

The Philosophical Concept of Halal Science: A Conceptual Analysis

Shahirah binti Said & Mohd Shukri Hanapi

^{1,2} Centre for Islamic Development Management Studies (ISDEV), University Sains Malaysia,
11800 Minden, Penang, Malaysia.

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Abstract

Discussions and studies on halal science are important when considering the needs of contemporary Muslims, which is becoming increasingly challenging. Its development encompasses all parties, including the government, industrial practitioners, academicians and society itself. Thus, some questions arise as to what philosophy of halal science was used in previous studies and what are the thoughts of Islamic science philosophers about the philosophy of halal science. This working paper had two objectives, namely to identify the philosophy of halal science in previous studies and analyse it based on the thoughts of contemporary Islamic science philosophers. This library study-based paper found that the actual philosophy of halal science hinged on *tauhid* and *wahyu*, while humans need to play the role of *khalifah* and subjects of Allah SWT, as decreed. Besides that, the philosophy of halal science cannot be influenced by Western scientific thought such as scientism, secular knowledge, dualism in the field of knowledge etc. This is to ensure the position of religion as well as solve the problem of halal science in society using a holistic approach.

Keywords: Philosophy, Halal Science, Islamic Science, Holistic, Tauhid

Introduction

The rise and development of scientific knowledge in Islam is obvious today. Although presently the research and study of Islamic knowledge is different compared to the golden era of Islam when the Bani 'Abbasiyyah reigned; however, it still helps the development of Islamic knowledge, either in a practical or theoretical manner. Among the fields of knowledge affected by the development of science are astronomy, geography, physics, mathematics, cosmology, biology, chemistry, medicine, pharmacist, architecture, education, zoology, botany, engineering etc. (Awang, 2003; Mohd Salleh, 2014; Suyurno, Sarwan & Ramlan, 2006). Therefore, the field of halal science is one of the fields that has been affected, either directly or indirectly, due to the development of science today.

As for the halal science methodology of study, it is similar to the research and studies of Western science, goes through a hypothesis process and has its own theory. Hence, there are innumerable studies implemented from time to time. The question is what halal science

philosophy was used in previous studies and what are the thoughts of Islamic science philosophers about the philosophy of halal science. In order to answer these questions, this library study had two objectives. First, it intended to identify the philosophy of halal science found in previous studies and the second, to carry out an analysis based on the thoughts of contemporary philosophers of Islamic science.

In order to achieve both these objectives, this working paper was divided into four parts, namely the meaning of the philosophy of halal science, importance of the philosophy of halal science, analysing the philosophy of halal science based on the thoughts of Islamic science scholars and the overall conclusion of this working paper.

The Philosophy of *Halal* Science

In order to facilitate discussions, this working paper had divided the meaning of the philosophy of halal science according to two terms, namely philosophy and halal science. Next, the meanings applied in this working paper were summarized.

Universally, philosophy is frequently associated with knowledge that emphasises conceptual rather than factual aspects. Concept refers to an idea that involves understanding, whereas facts refer more to the truth about something that results from an observation. Facts are exposed to a situation that could be accurate or true today but inaccurate tomorrow, such as historical facts, scientific facts etc. (Long, 2008:14). Ismail (2006:56) stated that philosophy, in general, means the love for knowledge, truth, morality and a metaphysical system processed through an intellectually mature mind.

According to Othman (1996), this thinking activity also involves matters related to a person's world view. The ability to think causes a person to generate various creative and progressive activities, and at the These thinking activities are dependent on the function of the soul, which means that it must bow to good moral values and culture as well as other *mahmudah* elements.

The philosophy used in this study refers to a type of knowledge that explains the truth about knowledge based on al-Qur'an and Sunnah (Jusoh & Muhammad, 2007). Philosophy also involves activities that require thinking with a rational mind and the capability to explore and understand various fields of knowledge as well as the whole realm of nature on this earth created by Allah SWT. However, the ability to think cannot surpass the reality of *tauhid* of Allah SWT (Nasr, 2008:113).

The term 'halal science' consists of two words, namely 'science' and 'halal'. Thus, before elaborating on the term 'halal science', the meaning of 'science' and 'halal' would first be explained.

A number of definitions of science according to Islam has been mentioned by numerous authors (Jusoh, 2014:11, Mohamad Zain, Ismail et. al, 1985:6, and Jusoh & Muhammad 2007:1). They divided science into three groups, such as *tauhid*¹ science, social

¹ According to al-Kindi (801M-865M), the philosophy of *tauhid* science is also known as the philosophy of metaphysics, *Ilahiyat* or the *tauhid* of Allah SWT. This philosophy aims to appreciate Allah SWT as the ultimate truth. The philosophy of social science concerns human behaviour and all questions related to the socio-culture of community life. For example,

science and natural science. All three aspects are related to one another with *tauhid* science playing the pivotal role and being the main principle in the formation of social science and natural science theories (Mohamad Zain, Ismail et. al, 1985:19).

