QiST: Journal of Quran and Tafseer Studies
ISSN (Online): 2828-2779
Received: 15-11-2025, Revised: 22-03-2026
Accepted: 26-03-2026, Published: 02-04-2026
DOI: https://doi.org/10.23917/qist.v5i2.13865

The Qur'an and Mathematics: The Dimension of Tawhid and Knowledge in the Perspective of Afzalur Rahman

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Abstract

*The relationship between the Qur'an and mathematics remains theoretically contested between two dominant approaches: historical-empirical studies that attribute mathematical development in Islamic civilization to intercultural transmission, and contemporary analyses focusing on numerical patterns within the Qur'anic text. While the former emphasizes external influences, the latter often risks numerological overinterpretation without a clear epistemological foundation. This study addresses this **gap** by reconstructing Afzalur Rahman's interpretation of the Qur'an–mathematics relationship within a tawḥīdic epistemological framework. Using **qualitative** library research and content analysis, this study examines Rahman's works in dialogue with Seyyed Hossein Nasr and Bediüzzaman Said Nursi. The **findings** show that Rahman conceptualizes mathematics as an expression of divine unity, where the number one symbolizes the origin and return of multiplicity. Mathematics is thus understood not merely as a quantitative discipline, but as an ethical and contemplative science integrating rational precision with spiritual consciousness. Furthermore, this framework contributes to contemporary Islamic education by fostering moral formation, strengthening epistemological coherence, and encouraging scientific creativity. However, Rahman's paradigm operates primarily as a normative-philosophical model rather than an empirical explanation of scientific development. This study **contributes** to debates on religion and science by clarifying the epistemological role of tawḥīd in knowledge integration.*

Keywords: *Al-Qur'an; Mathematics; Tawḥīd; Afzalur Rahman; Knowledge Integration.*

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Introduction

The Qur'an, as the primary source of Islamic teaching, encompasses not only theological and ethical guidance but also contains indications that inspire the development of various fields of knowledge, including mathematics. This is evident in verses related to numerical calculation, inheritance distribution, time measurement, and zakat regulation, all of which require precision and quantitative reasoning. Such elements demonstrate that mathematical thinking is embedded within religious practice and intellectual tradition. Historically, these features contributed to and inspired the development of disciplines such as arithmetic, algebra, geometry, and astronomy, which later played a significant role in global scientific advancement [1]. Therefore, the relationship between the Qur'an and mathematics is not incidental, but structurally inherent within Islamic knowledge.

The relationship between the Qur'an and mathematics has been widely discussed in contemporary scholarship; however, it tends to be framed within two dominant yet fragmented approaches. The first approach emphasizes empirical-historical analysis, viewing mathematics in Islamic civilization as the product of intercultural transmission—particularly from Greek, Indian, and Persian traditions—as argued by Saliba [2] and Katz [3]. While this perspective is historically grounded, it often minimizes the epistemological role of revelation in shaping scientific inquiry. The second approach focuses on numerical patterns and mathematical structures within the Qur'an, highlighting statistical regularities, geometric representations, or computational analyses of the Qur'anic text [4]. Although this approach demonstrates the mathematical richness of the Qur'an, it frequently risks falling into numerological speculation without a clear epistemological framework. Therefore, both approaches remain partial and insufficient in explaining the deeper relationship between revelation and mathematical reasoning.

Between these two tendencies lies an unresolved theoretical gap: the absence of a systematic epistemological model that explains how the Qur'an, as revelation, meaningfully relates to mathematical reasoning beyond either historical causality or numerical symbolism. Existing studies either treat mathematics as historically independent from revelation or reduce the Qur'an to an object of mathematical analysis. Consequently, there is no coherent philosophical framework that bridges revelation, rationality, and mathematics. This gap highlights the need for a more integrative epistemological approach.

It is within this gap that the thought of Afzalur Rahman becomes significant. Rahman proposes a tawḥīdic epistemology in which mathematics is understood as an expression of divine unity, where the number one symbolizes

the ontological origin and ultimate return of multiplicity [5]. In this framework, mathematical reasoning is not merely technical but also reflective, revealing harmony, order, and balance as manifestations of divine unity. This perspective positions mathematics as both a rational and spiritual activity, thereby offering an alternative framework for integrating revelation and scientific reasoning.

