[ABBASID ULAMA-UMARA' COLLABORATION AND THE FOUNDATION OF ISLAMIC CIVILIZATION'S KNOWLEDGE TRADITION]

KERJASAMA ULAMA DAN UMARA PADA ERA ABBASIYYAH: ASAS PEMBENTUKAN TRADISI KEILMUAN DALAM TAMADUN ISLAM

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Abstract

The development of knowledge in Islamic civilization reached its peak during the Abbasid era as a result of strategic collaboration between the ulama and the umara'. This article specifically analyses the forms, driving factors, and implications of this collaboration in shaping the Islamic intellectual tradition. Unlike previous studies that examine Abbasid scientific development primarily through translation movements or individual scholars, this article conceptualises ulama-umara' collaboration as a civilizational mechanism that integrated political authority and epistemic authority. It introduces a power-knowledge synergy framework to explain how knowledge was legitimised, institutionalised, and transformed into continuous scientific innovation. The study focuses on the positive attitude of the rulers towards knowledge, translation activities, the establishment of scientific institutions, the roles of individuals and wealthy patrons, as well as economic and linguistic factors that supported the growth of knowledge. The analysis shows that collaboration between the ulama and the umara' in the Abbasid era was not merely a relationship between religion and politics, but constituted a civilizational structure that integrated epistemic authority with governing authority. This synergy enabled the systematic, critical, and innovative development of knowledge, culminating in an Islamic scientific tradition that exerted a significant influence on the history of world civilization.

Keywords: *Abbasid; Islamic Science; Knowledge Institutions; Ulama; Umara'*

Abstrak

Perkembangan ilmu pengetahuan dalam tamadun Islam mencapai kemuncaknya pada era Abbasiyah hasil daripada kerjasama strategik antara ulama dan umara. Artikel ini menganalisis secara khusus bentuk, faktor pendorong dan implikasi kerjasama tersebut dalam pembentukan tradisi keilmuan Islam. Kajian ini memfokuskan kepada sikap positif pemerintah terhadap ilmu, aktiviti penterjemahan, penubuhan institusi keilmuan, peranan individu serta para dermawan, di samping faktor ekonomi dan bahasa yang menyokong perkembangan ilmu pengetahuan. Analisis menunjukkan bahawa kerjasama antara ulama dan umara pada era Abbasiyah bukan sekadar hubungan antara agama dan politik, sebaliknya merupakan suatu struktur ketamadunan yang mengintegrasikan autoriti epistemik dengan autoriti pemerintahan. Sinergi ini telah membolehkan perkembangan ilmu pengetahuan berlangsung secara sistematik, kritis dan inovatif, seterusnya melahirkan tradisi keilmuan Islam yang memberikan pengaruh besar terhadap sejarah tamadun dunia.

Kata kunci: Abbasiyah; Sains Islam; Institusi Keilmuan; Ulama; Umara

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INTRODUCTION

Development of science and technology in Islamic civilization did not occur spontaneously or in isolation from social and political structures. Instead, it emerged through an ecosystem that brought together multiple factors, including societal needs, the rulers' attitude towards knowledge, the role of scholars, translation activities, the establishment of scientific institutions, and economic and linguistic support. In this context, the relationship between the ulama and the umara' played a crucial role as a catalyst for the formation of the tradition of knowledge.

The Abbasid era represents the most significant phase in the history of the development of Islamic knowledge. This period began in 750 CE when Abu al-'Abbas al-Saffah assumed office as the first Abbasid caliph. Throughout this era, there were 37 caliphs, as follows:

TABLE 1. List of Abbasid Caliphs and Their Periods of Reign (750–1258 AD)

