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ISLAM AND SCIENCE: AN ANALYSIS OF THE GOLDEN AGE OF ISLAM IN THE FIELD OF SCIENCE AND TECHNOLOGY, ESPECIALLY IN THE FIELD OF MANAGEMENT

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Kata Kunci:	ABSTRACT
Dinasti Abbasiyah, IPTEKS, Manajemen, Pendidikan Islam	Artikel ini menjelaskan posisi sains dalam Islam. Sains dan Islam merupakan dualitas. Islam pernah mengalami periode perkembangan sains dan teknologi yang pesat, dengan pengaruhnya yang menjangkau seluruh Eropa dan dunia. Hingga saat ini, produk-produk ilmiah pada era tersebut tetap menjadi rujukan global, dan kisah-kisahny diabadikan dalam forum-forum ilmiah, baik di Timur maupun Barat. Berbagai literatur mencatat dan menganalisis masa keemasan peradaban. Dalam Islam, sains disamakan dengan Al-Qur'an, karena semua ilmu pengetahuan bersumber darinya. Berbagai ayat dalam Al-Qur'an dan Hadits menjelaskan pentingnya menuntut ilmu dan keutamaannya. Sayangnya, dikotomi ilmu pengetahuan telah membuat sebagian orang meyakini adanya ilmu wajib dan ilmu sunah yang harus dipelajari. Hal ini telah melemahkan sumber daya manusia Muslim, terutama dalam menjawab tantangan zaman, di mana sains, teknologi, dan seni terus berkembang. Artikel ini bertujuan untuk memberikan kontribusi pengetahuan bahwa keterbukaan dalam menyerap ilmu pengetahuan memiliki dampak yang signifikan terhadap kemajuan peradaban. Hilangkan dikotomi ilmu pengetahuan dan hindari alergi terhadap ilmu-ilmu baru yang tidak berlabel Islam. Sumber pengetahuan pada hakikatnya adalah Al-Quran.

Keywords:

Dinasti Abbasiyah,
IPTEKS,
Management,
Islamic Education

ABSTRACTS

This article explains the position of science in Islam. Science and Islam are a duality. Islam once lived through a period of rapid scientific and technological development, with its influence reaching across Europe and the world. To this day, the scientific products of that era remain a global reference, and their stories are immortalized in scientific forums both eastern and western. A vast body of literature chronicles and analyzes the golden age of civilization. In Islam, science is equated with the Quran, for all knowledge originates from it. Numerous verses in the Quran and Hadith explain the importance of seeking knowledge and its virtues. Unfortunately, the dichotomy of knowledge has led some to believe that there are obligatory and optional sciences to be studied. This has weakened Muslim human resources, especially in responding to the challenges of the times, where science, technology, and the arts continue to develop. This article aims to contribute knowledge that openness to absorbing knowledge has a significant impact on the advancement of civilization. Eliminate the dichotomy of knowledge and avoid being allergic to new sciences that lack Islamic labels. The source of knowledge is, in essence, the Quran.

A. INTRODUCTION

The study of the relationship between science and technology and Islam is like a mother and child. Islam is a blessing for the universe. Islam is knowledge, if its adherents are ignorant it can be interpreted as not being Muslim or even further denying their own religion. The presence of Islam was able to transform the harsh Arab nation into a highly civilized nation.(Maryamah, 2015) It began during the presence of Islam in 650-1250 AD brought by the Prophet Muhammad, then continued by the era of the Khulafa Rasyidin, the Umayyad Dynasty, and the Abbasid Dynasty.(Pulungan, 2022) The Abbasid Dynasty played an important role in the rapid development of science during this period. Islamic culture in the form of science became famous in Europe until the world called it The Golden Age.(Aizid, 2017a) Human Resources at that time were truly extraordinary, positive habits that were always enthusiastic and enthusiastic about exploring new knowledge and developing science formed a culture. Islamic culture that is famous throughout Europe and known to the world is Science.