Despite the originality of this perspective, scholarly engagement with Afzalur Rahman's thought remains limited and largely concentrated on his contributions to Islamic economics and civilizational discourse [6]. These studies tend to analyze his ideas in a compartmentalized manner without extending them to epistemological discussions of science and mathematics. As a result, his broader intellectual project remains fragmented and underexplored. This limitation obscures the potential of Rahman's thought to contribute to contemporary debates on the integration of religion and science.

The core problem of this study therefore lies in the absence of a systematic epistemological reconstruction of Afzalur Rahman's view of mathematics as a tawḥīdic mode of knowledge. While previous scholarship acknowledges his integrative outlook, it has not critically examined how the principle of tawḥīd operates as a foundational concept linking revelation, rationality, and mathematical reasoning. Consequently, the relevance of his thought for contemporary scientific and educational discourse remains insufficiently articulated.

Accordingly, this study is guided by the following research questions:

1) How does Afzalur Rahman conceptualize mathematics within the framework of tawḥīd in relation to the Qur'an?
2) In what ways can his tawḥīdic interpretation of mathematics contribute to moral formation, epistemological coherence, and scientific creativity in contemporary Islamic education?

This study aims to fill the identified gap by reconstructing Rahman's epistemological framework and situating it within the broader discourse of Qur'anic epistemology and the philosophy of Islamic science. By engaging his ideas in dialogue with contemporary discussions on knowledge integration, this study seeks to demonstrate their relevance for bridging revelation and rational inquiry. Thus, it offers a conceptual contribution to the ongoing discourse on religion and science.

The significance of this study is twofold. Theoretically, it contributes to the development of Qur'anic epistemology by clarifying the role of tawḥīd in shaping the relationship between religion and mathematics. Practically, it provides a conceptual foundation for integrating Qur'anic values into

contemporary mathematics and STEM education, particularly within Islamic higher education institutions. Therefore, this study not only advances academic discourse but also offers practical implications for educational development.

Method

This study employs a qualitative approach using the library research method [7]. The qualitative approach was chosen because the focus of this study is conceptual and textual—tracing ideas, interpretations, and meanings contained within written sources rather than collecting field data [8]. The library research method involves gathering and examining relevant primary and secondary literature [9], especially the Qur'anic text and the works of Afzalur Rahman. This method aims to explore the thematic relationship between Rahman's thoughts on mathematics and the framework of *tawḥīd* while also situating his ideas within the broader intellectual tradition of Islamic thought [10].

The material object of this research is Afzalur Rahman's perspective on the relationship between the Qur'an and mathematics, while the formal object concerns the epistemological integration of science and religion within a tawḥīdic framework. This study is grounded in the theoretical paradigm of knowledge integration (*tawḥīd al-'ilm*), as articulated by Afzalur Rahman and critically engaged with the works of Seyyed Hossein Nasr [11] and Bediüzzaman Said Nursi [12]. Nasr emphasizes the concept of sacred science rooted in metaphysical unity, while Nursi presents revelation and reason as complementary dimensions of divine knowledge [13]. These perspectives provide a conceptual lens through which mathematics is interpreted not merely as an abstract discipline, but as a manifestation of divine unity and moral order.

Methodologically, the use of library research and qualitative content analysis is consistent with the conceptual and philosophical nature of the study [7]. Rather than testing empirical variables, this research reconstructs and analyzes Rahman's epistemological arguments through close textual examination of his primary works and their dialogue with the broader Islamic intellectual tradition [10]. The comparative dimension serves as an analytical strategy to identify both convergences and distinctive elements in Rahman's thought when read alongside Nasr's cosmological doctrines [11] and Nursi's theological reflections on the unity of knowledge [12], [14].

Through this theoretically grounded and methodologically coherent approach, the study demonstrates that Rahman's conception of mathematics represents a normative tawḥīdic epistemology—integrating rational inquiry, ethical responsibility, and spiritual consciousness within contemporary discussions on Islamic knowledge integration.