No.	Name of caliph	Years of reign
1	'Abu al-'Abbas al-Saffah	750AD-754AD
2	Abu Ja'far al-Mansur	754AD-775AD
3	Al-Mahdi	775AD-785AD
4	Al-Hadi	785AD-786AD
5	Harun al-Rashid	786AD-809AD
6	Al-Amin	809AD-813AD
7	Al-Ma'mun	813AD-833AD
8	Al-Mu'tasim	833AD-842AD
9	Al-Wathiq	842AD-847AD
10	Al-Mutawakkil	847AD-861AD
11	Al-Muntasir	861AD-862AD
12	Al-Musta'in	862AD-866AD
13	Al-Mu'tazz	866AD-869AD
14	Al-Muhtadi	869AD-870AD
15	Al-Mu'tamid	870AD-892AD
16	Al-Mu'tadid	892AD-902AD
17	Al-Muktafi	902AD-908AD
18	Al-Muqtadir	908AD-932AD
19	Al-Qahir	932AD-934AD
20	Al-Radi	934AD-940AD
21	Al-Muttaqi	940AD-944AD
22	Al-Mustakfi	944AD-946AD
23	Al-Muti	946AD-974AD
24	Al-Ta'i	974AD-991AD
25	Al-Qadir	991AD-1031AD
26	Al-Qa'im	1031AD-1075AD
27	Al-Muqtadi	1075AD-1094AD
28	Al-Mustazhir	1094AD-118AD
29	Al-Mustarshid	1118AD-1135AD
30	Al-Rashid	1135AD-1136AD
31	Al-Muqtafi	1136AD-1160AD
32	Al-Mustanjid	1160AD-1170AD
33	Al-Mustadi	1170AD-1180AD
34	Al-Nasir	1180AD-1225AD
35	Al-Zahir	1225AD-1226AD

36	Al-Mustansir	1226AD-1242AD
37	Al-Mu'tasim	1242AD-1258AD

During this period, there was rapid growth in the fields of science, philosophy, mathematics, astronomy, medicine, and various other branches of knowledge. This expansion did not stem solely from the intellectual capabilities of scholars, but was also sustained by a system of governance that provided encouragement, protection, and funding for scholarly activities.

The collaboration between the ulama and the umara' in the Abbasid era represented a model of relations that functioned in a systemic manner. The ulama served as the builders and developers of knowledge, while the umara' provided the structural support that enabled the advancement of knowledge to proceed systematically. This relationship was not confined to moral support alone, but extended to funding, the establishment of institutions, the collection of manuscripts, and the provision of scholarly forum for scholars.

This article aims to provide a comprehensive account of how the collaboration between ulama and umara' in the Abbasid era shaped the Islamic scientific tradition.

METHODOLOGY

This study employs a qualitative research design based on library research and document analysis. The qualitative approach was selected because the study seeks to examine the forms, driving factors, and implications of collaboration between the ulama and the umara' during the Abbasid era through the analysis of historical and scholarly sources. Data were collected from primary and secondary sources. Primary sources include classical Islamic historical works and biographical literature such as *al-Fihrist* by Ibn al-Nadim and *'Uyun al-Anba' fi Tabaqat al-Atibba'* by Ibn Abi Usaybi'ah. Secondary sources consist of scholarly books, journal articles, encyclopaedias, theses, and contemporary studies discussing the Abbasid period, the translation movement, *Bayt al-Hikmah*, and the development of science and technology in Islamic civilization.

The collected data were analysed using thematic content analysis. Relevant information was identified, classified, and organised into several themes, namely: (i) the positive attitude of Abbasid rulers towards knowledge, (ii) national translation projects, (iii) the establishment of institutions of knowledge, and (iv) the implications of ulama-umara' collaboration for the development of the Abbasid scientific tradition. The analysis focused on identifying patterns of interaction between political authority and epistemic authority and examining how this relationship contributed to the formation of a structured intellectual ecosystem.

To enhance the credibility of the findings, data triangulation was undertaken through the comparison of information obtained from multiple historical and contemporary sources. This process enabled the verification of historical narratives and minimised potential bias arising from reliance on a single source. Through this methodological approach, the study provides a comprehensive understanding of how collaboration between the ulama and the umara' functioned as a civilizational mechanism that supported the development of knowledge during the Abbasid era.

MANIFESTATIONS OF ULAMA-UMARA' COLLABORATION IN THE ABBASID ERA

In the Abbasid era, relations between the ulama and the umara' were not incidental, but formed a civilizational structure that underpinned the development of knowledge. The rulers played a key role in providing a conducive environment for intellectual growth, while scholars were responsible for advancing the intellectual tradition through research, writing, and innovation.