The Abbasid Dynasty is a barometer of the golden age of Islam in the fields of Science, Technology and Art. The development of this Science began during the time of Caliph Al-Mansur and developed rapidly during the time of Caliph Harun Al-Rashid and Caliph Al-Ma'mun.(Pulungan, 2022) The Abbasid Dynasty moved the capital from Damascus to Baghdad, this city later became the center of scientific civilization (750-1258 AD). Persia and Greece as well as India influenced the development of science in the fields of medicine, astronomy, and other 'aqli fields.(Ery Oktaviyani, 2018) The Persians, Greeks and Indians at that time studied Arabic and other naqli sciences to study the Quran, because the Quran is a source of knowledge.

The love of the Caliph of the Abbasid Dynasty, especially Caliph Harun Al-Rashid and his son, Caliph Al-Ma'mun, made science develop rapidly during this

period. Caliph Harun Al-Rashid required all palace residents to attend school (study science), he also required the viziers to study new sciences for the advancement of the Dynasty.(Muhammad Bukhari Dasopang et al., 2025) The development of science, technology and art (IPTEKS) during the Abbasid Dynasty was closely related to the good management system implemented at that time. The advancement of Islamic civilization in the field of science and technology during the Abbasid Dynasty occurred in the 8th to 13th centuries AD.(Abror et al., 2022) Harun Nasution divides Islam into three periods, namely the Classical Islamic era, the Middle Islamic era and the Modern Islamic era. Classical Islam began from 750-1258 AD. Medieval Islam began in 1258-1800 AD. Modern Islam began in 1800 AD until now.(Abror et al., 2022) This progress occurred because the Abbasid Dynasty was open to new knowledge from various nations, not only from the Arabs but also from Persia, Greece and India.

This article is based on the argument that science and technology is an inseparable part of the Al-Quran. This statement is in line with what Hasbi Indra expressed in his book *Islamic Education Challenges and Opportunities in the Era of Globalization* which says that the Quran indicates that this religion was revealed to be a mercy for all nature, meaning that the era of globalization has been indicated in the Quran.(Indra, 2016) Ridwan Abdullah Sani also said in his book "The Quran and Science" that the study of science by Muslims must be based on the Quran, because all phenomena that exist in the universe are in the Quran.(Abdullah Sani, 2020) Agus Purwanto in his book "The Reasoning of the Verses of the Universe Makes the Quran the Basis for the Construction of Knowledge" in the Quran there are 800 verses of kauniyah, the Quran describes in it about water, wind, smoke, clouds, stars, moon, earth, birds, light, leaves, waves, mountains, thunder, rain, spiders, ants to zarrah.(Abdullah Sani, 2020) science is not a human creation, humans just digging and finding based on existing phenomena, the essence of science is written in the Koran and Allah created everything.

This article aims specifically to provide a shock effect to society, especially Muslims, that this religion was born with the spirit of Science. Islam is science, if its followers are ignorant it can be interpreted as not being Muslim or even further denying their own religion.(Abdullah Sani, 2020) Literacy not only increases knowledge and broadens horizons but also improves the quality of life and even Health.(Prasanti & Fuady, 2017) Knowledge is a source of Change, the beginning of the development of a civilization and breaking the chain of poverty.(Juliannisa et al., 2022) In Educational Management in particular, to create a quality Institution must be filled with quality human resources as well. Competent human resources (balanced IMTAQ) and open to new knowledge and a high spirit of learning will lead Muslims to their glory again.

B. METHOD

The methodology used is library research. Research whose data collection is carried out by collecting data from various literature. The literature used is not limited to books. The emphasis of library research is to find various theories, laws, postulates, principles, opinions, ideas, and others that can be used to analyze and solve the problems being studied.(Siregar & Fahmi, 2023) In addition, for interpretation, the author uses the tahlili and maudhu'i interpretation methods.

This approach is carried out by studying the science of hadith interpretation related to management theory, collecting library data such as books, articles in journals and then analyzing them.