Generally, science functions as a tool to seek the truth about the universe and is presumed to consolidate the faith of its followers. More specifically, Othman (2009a:45) stated that the main aim of developing science was to ensure it afforded a sense of well-being to humans and this leads to the development of the world through scientific activities. However, these activities are not only processes that ensure humans understand nature and obtain benefits from it but humans should endeavour to achieve peace and tranquillity (*sakinah*) through self-awareness and responsibility towards God. Bakar (2008a:81) stated that three fundamentals are necessary to achieve the basic aim, namely human intellect, nature and al-Qur'an, when appreciating the *wahyu* from Allah SWT.

Science, from an Islamic paradigm, refers to a process that explains nature by using specific methods that are scientific in nature but does not overstep the reality of *tauhid* of Allah SWT (Othman, 1996). According to Sardar (1992:55) and Nasr (2008), Islamic science comprises specific activities that seek the truth and solve problems. All these must operate within the structure of Islamic values. This means that objectives, tools, methods and processes should be Islamic-based. Hence, science is one of those tools used to appreciate the prowess of God but God cannot be explained by using science (Akdogan, 2008: 201; Awang, 2003:4-5).

Science, according to Othman (1996:69), Sardar (1992:55) and Nasr (2008), is more suitable and proper when used in this working paper. Science is a process that explains the phenomena of nature by using specific methods that are scientific in nature but based on the *tauhid* of Allah SWT. All these methods have to operate within the structure of Islamic values itself. This means that all tools, methods and processes should be fully based on Islam. The main aim of Islamic-based science is to seek well-being for humans in this world as well as the blessing of Allah SWT in the after-world.

This working paper first explained the concept of science and then the concept of halal. The word halal according to Islam occupies a wide meaning in life. It not only involves the aspects of food and beverage but is more than that. From a terminological aspect, halal refers to something other than the decree of haram (Ibn Manzur & Jamal-al-Din Muhammad Ibnu Mukarram al-Ansari (t.t). Whereas, halal, in general, according to al-Ghazali (1988:530), Ibn Kathir (2003:468), al-Qutb (2000:128), Hamka (1990:3977) and Ahmad bin Qudimah al-Maqdisi (2005:170), refers to something that is good and beneficial to a person's physical well-being and religion. It is contrary to the concept of haram as it contains adverse and despicable elements that affect a person's physical well-being and religion. However, Hamka (1990:3977) stated that something that is halal is obtained from good and legitimate resources and not through acts of illegitimate means such robbery, theft, cheating or at the loss of someone else.

studies in the field of sociology, psychology, economy, history, anthropology etc. Meanwhile, natural science concerns studies about natural science or cosmology. Discussions include all-natural occurrences created by Allah SWT. This field of science includes biology, physics, chemistry, engineering etc. (Jusoh, 2014; Jusoh & Muhammad, 2007).

Al-Qaradhawi (2015:xiix) explained in detail concerning halal from the *fiqh* perspective, whereby halal is something that is permissible but not stringently required, is not haram and is permitted by syariat. Ibn Kathir (2003a) explained the relationship between halal and *tayyiba*². *Tayyiba* means something good, beneficial and appropriate from the perspective of syarak. It comprises two elements, namely the physical and spiritual aspects that must be consistent with syariat and followed by a show of sincerity towards Allah SWT.

The relationship between halal and *tayyiba* is close (Ramli & Jamaludin, 2011:66). This was also elaborated by several other researchers such as Shaary (2013: 58), Rosman and Minhat (t.t), Abdul Wahab and Azhar (2014), and Mohamad Al Bakri (2007a & 2007b). Halal does not only refer to an edible product because syarak does not forbid it but halal also includes elements of *tayyib*, such as being clean, sacred, safe, of quality and not deleterious. Hence, the need for Muslims to obtain only halal products is not enough; on the contrary, they need to truly understand and apply the halal and good (*halalan tayyiban*) concepts.

Therefore, the halal concepts explained earlier are not much different from one another. The halal and *tayyiba* concepts used in this study refer to the halal product or ingredient permitted by syarak. Both these concepts should cover all aspects, including the preparation process, source as well as the effects of consumption by society. In order to fulfil the aims of this study, the discussion on the meaning of halal science in an integrated manner is important.