The research data consist of Afzalur Rahman's texts and supporting literature addressing the interrelationship between revelation, science, and mathematics. The researcher functions as the primary instrument in selecting, interpreting, and synthesizing the data. Data collection is conducted through documentation and literature review, followed by qualitative content analysis—a method designed to describe, categorize, and derive meaning from written communication in a systematic way [15]. The analysis is carried out inductively, allowing the key themes and conceptual patterns in Rahman's thought to emerge naturally [16]. This process helps illuminate his intellectual contribution to bridging the realms of scientific inquiry and the theological principle of *tawḥīd*, ultimately revealing how faith and reason can coexist within an integrated epistemological framework.

Result and Discussion

Biography of Afzalur Rahman

Afzalur Rahman was a scholar from Pakistan, born in 1915. However, not much information is available regarding the exact day, date, month, or specific place of his birth. The absence of these details is likely due to the fact that he was born into an ordinary family, which at that time did not consider it necessary to record such personal information in detail. This lack of documentation has led many people to mistakenly confuse him with another, more well-known thinker, Afzalur Rahman. He spent his childhood under the care of his family and within a traditional Muslim village environment in Pakistan. The customs and Islamic values that surrounded him played a vital role in shaping his personality and intellectual foundation in the years to come [17]. After completing his education at the equivalent of high school level, he continued his studies at Islamia College Lahore.

Afzalur Rahman's higher education at *Islamia College Lahore* (ICL) had a significant influence on the course of his life. At that time, the institution was led by a prominent figure, Professor Abdullah Yusuf Ali, best known as the author of *The Glorious Qur'an*, the first English translation and commentary of the Qur'an written by a Muslim from Pakistan. After completing his studies at ICL, in 1967, Afzalur Rahman decided to move to England. With financial support from King Faisal of Saudi Arabia, he established *The Muslim Educational Trust* (MET). The institution was actively involved in teaching Islamic studies to Muslim students attending various schools in England, such as Newham School, Hackney School, and Bradford School.

After leading MET for nine years, in 1976 Afzalur Rahman decided to leave the institution and founded a new organization called *The Muslim School*

Trust (MST). The primary focus of this new foundation was publishing Islamic books. Through MST, Afzalur Rahman compiled a monumental encyclopedia on the life history of Prophet Muhammad (peace be upon him), known as the *Encyclopedia of Seerah*. By the mid-1980s, the encyclopedia had been published in eight volumes, and after his death in 1998, an unpublished manuscript of the ninth volume was discovered. In addition to this encyclopedia, he authored numerous other works, some of which have been translated into Indonesian, such as *Muhammad as a Trader* and *Islamic Economic Doctrine* [6]. After an extensive intellectual journey in England and several other European countries, Afzalur Rahman passed away in 1998 at the age of 83, leaving behind a legacy of scholarship that continues to be found in Islamic university libraries across Indonesia.

Rahman's intellectual formation was deeply influenced by the reformist and civilizational ethos of South Asian Islam, particularly the ideas of Muhammad Iqbal and the Aligarh movement. His engagement with Western academia also exposed him to rationalist methods and comparative theology, shaping a synthesis of faith and reason that characterized his works. This biographical context explains his emphasis on the Qur'an as both a moral and scientific text, bridging revelation and rationality in a modern epistemic framework [17].

Tawḥīd as the Foundation of Mathematical Knowledge

The findings of this study demonstrate that Afzalur Rahman situates tawḥīd the oneness of God as the epistemological foundation of all branches of knowledge, including mathematics. Drawing on his work Quranic Sciences [5], Rahman interprets the number one as a symbolic representation of divine unity, from which multiplicity emerges and to which it ultimately returns. This symbolic structure forms the philosophical core of his mathematical theology [5].

The analysis further reveals that, for Rahman, mathematical calculation and scientific inquiry are not merely quantitative or procedural activities; rather, they possess a spiritual and contemplative dimension. The movement from unity to multiplicity and back to unity provides an epistemic model in which mathematical reasoning becomes a pathway toward recognizing divine order. In this sense, mathematics is redefined not simply as a formal science of numbers, but as a reflective discipline that discloses harmony, proportion, and balance embedded in creation.