C. RESULT AND DISCUSSION

1. Verses of The Quran and Hadith Relating to The Science

Al-Alaq, 96: 1-5, Meaning: *"Read in the name of your Lord who created. He created humans from a clot of blood. Read to your Lord, the Most Glorious. Who teaches humans with a pen. He teaches humans what they don't know."* The scholars of interpretation agree that verses one to five are the verses where Allah SWT first emphasized that Allah SWT is the source of Knowledge.(Hidayatulloh, 2023) In the perspective of Al-Azhar interpretation and Misbah interpretation, Q.S. Al-Alaq, 96: 1-5 is divided into 4 parts, namely, Literacy Values, Integration and transcendence Values, Habitualization Values, Reading and Writing Culture Values.(Maslihah, 2025) Literacy Values here according to him are interpreted as a long learning process. Good literacy is literacy that is not only limited by one knowledge. Not only reading the written script but also reading the universe.(Maslihah, 2025) The word iqra does not only refer to the physical process, but also to a deep understanding of the relationship between humans and God as the source of knowledge.(Murdianto & Kamilah, 2021) Reading that does not only rely on reason, but also awareness of God's presence in every step of life, including in the search for knowledge.

Sociologically, these five verses were revealed in the early reality of the prophethood of Muhammad SAW. There was social, cultural, ethical, leadership, and religious inequality in Arab society.(Murdianto & Kamilah, 2021) In this verse, it is explicitly ordered to use the lafdz iqra. This further emphasizes that humans are the subjects of education.(Adib, 2022) Through this letter, Allah introduces Himself as Rabb (the root word tarbiyah) and introduces humans as creatures who were created as well as creatures who receive knowledge through the intermediary of the pen. (Imamuddin et al., 2020) This verse conveys the message that educational activities, da'wah and others related to science must be close to the reality of human life and pay attention to all its challenges.

Islamic education is a rational education that involves reading about realities and challenges. It integrates reading, writing, and reality. life will produce new knowledge.(Yuliani et al., 2023) Because of the basis This is the importance of writing science, as a masterpiece and a legacy of civilization to build the next civilization. Without knowledge, humans are just a piece of flesh created from a despicable object, and glorify it before Allah SWT. is by reading, writing and having knowledge. Ibn Kathir Rahimullah said, "The first Al-Quran revealed were these verses.(Adawiyah & Robbaniyah, 2024) This is the first grace and favor that Allah SWT sent down to his servants. In the beginning of the letter there is a lesson that the first human was created from *'alaqah* (a clot of blood). One of the forms of mercy from Allah SWT is that he teaches humans what which they do not know". Ibn Kathir also said "a person will become more noble with The religious knowledge he possessed. This knowledge is what distinguishes the father of mankind, Adam, from the angels. This knowledge is sometimes expressed in thought, sometimes verbally, and sometimes in handwriting to convey what is in the mind, verbally, or what is depicted in the

mind.(Adawiyah & Robbaniyah, 2024) The meaning of this command to read indicates that the Prophet Muhammad (peace be upon him) was commanded to seek knowledge.

This condition was continued by the Prophet when he invited his friends to study the Koran at Arqam's house. It's just that the knowledge taught by this prophet was limited to an invitation to unite Allah SWT. (tawhid).(Sriwardona et al., 2023) After that the friends always memorized the verses of the Koran that they had heard from the Prophet. Apart from containing the meaning of the importance of having knowledge and the position of knowledge in Islam, this verse also explains the learning and teaching process.(Sriwardona et al., 2023) Baitul Arqam is The first educational institution during the time of Rasulullah SAW. With the Apostles as educators, friends as students, and faith and morals as the curriculum driving this education to take place.

Educational institutions are closely related to educational management itself. During this period, the Prophet Muhammad (peace be upon him) provided a direct example of how an educational institution can be run effectively and achieve its goals. Allah SWT also provided a direct example of this educational management pattern during the creation of Adam, as outlined in the Qur'an, Surah Al-Baqarah, 96: 30-31 with it means: *"(Remember) when your Lord said to the angels, "I will make a caliph on earth." They said, "Are You going to place someone there who will cause corruption and shed blood, while we praise You and sanctify Your name?" He said, "Indeed I know what you do not know." "He taught Adam all the names (things), then He showed them to the angels, saying, "Tell Me the names of these (things) if you are right!"*

In this verse we can see how Allah SWT. Creating Adam as a Caliph on earth. Governing the earth, managing the earth. (related to management science), the next verse Allah taught Adam the names of all (objects).(Shofhal Jamil, 2024) It can be interpreted as Allah as an Educator, Adam as a Student.(Hazaa et al., 2025) From the verses that have been stated above, it explains the position of knowledge in the Al-Quran and the management of running an educational institution so that the knowledge taught creates civilization.

