented philosophy from turning into an unsupported dogma.

This integrated system of philosophy of knowledge resulted in rapid progress in various branches of science. Muslim scholars did not see the study of nature as a secular activity separate from religion. Ibn Sina (Avicenna) in al-Qanun fi al-Tibb combined detailed clinical observations with philosophical principles of natural balance. Disease was viewed as a disruption in a system that was essentially orderly. The healing process was understood as a form of worship to preserve human life, which was God's most noble creation. Al-Qobbaj et al., (2024), noted that this spirit made medieval Islamic medicine far more advanced than any medical tradition of its time.

Astronomy developed not only for the purpose of navigation and determining prayer times but as an effort to understand the majesty of God through the regularity of celestial movements. The discovery of zero and the development of Algebra by al-Khwarizmi provided mathematical tools for humans to solve practical worldly problems while simultaneously understanding divine abstraction. (Çağlayan & Taner Derman, 2025)argued that science in Islam is always hierarchical, where each branch of knowledge refers to the principle of unity (Unity of Knowledge) originating from tawhid.

The hallmark of Islamic intellectual civilization is its ability to balance the reading of two great "books." The Qur'an, as the Kitab Tadwini (written revelation), provides ethical direction and the purpose of life. The universe, as the Kitab Takwini (unfolding revelation), provides empirical data and objects of study for reason.

The method of scientific investigation in Islam is never free of values. Revelation provides the ontological and ethical framework so that discoveries made by reason are not used to disrupt human order. Knowledge of atoms or medicines is always accompanied by moral responsibility before the Creator. This creates harmony where scientific progress does not lead to spiritual alienation. The absence of conflict between science and religion in medieval Islamic history is evidence of the success of this integration. Unlike historical experiences in the West that often saw tensions between the Church and scientists, Muslim scholars often served as both religious scholars and judges at the same time. Al-Shibli, (2025) emphasized that the Islamic worldview naturally accommodates rationality within its faith structure.

This integration effort leaves behind a rich methodological legacy. Modern civilization, which currently experiences a sharp dichotomy between religious and general sciences, can learn from this medieval model. The main issue in modern society is the secularization of science, which separates divine values from scientific activities. This often leads to technological progress that is devoid of meaning or even destructive. The reintegration of knowledge, as pursued by scholars like Al-Farabi or Ibn Rushd, offers a way to bring the spiritual essence back into science. Al-Shibli, (2025) proposed the concept of "Islamization of Contemporary Science" as a continuation of the integration spirit of the medieval era to address the challenges of our time.

The success of the past shows that an education system integrating logic, philosophy, and revelation is capable of producing perfect individuals (Insan Kamil). Classical Muslim scholars were not only experts in one field, but mastered various disciplines comprehensively. This interdisciplinary educational model is highly relevant to be developed again to face the complexities of the world's current problems.

The integration of wisdom and reason and the truth of revelation was the highest intellectual achievement in medieval Islamic civilization. This process involved institutional

catalysts through Bayt al-Hikmah, epistemological mapping by Al-Farabi, defense of rationality by Ibn Rushd, and dialectical purification by Al-Ghazali. The result was a solid knowledge system where empirical science flourished under the umbrella of ethical revelation. The universe was understood as a manifestation of God's greatness, and scientific activity was viewed as the highest form of devotion. This legacy proves that human reason will never lose its way as long as it synergizes with the light of revelation, creating a civilization that is materially advanced but spiritually preserved.

CONCLUSION

This research confirms that the intellectual civilization of medieval Islam successfully built a fully holistic and integrative knowledge architecture. The epistemological construction of that era eliminated the dichotomy between profane science and sacred theology, as all fields of knowledge culminated in the singular principle of Tawhid. This unification paradigm positioned revelation (naql) and rationality (aql) not as two contradictory poles, but as complementary instruments for uncovering universal truth. Asserts that this integration was possible because Muslim scholars viewed the universe as a personification of the signs of God's greatness, equivalent to sacred texts.