This finding resonates with Seyyed Hossein Nasr's conception of sacred science [18], yet Rahman's approach is more praxis-oriented. While Nasr emphasizes metaphysical cosmology, Rahman connects numerical symbolism

directly to concrete religious practices and social justice. Thus, the study confirms that Rahman's contribution lies in articulating a *tawḥīdic* epistemology in which mathematics functions simultaneously as rational inquiry, moral discipline, and spiritual contemplation.

Afzalur Rahman draws attention to many numerically oriented Qur'anic verses to demonstrate that mathematics in Islam is rooted in *tawḥīd* and justice. Calculations of time, the number of witnesses, and the regulations of worship reflect the cosmic order ordained by Allah. Verses such as Qur'an 9:103 and 23:4 command Muslims to "calculate zakat precisely and distribute it justly." The detailed rates of zakat—2.5% for wealth, 20% for minerals and treasures, 5% for irrigated lands, 10% for non-irrigated lands, and specific proportions for livestock—serve as evidence that this act of worship requires arithmetic and statistical skill . Such calculations ensure social justice, nurture compassion for the poor, and purify the soul. Rahman further links mathematics to cosmic harmony: all numerical multiplicity ultimately returns to the Unity of Allah. This principle is also reflected in Islamic art and architecture, where geometry and arithmetic are employed to evoke a sacred aesthetic that "mirrors the Presence of the One" [5].

Rahman's concept resonates with Choudhury's notion of *tawḥīdic* circular causation, in which all systems—economic, social, and scientific—are interlinked through ethical feedback loops rooted in divine unity [19]. Similarly, Othman Bakar reaffirms that the Qur'anic worldview perceives knowledge as a single continuum emanating from God. By situating mathematics within this epistemic unity, Rahman implicitly challenges the secular dichotomy that separates abstract logic from moral responsibility [20].

Moreover, Kamali (2012) interprets the Qur'an's emphasis on precise measurement and balance (Qur'an 55:9; 57:25) as embodying the ethical imperative of justice. In this sense, Rahman's approach transforms mathematics into a moral science—an act of *'ibādah*—that preserves equity in both spiritual and social dimensions [21]. This ethical-mathematical synthesis makes Rahman's thought particularly relevant for the current discourse on sustainable development and Islamic education, where justice and accuracy must be taught as complementary virtues [22].

The Qur'an as a Source of Mathematical Inspiration

Afzalur Rahman emphasizes that the Qur'an not only provides moral guidance but also cultivates a concrete scientific tradition—particularly in the field of mathematics. By compiling numerically oriented verses encompassing inheritance law (Qur'an 4:7, 4:11–12, 4:176), fasting and '*iddah* regulations (Qur'an

2:184–185; 65:1–4), and prayer time calculations (Qur'an 4:103), Rahman demonstrates that the Qur'an presents a system of precise calculation [23]. The inheritance rules involving complex fractions and the determination of prayer times requiring astronomical measurement both demand rigorous mathematical skill. For Rahman, this Qur'anic encouragement transforms mathematical activity from a purely technical tool into an act of worship that upholds social justice and cosmic order [5].

Rahman's approach is distinctive for its emphasis on praxis. Rather than merely exploring the symbolic or mystical meaning of numbers, he underscores how Islamic law itself requires real computational competence—stimulating the development of algebra, geometry, and astronomy among Muslim scholars [6]. This perspective aligns with the analysis of historians of science such as Ahmad Dallal, who argues that the practical demands of Islamic law, especially inheritance calculations, served as a major driving force behind the development of arithmetic and fractional theory in Islamic civilization [24].

In expanding this argument, recent historiographical research by Katz (2021) and King (2022) demonstrates that Qur'anic imperatives concerning justice, measure, and celestial motion directly inspired the formulation of early algebraic models and astronomical instruments in Baghdad [3] and Cordoba [25]. Lestari (2025) adds that contemporary Muslim educators are rediscovering these connections through data-visualization projects that map Qur'anic numerical structures, reviving the scientific creativity once fostered by revelation [26].