Hadith of the Prophet about Science, Meaning: *"Has told us Hisham bin Ammar said, has told us Hafsh bin Sulaiman said, has told us Katsir bin Syinzhir from Muhammad bin Sirin from Anas bin Malik he said; Rasulullah shallallahu'alaihi wasallam said: "Seeking knowledge is an obligation for every Muslim. And someone who places knowledge not on experts, is like someone who puts it on pearls, diamonds and gold to a pig's neck" (HR. Ibnu Majah).*(Sodikin, 2024) In this hadith, the word *thalaba* contains the meaning of demanding or seeking. something, meaning that knowledge is obtained by searching, not by guessing.(Sodikin, 2024)

This is in line with the word of Allah SWT in Qs. At- Taubah 9: 122 Meaning: *"And it is not fitting that the believers should all go out (to the battlefield). Why should not some of each group among them go out to deepen their religious knowledge and to warn their people? when they have returned, so that they can take care of themselves" (QS. At-Taubah, 9: 122)* According to Al-Azhar's interpretation, with the sentence *falaulaa* meaning to be raised up, Allah SWT has recommended the division of tasks. All believers are required to engage in jihad, which is divided into

armed jihad and jihad to deepen knowledge and understanding of religion. (Suryani, 2024)

In Al-Munir's Tafsir is also said to be an explanation of what Allah SWT meant. about everyone leaving, there should be some of them who study the Koran. (Muttaqin, 2021) In Al-Maraghi's interpretation it is also said why not a group only or only a small group who went to the battlefield so that the rest remained in the city to study the Koran. (Machfudz, 2020) From this understanding, it shows how crucial the position of science is in civilization and the survival of mankind. Humans are given reason to fill their minds with knowledge. Historical facts also record many companions and predecessors who were willing to leave their hometowns to seek beneficial knowledge. (Akbar & Nadhifah, 2025) People who having knowledge means safeguarding one's religion, one's soul, one's mind, one's descendants, and one's wealth and honor. Therefore, Muslims should fill their minds with knowledge.

2. Development of science and technology during the Abbasid era and the application of management in the Islamic education system at that time

The Abbasid Dynasty was founded by Abu Al-'Abbas Al-Saffah in 750 AD after overthrowing the Umayyad dynasty in Damascus. (Firma Hafmi et al., 2024) The power of the Abbasid Dynasty is divided into five periods, namely Period I, the first period of Persian influence (132 H / 750 AD-232 H / 847 AD), Period II, the first period of Turkish influence (232 H / 847 AD-334 H / 945 AD), Period III, the period of the Buwaihi Dynasty, the second Persian influence (334H / 945 AD-447 H / 1055 AD), Period IV, the period of the Seljuq Dynasty, the second Turkish influence (447 H / 1055 AD-590 H / 1194 AD), Period V, the period of freedom from the influence of the Dynasty (590 H / 1104 AD-656 H / 1250 AD). (Aizid, 2017b) In the first period, the Abbasid Dynasty reached its golden age. The Caliphs during this period had strong characters in politics and religion at the same time. (Aizid, 2017a) In addition to making the dynasty society prosperous and prosperous, science also developed rapidly. (Maryamah, 2015) Being strong in religion means strong in science, Islam is a source of knowledge.