This collaboration was built on the awareness that the advancement of civilization requires the integration of knowledge and governance. Knowledge without political support

struggles to develop in a systematic way, whereas power without the guidance of knowledge is liable to lose direction. Accordingly, the relationship between the ulama and the umara' became foundational to the formation of the Islamic scientific tradition.

In general, the manifestations of collaboration between the ulama and the umara' involved the following:

1. Positive attitude of the Abbasid rulers towards knowledge

The rulers' attitude towards knowledge was a key factor in the development of learning. In the Abbasid era, the caliphs played an active role in advancing knowledge. Their inclination towards scholarly pursuits led them to collaborate with scholars and to encourage them to carry out their respective research. They also provided the necessary facilities and support.

Caliph Abu Ja'far al-Mansur, for example, showed great interest in astronomy. He invited an astronomer named al-Nawbakht to serve at the court and drew on his expertise in planning the construction of the city of Baghdad on the basis of astronomical calculations (Sarton 1975). Al-Nawbakht's role was not confined to purely technical functions but extended to determining the timing, selecting auspicious dates, and interpreting astral indications in laying the city's foundations. Al-Mansur's decision to base the construction on the ascendant configuration (*tali'*) also shows that, at that time, astronomy and astrology were understood as part of state strategic planning rather than merely symbolic belief.

This collaboration highlights two important points. First, the caliph recognised scholarly expertise as a strategic input in decision-making. Second, knowledge was treated as a structural component in the construction of power and political legitimacy. In addition, Caliph al-Mansur also collaborated with Muhammad ibn Ibrahim al-Fazari when the former commissioned the latter to translate the *Brahmasphutasiddhanta* (Ismail 1999).

Caliph Harun al-Rashid, for his part, took the initiative to appoint Yuhanna ibn Masawayh as a translator of works from earlier civilizations. He also established the Khizanat al-Hikmah, which functioned as a library and centre of learning. This institution became a gathering place for ulama, scholars, and students from various regions (Ibn al-Nadim 1997). What the caliph did here was not merely an expression of personal interest in knowledge by appointing Yuhanna ibn Masawayh as translator and founding the Khizanat al-Hikmah; he effectively institutionalised the role of scholars within the structure of governance.

The appointment of a scholar as a key figure in the translation project indicates that epistemic authority was acknowledged as a strategic partner to political authority. In this context, ulama-umara' collaboration worked as a mechanism for legitimising knowledge within the state, whereby scholarly expertise became part of the agenda in civilizational development.

Also, the establishment of the Khizanat al-Hikmah marked a shift from purely individual cooperation to the institutionalisation of knowledge. The rulers provided infrastructure, funding, and protection, while the ulama drove translation activities and the development of knowledge within an organised setting. This synergy shows that the advancement of knowledge in the Abbasid era was not spontaneous, but resulted from a systematic integration of political power and scholarly authority.

Furthermore, the role of Caliph al-Ma'mun was even more prominent, as he established relations with Byzantium to obtain scientific and philosophical works. He dispatched delegations of scholars to copy manuscripts and bring them back to Baghdad for translation. The act of providing hundreds of camels to transport these manuscripts (al-Hassani et al. 2006) demonstrates the rulers' commitment to the advancement of knowledge. Similarly, Caliph al-Mutawakkil translated his interest in knowledge into the establishment of a translation school. To operate this institution, the caliph collaborated with the ulama by appointing Hunayn ibn Ishaq as its supervisor (Sarton 1975).

Caliph al-Mu'tadid, meanwhile, provided accommodation for scholars within his palace. He even turned palace rooms into spaces where scholars could conduct their research. This is hardly surprising, as he himself had a keen interest in knowledge and was willing to employ scholars to teach at his court.

The positive attitude of these rulers confirms that intellectual development in the Abbasid era was driven not only by scholars but also actively supported by the umara'. In theoretical terms, this series of actions reflects the process of institutionalising knowledge

within the Abbasid governing structure. Knowledge no longer depended solely on the individual initiative of scholars, but was absorbed into the framework of the state through the creation of institutions, stable funding, the provision of spaces, and the formal appointment of scholars.