When the words science and halal are combined the term halal science is formed. Halal science refers to research activities about halal that involves the use of science and technology. The research indirectly needs scientific methods to fulfil the demands of the research. Usually, scientific research involves issues about the establishment of religious decrees that are contemporary in nature (Jamaluddin & Ramli, 2013). Since these activities are new issues; hence, the philosophy of halal science based on an Islamic worldview should be given due attention to ensure the well-being of Muslims and sacredness of Islam.

The Significance of the Philosophy of Halal Science

Studies and research on halal products are on the raise due to the importance of finding these products by the Muslim community. As a result, the halal industry now is able to confront consumerism problems faced by the Muslim community in a more holistic manner (Arif, 2009). The development of halal studies not only involves the food and beverage industries but also affects other sectors such as pharmaceuticals, logistics, cosmetic etc. (Man, 2013)

According to Jamaludin, Ab. Majid et. al (2014), when facing problems or questions about benefits pertaining to society, especially concerning the halal industry, the scientific method is very useful mainly in the process of establishing religious decrees regarding

² The word *tayyiba* is singular for *tayyibat*, which is something that is presumed by the human mind to be good. This word is repeatedly mentioned in the al-Qur'an. First, the word *al-tayyib* was mentioned four times referring to the characteristics of halal food, as in al-Baqarah (2:168), al-Ma'idah (5:88), al-Anfal (8:43) and al-Nahl (16:114). Next, it was mentioned twice without referring to food, as in al-Nisa' (4:43), and al-Ma'idah (5:88). Whereas, the word *al-tayyibat* was mentioned 21 times referring to various meanings related to food, *rezeki*, decorations and women. Verses related to food are found in Surah al-Baqarah (2:57 and 172), al-Ma'idah (5:4-5) etc. (Ramli & Jamaludin (2011:66).

contemporary issues (Jamaluddin & Ramli, 2013; Zainal Abidin, 2003). According to Awang (2013), there must be some clear indication of so that there is no destruction of any sort on this earth. There are at least three main reasons why halal science is able to confront problems faced by contemporary society.

First, halal science is able to fulfil increasing market demands. The global halal market is estimated to be worth USD2.3 trillion and is forecasted to continue expanding (Mohd Shahwahid et. al, 2015). Whereas, the worldwide Muslim population is estimated to be 1.8 billion and is expected to increase to 27% of the world's population by 2030³. Therefore, it is not surprising that the market for halal products and services attracts the attention of the whole world, especially the food industry (Mian Riaz, 2007:192). Presently, halal products are not only famous among Muslim consumers but has attracted the attention of non-Muslims too, who are aware of the product's importance as being clean, safe and of quality (Azizol, 2016). An expanding global halal market needs a progressing halal science in order to supply halal products and services more efficiently and economically (Jamaludin & Ramli, 2013) as well as to market these products to consumers all over the world (Ab Rahman, 2013:102). Halal science can also produce foodstuff in large quantities in a specified period besides being able to be stored longer by using preservation techniques or by creating due dates, flavouring agents, stabilizers, emulsifiers etc. (Humphries, 1994).

Second, according to Jamaluddin (2013) and Ab. Rahman and Che Man (2011:123) and Malboobi and Malboobi (2010), developing the halal science industry would create sustainable quality and safety for halal products. It encourages the industry, especially to enhance quality as well as variation, so that the products could be sold in the open market.

Health and safety issues are very important in Islam. There are religious decrees that urge humans to consume good halal foodstuff (*tayyiba*). Allah SWT exhorted, meaning:

"O mankind, eat from whatever is on earth [that is] lawful and good and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy" (al-Baqarah, 2:168)

Third, to confront the ever-challenging contemporary issues. The Islamic world today requires the *ijtihad* from the ulama to solve new issues that involve the good of Muslims (Man, 2012:45). Among these issues are the risk of plant biotechnology (Amin et. al, 2011), slaughtering of livestock in a halal manner using machines, use of animal or human-based *bulu* or *lecithin*, use or pork and its derivatives in various products (Nurulhidayah, Che Man et. al, 2012) and alcohol (liquor and ethanol) in foodstuff (Anis and Wan Nadiah, 2014). According to Jamaludin, Ab. Majid et. al (2014), when confronting problems or issues that benefit the society, the halal science methodology immensely helps, mainly in the process of

³ Cited from <http://www.mihis.com.my/world-halal-summit-enhancing-the-global-halal-movement/> accessed on 20 September 2016

⁸ According to Ibn Kathir (2003), the word *tayyiba* means goodness, benefits, and properness from the habit and syarak aspects. *Tayyiba* covers two elements, in which the physical and spiritual questions must be consistent with the syariat and sincerity towards Allah SWT. Halal food according to syarak is food that is clean, sacred in the method used to obtain it and free from deleterious contents (Abdul Wahab & Azhar, 2014).

establishing religious decrees (Jamaluddin & Ramli, 2013; Zainal Abidin, 2003). Since halal science involves issues related to Muslims; hence, studies about it should revert to Islam totally. There is a need to involve various aspects, especially at the most fundamental stage, which is the philosophy of halal science itself. Moreover, very few studies and focus have been given to the issue of the philosophy of halal science at present (Said, 2017).