The Golden Age is the world's nickname for this Dynasty. (Esa Prasastia A & Rofiq, 2022) The glory of this dynasty began during the leadership of Caliph al-Manshur, he built a new capital in Baghdad which soon developed into an intellectual center, culture and economy of the Islamic world. The peak of this dynasty was developed by the next Caliph, namely Harun Al-Rasyid, he was the most famous Caliph in this dynasty. (Aizid, 2017a) During his Caliphate, Baghdad reached the peak of its glory as a center of science, art and culture as well as its close relationship with scientists, philosophers and poets. (Furoidah, 2020) Caliph Harun Al-Rasyid loved Science very much, this love was manifested in the regulations and policies he made in the world of Education.

Not only continuing the translation movement that was initiated during The previous caliphate, Caliph Harun al-Rasyid also made breakthroughs in the fields of science, technology, art and culture. (Furoidah, 2020) In the field of science, for example, Harun Al-Rasyid required all palace families and dynasty employees to study at madrassas and educational institutions provided by the palace. (Maryamah, 2015) The

impact of this policy was to inject a spirit of active learning and developing knowledge for the community. Not only that, Caliph Harun Al-Rasyid also provided scholarships to scientists, and established research centers for scholars.(Aizid, 2017a) If previously Baitul Hikmah was only used as a library and place for language transfer, now the function of Baitul Hikmah has been expanded further as a research center and observatory.(Ery et al., 2018) This attracts many scientists from all over the world to come to Baghdad, because of this, Baghdad has become a Barometer of Science in the world.

From this extraordinary development, it is interesting to examine the Educational Management that was implemented at that time so that it reached the peak of its glory. An Institution Education, in its ongoing process until its development, cannot be separated from the management used. During this golden age, the role of the Dynasty as the central government was seen as very supportive of the process of developing science.(Abror et al., 2022) Because of the high enthusiasm of the dynasty, it had an impact on the enthusiasm of the community in seeking knowledge and even donating part of their wealth to teachers and scientists.(Daulay et al., 2023) This had a positive impact on the quality of teaching staff because they could focus to deepen knowledge and develop it without worrying about costs. The following will explain how educational institutions, teaching staff, and student management are managed. Students in the Abbasid Dynasty in managing educational institutions, both formal and informal. non-formal such as Kuttah and Mosque, lower palace education, book shops, library, literary salon, house of scholars, observatory and hospital of science, Al-Zawiyah, and madrasah.

The literary salon was a special place held by the caliph to discuss matters knowledge filled by the dignitaries of the palace and the community. As a means of disseminating knowledge.(Siti Soleha & Lina Pusvisasari, 2024) In addition to the teachers who came to the madrasah to teach, their homes were also open to anyone who wanted to directly study knowledge with them, it could also be when these sheikhs were busy with research and study activities and did not have time to go to the madrasah, then their students came to their homes.(Siti Soleha & Lina Pusvisasari, 2024) The hospital was also used as a center of education, namely a place for studying Greek science and philosophy as well as the transmission of medical knowledge. Zawiyah was a place that was used as a process to obtain inner satisfaction, which accommodated Sufis and knowledge about methods of worship to get closer to Allah SWT.(Asri et al., 2024) Madrasah is an institution Islamic Education. Specifically studying the sciences of naqli.(Asri et al., 2024) These institutions grew and developed under the supervision of Baitul Hikmah as the main center of knowledge.

The Caliph formed an institution directly responsible for the teaching and learning process. This is *Baitul Hikmah*.(Khaeruddin, 2024) Baitul Hikmah management manages facilities, collections, services, and controls the quality of books distributed in the libraries under it.(Mahesa & Hadijah, 2023) All of this is systematically arranged with a catalog to facilitate book searches. This system is called Library Material Classification System.(Mahesa & Hadijah, 2023) In this Bait Al-Hikmah institution The Caliph employed Muhammad bin Musa Al-Khwarizmi who was an expert in the

fields of algebra and astronomy.(Khaeruddin, 2024) The quality of educational institutions can be seen from the output they produce. produced by the Institution and scientists or teachers who are competent in their fields. This is shows that to obtain good and quality output in managing an educational institution, the presence of the government is required as the main financial supporter in addition to the resources of scientists and management human resources within it.