Moreover, several modern mathematical studies attempt to analyze Qur'anic numerical patterns using computational methods, providing additional layers to Rahman's thesis. For instance, Al-Faqih (2017) show that the distribution of verse lengths in Makki and Madani surahs follows statistically consistent patterns resembling logarithmic scaling, suggesting an embedded textual coherence that early Muslim scholars intuitively perceived as divine order [27]. Similarly, Mottaghi (2024) applies graph theory to Qur'anic thematic networks, finding that certain clusters of numerical verses exhibit high degrees of centrality—implying intentional structuring of quantitative motifs within the text [28]. Although such findings must be interpreted cautiously to avoid numerological excess, they support Rahman's broader argument that the Qur'an invites mathematical reflection not only through its legal injunctions but also through its structural composition.

However, Rahman's ideas also encounter certain challenges. First, his emphasis on the Qur'an as the primary cause of mathematical development tends to overlook the broader historical context. As George Saliba points out, the advancement of mathematics in the Muslim world also depended on interactions

with Greek and Indian traditions, as well as broader socio-political dynamics [2]. Second, Rahman's interpretation of numbers as a "cosmic language" linking natural phenomena with divine unity is more theological than empirical. From the standpoint of modern epistemology, as Ian Hacking observes, the claim that a sacred text "generates" a particular science is difficult to verify methodologically and risks oversimplifying the complex evolution of knowledge [29].

Therefore, Afzalur Rahman's thought holds significant value as a philosophical exegesis that unveils the mathematical dimension of the Qur'an while highlighting the interrelation between worship, social justice, and scientific precision. Yet, when interpreted as a theory of the history of science, his ideas are better understood as inspirational theological reflections rather than as a singular causal explanation for the birth of mathematics in Islam [3]. Even so, his approach contributes meaningfully to the ongoing discourse on revelation and science, reminding contemporary scholars that the early Muslim scientific tradition was deeply intertwined with a profound religious impulse.

The Qur'anic Impulse Toward the Development of Mathematical Branches

Afzalur Rahman interprets Qur'anic verses rich in numbers, comparisons, and numerical symbolism as catalysts for mathematical creativity that shaped the scientific tradition of Islam [30]. For him, the divine command to "weigh and measure with justice" (Qur'an 57:25) urged Muslims to develop arithmetic, algebra, geometry, and astronomy. His assertion that mathematics is "the root of all sciences" and "the source of the Divine Sciences" underscores that calculation is not merely a technical skill but an intellectual act of worship that connects creation with the unity of God [19]. Rahman also interprets verses such as "the seven heavens" (Qur'an 2:29; 65:12) as patterns of cosmic order that inspire humanity's pursuit of harmony and precision in science [5].

The novelty of this study lies in its systematic reconstruction of Rahman's mathematical theology as an epistemological framework rather than merely a symbolic reflection. While previous scholarship has discussed numerical patterns in the Qur'an or the historical development of Islamic mathematics, this research uniquely positions Rahman's interpretation within the discourse of tawḥīdic knowledge integration. By critically analyzing how he links numerical symbolism, legal praxis, and scientific creativity, the study contributes a new perspective to Qur'anic studies—namely, that mathematics in Rahman's thought functions as a bridge between revelation, rational inquiry, and ethical formation.

The strength of Rahman's analysis lies in his ability to link acts of worship to the emergence of mathematical disciplines. The determination of prayer and fasting times, for instance, requires precise astronomical calculation. From this necessity arose the science of *falak* (Islamic astronomy) and a sophisticated calendrical system [31]. Rahman emphasizes that the precision involved in determining the beginning of Ramadan or global prayer schedules not only ensures the regularity of worship but also stimulates research in astronomy and geography. This interpretation aligns with the findings of historians such as David A. King, who shows that religious requirements played a major role in the development of astronomical instruments and timekeeping techniques in the Islamic world [25].

Additionally, recent research suggests that Qur'anic cosmology may have indirectly shaped the emergence of advanced mathematical fields during the Islamic Golden Age. Scholarly analyses indicate that efforts to model Qur'anic descriptions of celestial motion encouraged early scientists to refine spherical trigonometry, leading to major innovations in navigation, *qibla* computation, and planetary modeling [32]. These developments later became foundational for both European astronomy and modern celestial mechanics.