Philosophy is the core or mother of all knowledge (Abdullah, 2010). From a historical aspect, philosophy that originated from the Greeks debated the question regarding the origins of the universe (cosmogony). At that time, the word 'philosophy' had a wider meaning, including scientific concepts and theories that had a wide understanding. Greek and Western philosophy have a huge impact when philosophy and religion are separate entities. At the beginning, Greek philosophy mainly discussed the concept of various Gods related to the creation of the cosmos. This was followed by the influence of the mind when discussing metaphysical elements. Meanwhile, Western philosophy, which is based on the separation of God and religion, has side-lined religion in everyday life. This has caused an imbalance in the concept of knowledge among the community. Hence, the influence of philosophy today should be examined and given due attention because a term or word that comes from an ethnic group usually portrays the thoughts and beliefs of that group (Nordin, 2009:123-125).

Based on this, the position of philosophy is an important matter in all fields. Among them is religion, politics, economy, development, education etc. (Zakaria & Long, 2013). This is similar to the philosophy of halal science. Discussions should be consistent and balanced according to contemporary developments as well as not transgress the demands of syarak.

The Philosophy of Halal Science: A Conceptual Analysis

The philosophy of halal science has its own challenges that affect its theory and application. Hence, the philosophy of halal science is analysed according to scholars in the contemporary philosophy of Islamic science.

According to al-Attas (2007:6), the philosophy of science is a metaphysical system that is integrated and compatible with logical reviews. Although there are some similarities with the philosophy of modern science, especially from the aspects of sources and methods of knowledge, rationality, empiricism, realism, idealism and pragmatism, which are the fundamentals of the philosophy of science; however, there is one significant difference, which is the 'reality' or 'the truth' (*hakikat*). This translates into al-Qur'an being the only source of knowledge and its truth.

Harun (2007:4-6) had also elaborated on the differences between the philosophy of modern science and the philosophy of Islamic science. He explained that methods used by Islamic science for understanding nature, such as the empirical, mathematical and logical methods, were only some of the methods applied⁴. Thus, 'what is most important in Islamic science is the non-empirical method, such as *ilham*, while *kashf* is presumed to be a scientific method. In addition, the philosophy of Islamic science is comparable to the term natural science, which refers to human presumptions about nature. That presumption includes the

⁴ The tradition of modern science only uses four processes in its activities, such as observation, generalization, description and predictions (Harun, 2007:6)

relations between humans and nature and the role of nature⁵ in the scheme of its formation or creation. In reference to these methods, Sardar (1992:56 & 1991) stated that it could not disrupt the objects of his study, which were the scientists and society. Islamic science should be the tool used to seek the truth and solution to all problems that involve the needs of the whole society and not just a part of it. This differed slightly to other writers as Sardar (1992:56) was more inclined to the needs of Islamic science for building an Islamic civilization. Without Islamic science a civilization would be incomplete.

Nasr (1986:1-2 & 1995) also stated that the philosophy of Islamic science requires several Islamic principles and policies. It cannot be measured by using modern scientific logic. Islamic principles are not influenced by the history of human civilization. Generally, the philosophy of Islamic science refers to the integrity and relations of the cosmos and everything that exists until one understands and becomes intimate with the Creator of Nature. Islamic science also has its share of scholars who are critical, firm and integral when understanding nature. It also portrays the impressive spiritual and intellectual elements in the discipline of Islamic knowledge.

Bucaille (2008:2), who was one of the scientific thinkers, stated that science and religion were one in Islam. Although now science has progressed, the congruence between science and *wahyu* is omnipresent. Moreover, some scientific data cannot be used to understand the texts in al-Qur'an in greater detail. Bucaille (2008) shared the opinion with modern era scholars that al-Qur'an could be well understood. Only by using scientific research and methods can the verses in al-Qur'an be understood. Hence, Bucaille's (2008) opinion was criticised by other Islamic science scholars such as Abdullah (2010), Nordin (2009) and Othman (2014: 63). According to them, not all phenomenon found in al-Qur'an could be explained by scientific research. Moreover, scientific research itself is not absolute but ever-changing in nature⁶. The overwhelming sense of pride towards science puts *wahyu* under the auspicious of science (Abdullah, 2010:240; Othman, 2014:63).