In this context, the Qur'an functioned as an epistemological constitution that provided an imperative mandate for the development of scientific tradition. The doctrine of the "Two Books," namely Kitab Tadwini (written revelation) and Kitab Takwini (the cosmos), required every Muslim to engage in empirical observation and rational reflection as an embodiment of faith. Within the classical Islamic intellectual tradition, the process of Islamization of knowledge successfully purified the influence of foreign metaphysical elements rooted in mythology and speculation, replacing them with a value framework grounded in revelation. As a result, laboratory activities, astronomical research, and medical practices were no longer perceived as secular pursuits but were transformed into forms of intellectual worship aimed at uncovering the divine laws (Sunnatullah) governing the universe.The synergy between philosophy and science within the framework of fardhu kifayah (communal obligation) legitimized scholars to explore the potential of reason to its fullest extent without losing ethical direction. Critiques from figures such as Al-Ghazali should be understood as internal dialectics aimed at refining the methodology of knowledge rather than negating rationality itself. This dialectical process, in fact, reinforced the position of Islamic science by grounding it in a robust metaphysical foundation that safeguarded it from speculative excesses beyond the limits of reason. Consequently, the success of Islamic civilization during the Golden Age offers an important methodological lesson for the modern world in addressing the crisis of fragmented knowledge through the re-adoption of epistemological integration grounded in the harmony between spiritual values and rational rigor.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.
Author 4: Formal analysis; Methodology; Writing - original draft.
Author 5: Supervision; Validation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

Ajmal, M., Islam, A., & Islam, Z. (2024). Unveiling organizational consciousness: A conceptual framework for nurturing thriving organizations. *Journal of Organizational Change Management*, *37*(6), 1361–1381. https://doi.org/10.1108/JOCM-06-2023-0220

Alkouatli, C., Memon, N., Chown, D., & Sai, Y. (2023). Something more beautiful: Educational and epistemic integrations beyond inequities in Muslim-minority contexts. *Journal for Multicultural Education*, *17*(4), 406–418. https://doi.org/10.1108/JME-05-2022-0062

Al-Qobbaj, A. A., (Sandy) Marshall, D. J., & Alsaud, L. A. (2024). Demons, spirits, and haunted landscapes in Palestine. *Journal of Historical Geography*, *83*, 144–152. https://doi.org/10.1016/j.jhg.2024.01.003

Al-Shibli, F. S. (2025). The appointment of female arbitrators—What do islamic law and the constitutions of Arab muslim countries really say? Women's Studies International Forum, 110, 103096. https://doi.org/10.1016/j.wsif.2025.103096

Aminnuddin, N. A. (2025). Envisioning the future of Islamic studies through Quantitative Islam. *Social Sciences & Humanities Open*, *12*, 101647. https://doi.org/10.1016/j.ssaho.2025.101647

Aslam, S., Hussain, B., & Yousaf, M. (2026). Faith, family, and the frontline: Integrating religious and cultural narratives in polio communication strategies in Pakistan. *Social Sciences & Humanities Open*, *13*, 102513. https://doi.org/10.1016/j.ssaho.2026.102513

BaHammam, A. S. (2025). How golden age Arab-Islamic scholars revolutionized sleep physiology and dream analysis. *Journal of Taibah University Medical Sciences*, *20*(5), 596–611. https://doi.org/10.1016/j.jtumed.2025.07.013

Bavlı, B., & Özdemir, K. (2025). The conceptualization and enactment of critical thinking across diverse curricula in higher education. *Thinking Skills and Creativity*, *58*, 101914. https://doi.org/10.1016/j.tsc.2025.101914

Bouteraa, M., Chekima, B., Amin, H., Tamma, E., Lada, S., Ansar, R., & Lim, M. F. (2024). Does consumer religiosity matter for green banking adoption? Evidence from a Muslim-majority market. Journal of Islamic Marketing, 15(7), 1807–1823. https://doi.org/10.1108/JIMA-02-2023-0049