Furthermore, the Qur'an's emphasis on proportionality and balance (*mīzān*) inspired innovations in geometric design, particularly in Islamic architectural traditions. Contemporary analyses by Nashalji (2024) show that patterns in mosques—ranging from tessellations to star polygons—reflect mathematically precise ratios that were consciously aligned with Qur'anic notions of harmony [33]. This aesthetic-mathematical synthesis demonstrates that the Qur'anic impulse extended not only to scientific disciplines but also to the artistic and cultural fabric of Muslim societies.

Rahman reads Qur'anic parables such as "seven ears of grain, each containing a hundred seeds" (Qur'an 2:261) and the Pharaoh's dream (Qur'an 12:43) as indicators of exponential growth and statistical potential [5]. This creative approach highlights how the revealed text can inspire complex modes of mathematical thinking—from agricultural yield analysis to rudimentary concepts of probability. Rather than claiming that the Qur'an explicitly presents mathematical theories, Rahman's interpretation enriches the discourse by showing how revelation nurtures scientific imagination and intellectual curiosity within a theological framework.

More recently, Mtani (2024) and Nordin (2022) argue that Rahman's ideas parallel broader movements of Islamic epistemological renewal that seek to reintegrate rational and spiritual knowledge [34]. Habibi (2023) adds that such integrative approaches are vital for Muslim societies confronting the ethical

challenges of AI and STEM education [29]. Hence, Rahman's linkage between worship and computation anticipates contemporary debates on "ethical mathematics," where quantitative precision must serve moral and ecological balance [35].

Nevertheless, Rahman's claims face methodological challenges. He tends to position the Qur'an as the primary cause for the emergence of mathematical disciplines, whereas historical studies—such as those by George Saliba—demonstrate that the advancement of Muslim mathematics was also profoundly shaped by engagement with Greek and Indian traditions and by the socio-political dynamics of the caliphate [2]. Interpreting verses on the "seven heavens" or parables of growth as direct inspirations for geometry or statistics may be considered speculative, given the absence of textual evidence that mathematicians like al-Khwarizmi or al-Biruni cited these verses as explicit motivations for their research.

From the standpoint of modern epistemology, as philosopher of science Ian Hacking notes, connecting the development of scientific disciplines to divine revelation requires robust historical evidence and clear mechanisms of intellectual transmission [29]. Without such evidence, Rahman's interpretation risks becoming a theological narrative emphasizing inspiration rather than a testable causal explanation. Nevertheless, the reflective value of Rahman's thought remains significant: it reminds us that the cosmic order depicted in the Qur'an genuinely inspired early Muslim civilization to study the heavens, measure the earth, and refine systems of numerical understanding—thereby transforming faith into a catalyst for scientific pursuit.

Still, the reflective value of Rahman's thought is significant. Amin and Abdullah (2023) show that embedding Qur'anic principles of balance and proportion in STEM learning improves both analytical accuracy and moral reasoning [36]. Rahman and Hasan (2024) likewise demonstrate that integrating Qur'anic ethics into curriculum design fosters students' sense of responsibility in data handling and measurement [37]. Thus, Rahman's theology of mathematics offers a normative paradigm that modern education can operationalize through value-based pedagogy.

The Integrated Scientific and Transcendental Dimension

Afzalur Rahman's thought represents an integrative endeavor that connects the scientific, social, and transcendental dimensions in understanding mathematics through the Qur'an. He interprets numbers not merely as rational quantities but as spiritual symbols guiding humanity toward an awareness of cosmic order and Divine greatness. Verses concerning the movement of the sun

and the moon (Qur'an 10:5; 6:96), the laws of calculation in family jurisprudence, and the concept of transcendent time such as "a day with Allah is as a thousand years" (Qur'an 22:47) are read by Rahman as evidence that mathematical reckoning in the Qur'an carries moral and metaphysical significance. For him, mathematics functions as a bridge between scientific precision and spiritual realization—leading humankind from the darkness of ignorance to the light of knowledge while reinforcing faith [5].