At the same time, the recognition and appointment of figures such as Yuhanna ibn Masawayh and Hunayn ibn Ishaq represent a form of political legitimation of epistemic authority, whereby scholarly expertise was elevated as a legitimate component in the construction of state power and policy. Thus, ulama-umara' collaboration in the Abbasid era was not merely a matter of moral support for knowledge, but a systematic integration of political power and epistemological structures that enabled the scientific tradition to develop in a continuous and distinctive manner.

2. National translation projects

Translation activity was one of the defining features of intellectual development in the Abbasid era (Roziah & Mohd. Jailani, 2012; Norshahidah et al., 2013). According to Iqbal (2007) and Young et al. (1990), these activities continued for roughly three centuries, or about 300 years. They unfolded in stages, beginning under the rule of Caliph Abu Ja'far al-Mansur and ending towards the close of the reign of Caliph Harun al-Rashid. The second phase began when Caliph al-Ma'mun assumed power, from 814 CE until 913 CE, while the third phase extended from the early 10th century CE to the mid-11th century CE.

This translation project did not take place on an individual basis, but through strategic collaboration between the rulers and the scholars. The caliphs provided funding, protection, and facilities for translators. They took the initiative to acquire manuscripts from various regions, brought them back to Baghdad, and stored them in libraries for study and translation. Scholars such as the Banu Musa ibn Shakir family also demonstrated unwavering support for the translation movement. They patronised renowned translators such as Hunayn ibn Ishaq, Hubaysh ibn al-Hasan, and Thabit ibn Qurrah (Ibn Abi Usaybi'ah 1965), and paid them generous rewards. Hanifi (1962) reports that the Banu Musa ibn Shakir family spent 500 dinars each month to pay Hunayn ibn Ishaq for his work in translating and recopying manuscripts. They were also willing to expend a substantial portion of their wealth to obtain manuscripts from the Greek civilization. The al-Barmaki family, for their part, commissioned priests to translate works on agriculture from Byzantium into Arabic. The involvement of these groups shows that the development of knowledge in the Abbasid era was also supported by social elites with strong economic standing.

Roziah (2023), Nor Azlina & Roziah (2020) and Roziah et al. (2020) list in detail the outcomes of this translation project as follows:

TABLE 2. Works from the Greek Civilization Translated into Arabic

Original title	Author	Translator	Arabic title
Megale Syntaxis Mathematike.	Ptolemy	Hunayn ibn Ishaq, Sahal ibn Rabban al-Tabari and Hajjaj ibn Yusuf	*Kitab al-Majisti*
Tetrabiblos	Ptolemy	Abu Yahya (Yuhanna) al-Batriq	*Kitab al-Arba' Maqalat fi Sina'at Ahkam al-Nujum*
Geographike Syntaxis/ Geographike	Ptolemy	Thabit ibn Qurrah	*Kitab Jughrafiyya fi al-Ma'mur wa Sifat al-Ard*

Huphegesis/ Geographia			
De Materia Medica	Dioscorides	Istafan ibn Basil	*Kitab al-Hasha'ish fi Hayula al-Tib*
Summaria Alexandrinorum	Galen	Hunayn ibn Ishaq	*Jawami' al-Iskandaraniyyin*
Aphorismos	Hippocrates	Hunayn ibn Ishaq	*Kitab al-Fusul*
De Locis Affectis	Galen	Hubaysh ibn al-A'sam	*Kitab Ta'arruf 'Ilal al-A'da' al-Batinah*
De Sanitate Tuenda			*Kitab Tadbir al-Asihha'*
De Anatomicis Administrationibus			*Kitab al-Tashrih al-Kabir,*
De Semine			*Kitab al-Mani*
De Usu Partium Corporis Humani			*Kitab Manafi' al-A'da'*
De Bono Habitu			*Kitab Khasb al-Badan*
De Compositione Medicamentorum Per Genera			*Kitab Tarkib al-Adwiyyah*
De Antidotis	Galen	ʿIsa ibn Yahya	*Kitab al-Adwiyyat al-Muqabalah li al-Adwa'*
Prognosticum			*Kitab Taqdimat al-Ma'rifah*
De Parvae Pilae Exercitio			*Kitab al-Riyadah bi al-Kurrat al-Saghirah*
De Motu Thoracis Et Pulmonis	Galen	Istafan ibn Basil	*Kitab Harakat al-Sadr wa al-Ri'ah*
De Probis Pravisque Alimentorum Succis		Thabit ibn Qurrah	*Kitab al-Kimus*
De Simplicium Medicamentorum Temperamentis Et Facultatibus		Yusuf al-Khuri	*Kitab al-Adwiyyat al-Mufradah*