This is certainly very different from the libraries that exist today which are only used as a place to read books (even only used as a place for book collections/displays). The methods used in education at Bait Al-Hikmah are made in two rules, namely the lecture method (muhadhoroh) and the dialogue and debate method.(Asri et al., 2024) Students attend halaqah halaqah guided by a teacher, they move from one halaqah to another to seek knowledge. The sciences studied in this Halaqah include philosophy, astronomy, medicine, mathematics, Greek, Persian and Indian languages.(Mahesa & Hadijah, 2023) After graduating from Baitul Hikam, students will be given a diploma by the teachers as proof that they have studied the science.(Maryamah, 2015)

Next is the management of educational staff. This caliph, who deeply loved knowledge, was able to inspire the community to be enthusiastic about pursuing knowledge and even contributing to it. Some of their wealth is for the sheikhs and scientists.(Aizid, 2017a) Welfare of scientists and teachers are crucial factors in creating Quality teacher resources. Not only are they paid fairly, but teachers and scientists are also given the space to continue to deepen and develop their knowledge.(Aizid, 2017a) The integration of religious knowledge and science clearly colors the education system of this dynasty. The balance of IMTAK and IPTEKS is the main capital that should be owned by every Muslim, because this is in line with the breath of Islam in the Quran and Hadith.(Hidayat, 2022) Muslims who have balanced IMTAK and IPTEKS are the prototype of true Muslims.

Good management of teaching staff has a significant impact on the development of science, bringing the dynasty to the golden peak of scientific knowledge. Multidisciplinary scientists discipline, religious experts who understand the Quran and Hadith and whose works inspire the world even today. They were Muslim scienties of Abbasid Dynasty (750-1258 AD):

1. Al- Biruni, Expert in the field of Astronomy Mathematics, Pharmacy, Geography. His works, Al Qanun Al Mas'udi Fiy Al Nujum and Al Tafhim Li Awail Shana'at Al Tajim, developed the astrolobe and calculated the circumference of the Earth. He was also the author of an encyclopedia on various civilizations and world knowledge. (Wibowo, n.d.)

2. Al- Kindy, Expert in the field of Philosophy, Mathematics, Physics, Music Theory, Medicine. The first philosopher in Islamic history was also an Islamic mathematician who wrote about the Indian number system as well as geometry and optics. (Pradigta, 2024a)

3. Al- Faraby, Expert in the field of philosophy, science, mathematics, politics and music. He was nicknamed the Second Teacher after Aristotle, his work entitled Ihsa Al-Ulum / Classification of Sciences / De Scientis is the most quoted and translated into foreign languages. (Bistara, 2025)

4. Ibn Sina/ Avicena, Expert in the field of medicine, philosophy and metaphysics. Dubbed the Father of Modern Medicine, his work, *Al-Qanun fi Thib* (The Canon), was a reference work in Italy, Spain, England, France, and Germany from the 12th to the 18th centuries. It was even taught at Yale University and the University of California until the early 19th century. (Pradigta, 2024b)

5. Ibn Rusyd/ Averous, expert in the field of philosophy, medicine, law, jurisprudence, hadith and science. Ibn Rushd's philosophical rationality not only commented on the philosophy of Al-Ghazali and even Aristotle, but also gave rise to the Averroes movement in Europe. His philosophy brought a breath of fresh air to Europe, liberating it from the grip of church hegemony (the separation of science and religion). (Pulungan, 2022)

6. Al- Khawarizmy, Expert in the field of mathematics and astronomy. The inventor of algorithms and the number zero, his famous work in this field is the book entitled "*Al Jabar*" / "*Al Gebra*". (Arifin, 2018)

7. Ibn Al- Haytam/ Al- Hazen, Expert in the field of mathematics, physic and astronomy. Known as the Father of Optics, his work, *Al-Manazir*, inspired Western scientists Roger Bacon and Kepler to create the microscope and telescope. (Ishaq, 2020)

8. Al- Jazary, Expert in the field of technic and physic. The Father of Robotics. His monumental work is the book entitled *Kitab fi Ma'rifat al-Hiyal al-Handasiyah* (Book of Knowledge on Machine Design). (Dirik, 2020)