Chittick, W. C. (2007). Science of the Cosmos, Science of the Soul: The Pertinence of Islamic Cosmology in the Modern World. Oneworld Publications.Çağlayan, İ., & Taner Derman, M. (2025). Navigating parenthood in a new culture: The experiences of Syrian migrant families in Türkiye. *International Journal of Intercultural Relations*, *109*, 102314. https://doi.org/10.1016/j.ijintrel.2025.102314

Delina, L. L., Fuerzas, I., Dharmiasih, W., Dulay, M. J., & Salamanca, A. (2024). Are capital assets under pressure? The state of and challenges to indigenous rice farming in the cultural ricescapes of Indonesia and the Philippines. *Journal of Rural Studies*, *106*, 103235. https://doi.org/10.1016/j.jrurstud.2024.103235

De Mamani, A. W., McLaughlin, M. M., Ahmad, S. S., & Saenz-Escalante, G. M. (2026). Chapter 2—Islam and Muslim culture. In A. W. De Mamani, M. M. McLaughlin, S. S. Ahmad, & G. M. Saenz-Escalante (Eds.), Culturally Informed Therapy for Muslims (pp. 31–51). Academic Press. https://doi.org/10.1016/B978-0-443-24026-3.00009-3

Derbesh, M. (2023). Academic freedom and knowledge tradition of the Arab heritage. *On the Horizon*, *31*(2), 81–94. https://doi.org/10.1108/OTH-11-2022-0071

Elewa, A. (2025). A corpus-based analysis of gendered language in spoken religious discourse. Applied Corpus Linguistics, 5(3), 100137. https://doi.org/10.1016/j.acorp.2025.100137

Ercanbrack, J. G., & Ali, A. (2024). The new legalities of Islamic contractual interpretation: Institutional frameworks and the displacement of intention. *International Journal of Islamic and Middle Eastern Finance and Management*, *17*(6), 1196–1212. https://doi.org/10.1108/IMEFM-03-2024-0156

Isser, S. S., Raj, N., Tomar, M., Marwaha, S. S., & Shastri, S. (2024). Value-based education in NEP 2020: Fostering ethical and moral growth through Dharma. *Asian Education and Development Studies*, *13*(5), 579–597. https://doi.org/10.1108/AEDS-06-2024-0121

Jin, S. (2024). The paradigm logic of blockchain governance. *Technology in Society*, *78*, 102681. https://doi.org/10.1016/j.techsoc.2024.102681

Lionardo, A., Nomaini, F., Bafadhal, O. M., Santoso, A. D., & Alfitri. (2024). What makes Indonesian government officials believe in and implement evidence-based policy: The mediating role of religion-science compatibility beliefs. *Heliyon*, *10*(3), e24879. https://doi.org/10.1016/j.heliyon.2024.e24879

Malapane, O. L., Chanza, N., & Musakwa, W. (2024). Transmission of indigenous knowledge systems under changing landscapes within the vhavenda community, South Africa. *Environmental Science & Policy*, *161*, 103861. https://doi.org/10.1016/j.envsci.2024.103861

Mehta, K., & Chawla, S. (2024). Illuminating the dark corners: A qualitative examination of cryptocurrency's risk. *Digital Policy, Regulation and Governance*, *26*(2), 188–208. https://doi.org/10.1108/DPRG-10-2023-0147

Meskovic, A., Avdukic, A., & Kozarevic, E. (2024). Assessing the impact of external determinants on the social performance of Islamic banks. *International Journal of Islamic and Middle Eastern Finance and Management*, *17*(1), 124–145. https://doi.org/10.1108/IMEFM-08-2022-0335

Mizyed, H. A., & Eccles, C. U. (2023). Understanding Emirati teachers' challenges in fostering problem-solving skills development in early years – A preliminary study. *Social Sciences & Humanities Open*, *8*(1), 100561. https://doi.org/10.1016/j.ssaho.2023.100561