Historia Animalium/De Animalibus	Aristotle	Yahya ibn al-Batriq	*Kitab al-Hayawan*
Secretum secretorum			*Sir al-Asrar*
Meteorologia			*Kitab al-Athar al-ʿUlwiyyah*
Conica	Apollonios Pergaeus	Hilal al-Himsi	*Kitab al-Makhrutat*
Introductionis of Arithmeticae	Nichomachus	Thabit ibn Qurrah	*Kitab al-Madkhal ila 'Ilm al-'Adad*
Sphaerica	Menelaos	Ishaq ibn Hunayn	*Kitab al-Ashkal al-Kurriyyah*
De Sphaera Et Cylindro	Archimedes	Thabit ibn Qurrah	*Sharh Arshimidas fi al-Kurrah wa al-Ustuwanah*
Quadratura parabolae.	Archimedes	Yusuf al-Khuri	*Kitab al-Muthallathat*
Arithmetica	Diophantos	Qusta ibn Luqa	*Kitab Diyufantas fi al-Masa'il al-'Adadiyyah*
Sphaerica	Theodosius of Bythynia		*al-Akr*
Meteora dan	Theophrastus		*al-Sama'*
Mechanica	Heron		*Kitab al-Hiyal*
Georgika	Kassianos Bassos		*Kitab al-Filahat al-Rumiyyah*
Commentaria in Meteorologica	Aristotle	Yahya ibn 'Adi	*Tafsir Kitab al-Athar al-'Ulwiyyah li Aristutalis*
Topica	Aristotle	Yahya ibn 'Adi, Abu 'Uthman al-Dimashqi and Ibrahim ibn 'Abd Allah al-Katib	*Kitab al-Tubiqa*
Commentaria in De Coelo		Abu Bishr Matta Ibn Yunus	*Kitab Tafsir al-Thalath Maqalat al-Awakhir min Tafsir Thamistiyus*
*Poetic*a	Aristotle	Abu Bishr Matta Ibn Yunus	*Kitab Aristutalis fi al-Sh'ir*

Eisagoge	Porphyry	‘Abd Allah Ibn al-Muqaffa’	*Kutub Isaghuji fi al-Madkhal ila al-Kutub al-Mantiqiyyah*

TABLE 3. Works from the Indian Civilization Translated into Arabic

Original title	Author	Translator	Arabic title
Brahmasphutasiddhanta	Brahmagupta	Abu ‘Abd Allah Muhammad ibn Ibrahim al-Fazari	*al-Sind Hind*
Khandakhadyaka		Abu ‘Abd Allah Muhammad ibn Ibrahim al-Fazari and Ya’qub ibn Tariq	*al-Arkand*
	Chanakya	Mankah and Abu Hatim al-Balkhi	*Kitab al-Sumum wa al-Tiryaq*
Caraka Samhita	Charaka	‘Abd Allah ibn ‘Ali	*Sharik al-Hindi*
Susruta Samhita	Susruta	Mankah	*Kitab Susrud*

TABLE 4: Works from the Persian Civilization Translated into Arabic

Original title	Author	Translator	Arabic title
Kalilag u Dimnag	Pandit Vishnu Sharma	‘Abd Allah ibn al-Muqaffa’ and ‘Abd Allah Ahwazi	*Kalailah wa Dimnah*
Khudhay Namag		‘Abd Allah ibn al-Muqaffa’	*Siyar Muluk al-‘Ajam*
Ayin Namag			*Kitab Ayin Namah*
Mazdak Namag			*Kitab Mazdak*
Zik-I Shatroayar		‘Ali ibn Ziyad al-Tamimi	*Zij-I Shahriyar*