9. Al- Zahrawi, Expert in the field of medical. The Father of Modern Surgery. Inventor of 26 surgical instruments divided into three sections: catheterization (56 sections), surgery (97 sections), and bones (35 sections). His phenomenal book, which became a reference in the 17th century (400 years after its publication), was entitled "*Al Tashris Li Man 'Ajiza 'An Talif*." This book is a medical encyclopedia consisting of 30 chapters. (Abdulrazeq et al., 2024)

10. Al- Battani, Expert in the field of Mathematic and astronomy. Father of Trigonometry. Inventor of the telescope and the calculation of 365 days in a year. (Bashir, 2024)

Student management at that time, society was classified based on age range. (Aizid, 2017b) There were elementary schools for children, secondary education for teenagers and higher education for children who had already obtained diplomas at the previous 2 levels of school. In addition, there were special classes created by the palace, such as discussion classes between officials, scientists and the general public with the aim of equalizing the transfer of knowledge. (Maryamah, 2015) In elementary education, students were focused only on learning to read, write, count and morals, then moving up to the next level they began to focus on deepening religion (the Quran and memorizing it, hadith, Tafsir, fiqh). Only at the higher education level did they study sciences according to the fields they were interested in and choose the sheikh they wanted. (Aizid, 2017a) Thus, no matter how great and intelligent, religion remained the main foundation of education during the Abbasid era. So it is not surprising that the leading philosophers and mathematicians, doctors and engineers whose work has influenced the world are also religious experts who have mastered interpretation, hadith, fiqh and memorized the Al- Quran.

The following is a portrait of education from the time of the Prophet to the Abbasid dynasty:

1. Rasulullah SAW Era, the educational institution are mosque and Baitul

Arqam (home of Arqam). The teacher staff is Rasulullah his self, the lerners are the companions of the prophet and the field of study are faith and morals 611-624 M.

2. The companions of The Prophet era, the educational institution are mosque and *kuttab* (Libraries). The teacher staff are Anas bin Malik, Siti Aisyah and Zaid bin Tsabit. The learners are Muslim and non-Muslim communities, as well as communities that specialize in deepening their religious knowledge. The field of study are Al-Quran, Hadith, Fiqh, State Administration, Defense, Social Welfare 632-661 M.

3. The Umayyad Dynasty era, the educational institution are Mosque, Kuttab, Palace (for royal family only), Badiah (special Arabization program), Hospital. The teacher staff are Abdullah bin Abbas, Syurai bin Al- Harits and Amr bin Ash. The learners are The general public and The royal family. The field of study are Religious knowledge and general knowledge (the dominance of religious knowledge and Arabic literature is more dominant than general knowledge) 661-750 M.

4. The Abbasid Dynasty era, the educational institution are Kuttab, halaqah and Baitul Hikmah. The teacher staff are Muslim scientists include Ibn Sina, Al Khawarizmi, etc.. The learners are The royal family, officials and the general public. The field of study are Naqli sciences (Quran, Tafsir, Hadith, Fiqh), Aqli sciences (Mathematics, science, geography, physics, chemistry, etc.) 750-1285 M.

D. CONCLUSION

The development of science and technology during the Abbasid dynasty greatly influenced the civilizations of other nations and became a barometer of the peak of Islamic glory. This golden age occurred because scientists at that time apart from studying religious knowledge and being experts in it, they were also open with new knowledge that comes from Other nations such as Greece, Persia, and India. The Abbasid Caliphs welcomed non-Arabs to study, discuss, and develop knowledge. Furthermore, the Caliphs, as the supreme leaders of the dynasty, who deeply loved knowledge, tended to provide policies, support, and significant attention to this. Members of parliament, the royal family, scientists, and the public were required to study. Because of this, many Muslim scientists have achieved global recognition and are still used as references today. A sound integration between the Quran, knowledge, technology, and professional management is ideal for restarting civilization. Be open to new knowledge. When doubts and impasses arise, consult the experts and return to the Quran and Hadith.

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