Rahman synthesizes Pythagorean philosophy with Islamic spirituality in what he terms an "*Abrahamic Pythagoreanism*," aligning with the ideas of the Ikhwan al-Safa, who regarded numbers as cosmic realities and ladders to the One. His view resonates with Seyyed Hossein Nasr's perspective that science in Islam is sacred and must not be detached from divine values [38]. For Rahman, the mathematical dimensions found in inheritance laws, prayer times, zakat, and fasting are not merely exact sciences but instruments of social justice and means of drawing nearer to Allah. The precision in calculating iddah periods, the number of witnesses, or kaffarah obligations symbolizes legal certainty and social order aligned with divine will.

This interpretation corresponds closely with classical Islamic views, as shown in the work of Wan Norliza Wan Bakar (2011), who demonstrates that Islamic mathematicians historically regarded the Qur'an as the prime stimulus for mathematical inquiry. Her analysis reveals that early Muslim scholars—from al-Kindi to al-Khawarizmi—pursued mathematics as a sacred intellectual duty inspired by Qur'anic references to numbers, measurement, cosmic order, and accountability, leading to the development of arithmetic, algebra, geometry, and astronomy as expressions of *tawḥīdic* harmony rather than purely secular disciplines [30]. In line with this tradition, contemporary studies such as Amin and Abdullah (2023) show that STEAM-based educational projects integrating Qur'anic verses not only enhance students' mathematical and scientific competence but also strengthen their ethical self-regulation, thereby providing empirical support for Rahman's vision that spiritual consciousness and scientific accuracy are mutually reinforcing foundations of knowledge [35].

However, Rahman's approach also raises several methodological issues. By interpreting numbers as "*ladders of the soul*" and symbols of transcendence, he tends to extend the meaning of mathematics into a mystical domain that is difficult to verify empirically. Contemporary scholars such as Nidhal Guessoum emphasize the need to distinguish between the moral message of sacred texts and empirical science; an interpretation of the Qur'an that overemphasizes the metaphysical dimension of numbers risks "over-reading," thereby obscuring the original meaning of the verses [39]. Likewise, historians of Islamic science like George Saliba argue that the development of mathematics in Muslim civilization

was largely driven by practical needs—astronomy, algebra, and administration—rather than solely by the normative injunctions of the Qur'an as assumed by Rahman.

Therefore, the strength of Afzalur Rahman's thought lies in its ethical and spiritual impetus: it reminds us that scientific inquiry must never be detached from the consciousness of tawhid. His view offers inspiration for integrating faith and knowledge, reviving the sacred dimension of science within Islamic civilization [40], [41], [42]. Yet, when assessed from the perspective of modern science, which demands strict methodological boundaries, his argument appears more normative and philosophical than empirical [43]. Nonetheless, his ideas remain valuable as philosophical and theological reflections on the role of mathematics in Islam, provided that they are understood as operating within spiritual and ethical domains rather than within the empirical framework of contemporary mathematical inquiry.

Nonetheless, Rahman's normative emphasis remains valuable. Sardar (2023) and Edis (2022) contend that recovering spirituality within scientific discourse is essential to counter the moral vacuum of modern technoscience [44]. Rahman's contribution thus lies not in empirical innovation but in restoring the ethical telos of knowledge—reminding scholars that scientific progress divorced from *tawḥīd* risks becoming dehumanized.

Critical Evaluation and Future Direction

While Rahman's theology of mathematics is intellectually inspiring, it also faces several challenges. First, historical contextualization: he tends to present Qur'anic verses as direct causes of scientific development, overlooking intercultural transmission from Greek, Indian, and Persian sources. Saliba [45] demonstrates that Muslim mathematical advances were products of dynamic synthesis, not unilateral revelation. Second, methodological precision: Rahman's symbolic reading of numbers sometimes lacks hermeneutic boundaries, risking what Guessoum [43] calls "*metaphysical overreach*" Third, epistemological tension: his approach prioritizes unity and harmony but underplays critical reasoning, which is essential to modern science.

Nevertheless, these limitations do not diminish his contribution. Rahman's thought can be reinterpreted as a philosophical-theological model rather than an empirical claim—a paradigm that situates scientific rationality within a moral universe governed by *tawḥīd*. His framework resonates with Al-Attas's concept of *Islamization of knowledge* and with contemporary integrative movements in Muslim academia.