The corpus of translated works presented here stands as evidence that collaboration between the ulama and the umara’ was genuinely effective. Even though Tables 1, 2, and 3 appear to highlight primarily the efforts of scholars, these achievements would not have been possible without the initial initiatives of the caliphs, who gathered manuscripts from various

regions and brought them back to Baghdad before scholars could undertake the work of translation.

In theoretical terms, this movement can be understood as a process of institutionalised knowledge transfer, in which political authority not only conferred legitimacy on epistemic authority, but also integrated it into the state system. Translation no longer depended solely on individual interest; it became part of the governance agenda. Within this framework, political legitimation of scholarly authority enabled the formation of a structured intellectual ecosystem that brought together manuscript collection, funding, protection, and the production of works within a continuous civilizational framework.

3. Establishment of Institutions of Knowledge

One of the clearest manifestations of ulama-umara' collaboration during the Abbasid era was the establishment of institutions of knowledge. The development of science and technology did not take place in an unstructured space; rather, it was sustained by organised and systematic institutional frameworks. Numerous institutions of learning were founded in this period, such as Bayt al-Hikmah, libraries, educational institutions, and observatories. However, the institution that most clearly reflects collaboration between the ulama and the umara' is Bayt al-Hikmah.

Bayt al-Hikmah emerged as the most important institution in the history of intellectual development during the Abbasid era. It was established under the patronage of the Abbasid caliphs. One view holds that it was founded by Caliph Harun al-Rashid and subsequently expanded by his son, Caliph al-Ma'mun, while another maintains that the institution was already in existence during the reign of Harun al-Rashid (Saba 2014). A third view argues that it was founded by Caliph al-Ma'mun (Leaman 2003; Walbridge 2003). Regardless of these differences, what matters here is that the Abbasid caliphs played an active role in realising the establishment of this institution.

While the caliphs were responsible for creating the institution, the scholars were, in another hand, responsible for running its operations. In the case of Bayt al-Hikmah, it became a gathering place for scholars, particularly qualified translators who rendered almost the entire corpus of Greek scientific and philosophical works into Arabic (Rahim et al. 2012). Among these figures were Yuhanna ibn Masawayh, Hunayn ibn Ishaq, the Banu Musa, and Thabit ibn Qurrah. Yuhanna ibn Masawayh was a physician who was also appointed to lead Bayt al-Hikmah. Hunayn ibn Ishaq studied under Yuhanna ibn Masawayh at Bayt al-Hikmah and is reported to have translated around 100 manuscripts into Syriac and a further 39 into Arabic. The Banu Musa were involved in numerous initiatives to advance science and technology in Islamic civilization, including translating Greek works into Arabic and hiring other translators, while themselves being active in fields such as astronomy, mathematics, and engineering. Thabit ibn Qurrah, for his part, contributed not only as a translator but also to the development of various scientific disciplines, including mathematics, astronomy, and geometry (Jahan 2020).

The presence of these leading figures demonstrates that Bayt al-Hikmah functioned as a meeting point between scholarly expertise and political power. The ulama provided epistemic authority and intellectual innovation, while the umara' provided infrastructure, funding, and political protection. Theoretically, this situation reflects a process of institutionalisation of knowledge, through which knowledge was transferred from the private sphere of individual scholars into the formal and continuous structures of the state. At the same time, the appointment of scholars to official positions and the provision of stable funding illustrate a form of political legitimation of epistemic authority, namely the recognition that scholarly expertise has a legitimate place in the construction of state power and public policy.

Thus, Bayt al-Hikmah was not merely a translation centre, but an early model for the formation of a structured intellectual ecosystem in Islamic civilization. At this stage, ulama-umara' collaboration went beyond moral support or personal relationships and became part of the very architecture of Abbasid governance, which treated knowledge as a strategic component in the construction and continuity of civilization.