Mujiatun, S., Trianto, B., Cahyono, E. F., & Rahmayati, R. (2025). The effects of Islamic financial literacy on entrepreneurial venture performance and halal tourism ecosystem development. Journal of Small Business and Enterprise Development, 32(6), 1250–1284. https://doi.org/10.1108/JSBED-03-2023-0108

Murugaiah, K. (2023). "We make do": Experiences and beliefs of teachers working in conflict-affected Niger. *International Journal of Educational Development*, *100*, 102808. https://doi.org/10.1016/j.ijedudev.2023.102808

Nakhid, C., & Santana, A. F. (2023). Affirming methodologies—The Caribbean oral tradition of Ole Talk. In R. J. Tierney, F. Rizvi, & K. Ercikan (Eds.), *International Encyclopedia of Education (Fourth Edition)* (pp. 179–188). Elsevier. https://doi.org/10.1016/B978-0-12-818630-5.11020-6

Neal-Stanley, A. M., Morgan, J. C., & Allen, D. J. (2024). The religio-spiritual capital of the Black Church: A conceptual model for combatting antiblackness in the early years. *Advancing Developmental Science on the Impact of Racism in the Early Years*, *69*, S118–S128. https://doi.org/10.1016/j.ecresq.2024.03.003

Parvin, S. M. R., Panakaje, N., Sheikh, N., P., M. T., Irfana, S., Kulal, A., V., M., Shahid, M., N.M., A. B., & Nihal, M. (2024). An empirical analysis of stock market participation: From an Islamic perspective. International Journal of Islamic and Middle Eastern Finance and Management, 18(1), 91–120. https://doi.org/10.1108/IMEFM-06-2024-0287

Pusparini, M. D., Bonang, D., Virgiawan, R., Sukmana, R., Lahuri, S. bin, & Fedro, A. (2024). Does religiosity affect green entrepreneurial intention? Case study in Indonesia. Journal of Islamic Marketing, 16(2), 548–575. https://doi.org/10.1108/JIMA-12-2023-0419

Qorib, M., & Umiarso. (2025). Socio-cultural transformation within Indonesian academics: Cases in Muhammadiyah and Nahdlatul Ulama universities. *Asian Education and Development Studies*, *14*(4), 856–875. https://doi.org/10.1108/AEDS-12-2024-0295

Ramdani, A., Raji, R., & Ahmad, Mohd. K. (2024). Exploring the concept and the communication principles of negotiation among Islamic corporate organizations. Journal of Islamic Marketing, 15(4), 1115–1135. https://doi.org/10.1108/JIMA-01-2023-0027

Sheikh, R., & Hussain, K. (2024). Reimagining Islamic banking in the light of Maqasid Shariah. Qualitative Research in Financial Markets, 17(5), 1113–1134. https://doi.org/10.1108/QRFM-04-2024-0108

Sumi, A. A., Ahmed, S., & Alam, S. S. (2024). Islamic teachings and environmental corporate social responsibility in Bangladesh: A mixed-methods research approach. Journal of Islamic Marketing, 15(4), 1155–1182. https://doi.org/10.1108/JIMA-09-2023-0271

Tarabeih, M., Marey-Sarwan, I., & Awawdi, K. (2023). 'I Prefer To Die at Home With Dignity': Perceptions of Death Rituals Among Religious Muslim Kidney and Liver Transplant Patients With COVID-19. *Transplantation Proceedings*, *55*(8), 1843–1852. https://doi.org/10.1016/j.transproceed.2023.04.026

Tarip, I. (2024). Theorizing Islamic entrepreneurship from an Islamic governance perspective. International Journal of Islamic and Middle Eastern Finance and Management, 17(2), 274–291. https://doi.org/10.1108/IMEFM-05-2023-0172

Utami, D. M., Ikhsan, M., Dartanto, T., & Mallarangeng, R. (2024). The role of the 30% threshold for Islamic parties: A fast-growing middle class and religion-based political preferences in Indonesia. Heliyon, 10(4), e25700. https://doi.org/10.1016/j.heliyon.2024.e25700