Looking ahead, interdisciplinary research combining Qur'anic studies, philosophy of science, and Islamic pedagogy could further operationalize Rahman's paradigm. Rosyid (2025) suggests that a "*tauhidi turn*" in educational policy could align Indonesian UIN and UNIDA models with Rahman's epistemology. Collaborative projects involving mathematicians, theologians, and data scientists may explore Qur'an-based algorithms that visualize divine order while maintaining ethical safeguards [46].

Through this reinterpretation, Rahman becomes part of a broader intellectual genealogy connecting classical Muslim philosophers (al-Farabi, Ibn Sina), metaphysical reformers (Nasr, Bakar), and contemporary epistemologists (Choudhury, Guessoum). His contribution lies not in technical mathematics but in reasserting the spiritual telos of knowledge: that every equation ultimately points to the unity of the Real.

Conclusion

This study demonstrates that Afzalur Rahman conceptualizes mathematics within a tawḥīdic epistemology in which divine unity (*tawḥīd*) serves as the ontological and epistemological foundation of all knowledge. This conclusion is grounded in the finding that Rahman interprets the number one as the symbolic origin and ultimate return of multiplicity, thereby linking numerical structure to metaphysical unity. As a result, mathematics is not understood as a purely abstract or value-neutral discipline, but as a reflective science that reveals order, balance, and harmony as manifestations of divine unity. Therefore, mathematical reasoning in Rahman's framework is intrinsically connected to spiritual awareness and metaphysical meaning.

This study further finds that Rahman's tawḥīdic interpretation of mathematics contributes to contemporary Islamic education in three significant ways. First, it fosters moral formation by embedding ethical values such as justice, precision, and responsibility within mathematical practices, as reflected in Qur'anic applications like inheritance and zakat calculations. Second, it strengthens epistemological coherence by integrating revelation and rational inquiry into a unified framework of knowledge. Third, it stimulates scientific creativity by encouraging learners to approach mathematics as both an analytical and contemplative activity rooted in divine unity. These findings indicate that Rahman's thought offers a meaningful conceptual model for integrating religion and science in modern educational contexts.

However, this study also reveals that Rahman's paradigm operates primarily as a normative-philosophical framework rather than as an empirical or historical explanation of scientific development. This limitation is evident in the

absence of historical evidence demonstrating direct causal links between Qur'anic teachings and the emergence of specific mathematical disciplines. Moreover, the study is based on qualitative textual analysis and does not empirically investigate the implementation of tawḥīdic mathematical integration in educational settings. Therefore, while Rahman's framework is conceptually rich, its applicability requires further methodological refinement and empirical validation.

Despite these limitations, Rahman's framework remains highly relevant for contemporary Islamic higher education, particularly in efforts to integrate Qur'anic values with scientific methodology in mathematics and STEM disciplines. This relevance is supported by the study's findings that emphasize the ethical, epistemological, and creative dimensions of mathematics within a tawḥīdic perspective. Therefore, future research should focus on empirical investigations of value-based STEM pedagogy, interdisciplinary collaboration between Qur'anic scholars and scientists, and historical analyses of knowledge transmission in Islamic civilization. Such efforts would further clarify how revelation, rationality, and scientific practice can be constructively integrated within modern Islamic knowledge systems.

Author Contributions

Aqdi Rofiq Asnawi: Conceptualization, Methodology, Writing – review & editing, Supervision, Project administration. **Muhammad Diaz Supandi**: Methodology, Writing – review & editing, Investigation. **Fahmi Akhyar Al Farabi:** Formal analysis, Data curation, Visualization, Writing – original draft preparation.

Acknowledgement

The authors would like to express their deepest gratitude to Person One, Person Two, and the anonymous reviewer for their valuable insights, constructive feedback, and thoughtful suggestions that greatly enhanced the clarity and scholarly quality of this paper. Their critical comments not only helped refine the arguments but also contributed to strengthening the interdisciplinary connection between the Qur'anic worldview and mathematical philosophy explored in this study. Any remaining shortcomings are, of course, the sole responsibility of the authors.

Conflict of Interest

The authors declare no conflicts of interest.

Funding

This research did not receive any financial support.

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