IMPLICATIONS OF ULAMA-UMARA' COLLABORATION FOR THE ABBASID SCIENTIFIC TRADITION

Strategic collaboration between the ulama and the umara' in the Abbasid era did not only lead to a quantitative increase in translation activities or the establishment of institutions, but also produced a qualitative transformation in the structure and character of the Islamic scientific tradition. Three main implications can be identified as follows:

1. Formation of a Critical Scientific Tradition

One of the most significant implications was the formation of a scientific tradition that was critical and analytical in nature. Scholars in the Abbasid period did not receive the works of the Greek, Persian, or Indian civilizations passively. Instead, these works were examined, filtered, and critiqued before being adapted to the Islamic epistemological framework.

Critiques of the theories of vision proposed by Euclid and Galen provide a clear example that Muslim scholars were not merely receivers of knowledge, but also its evaluators and developers. According to Euclid and Galen, human beings are able to see because light emanates from the eyes. Al-Razi (d. 925 CE) and Ibn Sina (d. 1037 CE) rejected this theory, explaining that human vision is the result of light being reflected from objects into the eyes, rather than light issuing from the eyes themselves. Al-Razi argued on the basis of his observations of the lens of the eye, noting that its size alternately contracts and expands according to the amount of light entering the eye. If the eye were the source of light, such contraction and dilation would not occur since the function of the lens is to regulate the entry of light into the eye (Roziah 2023).

This critique shows that scholars of Islamic civilization did not accept all information from other civilizations wholesale. Rather, they displayed a highly critical and innovative disposition. This approach indicates that the translation movement was accompanied by a process of epistemic verification, in which scholarly authority was not determined by the civilizational origin of an idea, but by the strength of its arguments and the accuracy of its empirical basis.

Ulama-umara' collaboration played an important role in creating a safe intellectual space for such critique to take place. Political support and institutional protection enabled scholars to put forward analytical views without pressure to preserve the dogmas of earlier civilizations. As a result, an intellectual culture emerged that combined rationality, empirical observation, and fidelity to Islamic epistemological principles.

2. Production of Original Works and Innovation

The second implication was the emergence of original works in various fields such as medicine, mathematics, astronomy, and engineering. The translation process was not an end in itself, but functioned as an initial stage in the construction of a more mature intellectual tradition.

Having mastered and evaluated earlier works, Abbasid scholars produced new works that refined, supplemented, and at times rejected previous theories. This situation shows that ulama-umara' collaboration did not merely transfer knowledge, but created the structural conditions for innovation to occur.

In theoretical terms, this reflects a significant shift from knowledge reception to knowledge production. At the stage of knowledge reception, a civilization acts as a recipient and transmitter of external knowledge through translation and adaptation. In the Abbasid era, however, this process did not stop at the collection and transmission of information. Instead, it advanced to the level of critical evaluation, synthesis, and the formulation of new theories. Knowledge received from other civilizations was not treated as an absolute authority, but as epistemic raw material that needed to be filtered, tested, and aligned with Islamic rational and ethical frameworks.

This shift occurred when political and institutional structures provided stability and continuity for intellectual activity. Government support through patronage, funding, and institutional protection allowed scholars to move beyond the function of translation towards

creative and innovative roles. In this context, the Abbasid scientific tradition demonstrates a transformation from a culture of passive reception to a culture of active production, in which knowledge became a field of creativity and renewal. Thus, knowledge production in the Abbasid era was not simply the contingent achievement of individuals, but the outcome of a systematic integration between structures of power, institutions, and epistemic authority that enabled innovation to develop on a continuous basis.

3. Construction of a Knowledge Ecosystem

The third implication was the construction of a knowledge ecosystem that was comprehensive and integrated. The development of knowledge in the Abbasid era did not depend on a single factor, but unfolded through the interaction between institutions (such as Bayt al-Hikmah) and the translation movement. The combination of these factors formed what can be understood as a structured intellectual ecosystem: a system that provides resources (manuscripts and funding), spaces (institutions and libraries), communities (scholars and students), and legitimacy (political support). This ecosystem ensured the continuity of the scientific tradition beyond any single generation. Knowledge did not come to a halt with the death of an individual figure, because it had been institutionalised within social and political structures.

On the basis of these three implications, ulama-umara's collaboration in the Abbasid era can be summarised as a model of power-knowledge synergy that generated civilizational transformation. This synergy operated through three stages:

1. Epistemic legitimation by political power, whereby the rulers recognised and protected the authority of scholars.
2. Institutionalisation of knowledge, whereby knowledge was absorbed into the structures of the state through institutions and patronage.
3. Continuous production of innovation, whereby the scientific tradition developed from mere transfer to the generation of new knowledge.

This model shows that Abbasid scientific flourishing was not simply the product of individual brilliance, but the result of systematic integration between political structures, economic structures, and epistemological structures. Accordingly, the Abbasid scientific tradition can be understood as the outcome of building an intellectual culture that possessed political legitimacy and was grounded in critical rationality, which positioned knowledge as a strategic component in the construction and continuity of Islamic civilization.

CONCLUSION

Collaboration between the ulama and the umara' in the Abbasid era was not merely an episodic historical phenomenon, but a civilizational structure that underpinned the formation of the Islamic scientific tradition. Analysis of the rulers' positive attitude towards knowledge, state-sponsored translation projects, and the establishment of institutions such as Bayt al-Hikmah shows that the development of knowledge took place through the systematic integration of political authority and epistemic authority. Knowledge was not only given room to grow, but was institutionalised within the framework of the state through legitimation, patronage, and structural protection.

This synergy produced three major transformations: the formation of a critical scientific culture, the shift from knowledge reception to knowledge production, and the construction of a structured and enduring intellectual ecosystem. Within the power-knowledge synergy model, political legitimation of scholars enabled the institutionalisation of knowledge, which in turn opened space for continuous innovation. Thus, Abbasid brilliance cannot be understood as the result of individual excellence alone, but as the product of coherent integration between political, economic, and epistemological structures.

The principal contribution of this study lies in its reinterpretation of Abbasid scientific flourishing through the lens of ulama-umara' collaboration rather than through isolated accounts of rulers, scholars, or translation activities. The study proposes a power-knowledge synergy model consisting of epistemic legitimation, institutionalization of knowledge, and continuous innovation as an analytical framework for understanding the development of knowledge in Islamic civilization. This framework contributes to West Asian Studies by providing a more integrated explanation of how political authority, intellectual authority, and institutional structures interacted in shaping the scientific and intellectual heritage of the Abbasid world.

In conclusion, the Abbasid experience demonstrates that when political power grants consistent recognition and support to the authority of knowledge, a scientific tradition can develop in a stable, innovative, and resilient manner. This model shows that civilization-building cannot be separated from the synergy between power and knowledge, in which both mutually reinforce one another in producing lasting civilizational transformation.

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AUTHORS' CONTRIBUTIONS

Conceptualization (Mohamed Nagy Marey Hammam); methodology (Roziah Sidik @ Mat Sidek); validation (Mohamed Nagy Marey Hammam); formal analysis (Roziah Sidik @ Mat Sidek); investigation (Mohamed Nagy Marey Hammam); resources (Siti Nur Adilah Awang); data curation (Mohamed Nagy Marey Hammam; writing (Mohamed Nagy Marey Hammam and Roziah Sidik @ Mat Sidek); funding acquisition (Mohamed Nagy Marey Hammam). All authors have read and agreed to the published version of the manuscript.

ARTIFICIAL INTELLIGENCE (AI) GENERATED TEXT DECLARATION

During the preparation of this work, the authors used ChatGPT (OpenAI) to assist with translation and language refinement. All scholarly arguments, interpretations, analyses and conclusions were developed by the authors. The authors reviewed and revised the content as necessary and take full responsibility for the final published version of the manuscript.

CONFLICT OF INTEREST

The authors declare no financial, personal, professional or institutional conflicts of interest that could have influenced the research, authorship or publication of this article.

ETHICS STATEMENT

This study did not involve human or animal subjects. All data used were obtained from publicly accessible sources and did not include any personally identifiable information. Ethical approval was therefore not required

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