⁵ According to Jusoh (2014:5), the al-Qur'an has explicitly mentioned that natural science is about knowledge related to nature. The word *tabii* originated from the word *taba'*, which means to form something as demanded by Allah SWT, pertaining to a natural occurrence. The word *taba'* appears in the al-Qur'an 11 times. Hence, debate on the word *tabii* is important. Most scholars of science say that natural science is a natural phenomenon but the meaning of a natural environment itself is far from the meaning according to Islam. According to Othman (2014:32-33), a natural phenomenon' means something happens for its own reasons. For example, fire naturally burns, a sharp knife naturally cuts, water that is chopped would never break, plants need water to survive etc. However, according to Islam, *tabii* means characteristics, features, happenings or a phenomenon that obeys Allah SWT. Therefore, the nature of fire is to burn but the ability of fire to burn is not dependent on the fire but with the permission of Allah SWT. This is the basic difference in the meaning of *tabii* according to Islam and modern science.

⁶ The line of thinking by Bucaille was called Bucaillism by Sardar in his book *Islamic Futures* (1988). He had criticised the way of thinking in *The Bible, al-Qur'an and Science* written by Bucaille. The studies carried out by Bucaille was also presumed to be not authentic and had numerous scientific factual discrepancies. Among the arguments that cannot be accepted was when Bucaille stated that there were weaknesses in the interpretation by ulama as well as the interpretation of the al-Qur'an and hadith al-Bukhari related to medicine, which is not consistent with modern science (Nordin, 2009:165). According to Abdullah (2010:242-245), there are several other writers who have used a similar method to that of Bucaille, namely Zakaria Awang Soh in *Kejadian dan Keadaan Alam Semesta* (1990) and *Kecanggihan Alam Semesta: Antara Wahyu dengan Pengetahuan Sains* (1991), Danial Zainal Abidin in *Quran Sainifik* (2007), Jamnul Azhar Mulkan in *Al-Quran dan Sains* (2001) and Harun Yahya in *Miracle Of The Al-Qur'an* (2001) (Othman, 2014 63). This line of thinking is referred to as the accommodative line of thinking, which intends to find some congruence or similarity between science and religion. It is also referred to as apologetic, which is to defend religion through logical arguments (Abdullah, 2010:240).

Othman (2003:39-40, 2009a:34-35 & 2010:47-48) further stated that all efforts to understand nature is called scientific knowledge. Thus, in order to live as a society, humans not only need knowledge to understand nature but need knowledge related to culture, social aspects and procedures of communal life. Besides that, Islamic science contains activities that demand the use of cognitive processes involving all aspects of humanity. The joy of thinking would result in the joy of enlightenment in a human, which then translates into an act of good. At that moment, the integration of *naqli* and *aqli* knowledge would immensely boost the understanding of nature.

Abdullah (2010) iterated that the philosophy of Islamic science had long existed although its formation could not be accepted by the Liberal Islamic Network (LIN) thinkers such as Syed Ahmad Khan, Syed Hussein Al-Attas, Mohammed Abdus Salam, Pervez Hoodbhoy and others who were secular-modernist figures. The philosophy of Islamic science has its own various schools of thought⁷ but its scholars were not divided or in conflict with one another. Abdullah (2010) was of the view that the textual and conceptual schools of thought in the philosophy of Islamic science were more accurate compared to the rest. The textual school of thought did not elaborate on a matter in a detailed and complex manner, but rather in a simpler and brief manner. More importantly, it did not seek the similarities between science and religion, but instead improved (*islat*) and changed (*taghyir*) the deviations found in science so that it adhered to religion. The meaning of the philosophy of Islamic science according to the conceptual school of thought had made the understanding of key concepts the basis of scientific philosophy. This school of thought was led by al-Attas and Sardar. The various schools of thought that form the philosophy of Islamic science built by Abdullah (2010) makes it easy to understand the various existing concepts.

Wan Hassan (1990), Bakar (2008:74) and Mohd Salleh (2014:573) had emphasised on Islamic science from the *aqidah* aspect. According to them, Islamic science based on *tauhid* forms an integrated knowledge with no separation between knowledge and values. This has caused Islamic scientists not only to be more responsible towards the well-being of humans but also to submit to the Almighty Allah SWT. To study the laws of nature is to study the laws of Allah SWT and that activity is part of the act of worshipping, which eventually leads humans to submit and obey Allah SWT (Ismail, 2006:184).

Meanwhile, Zuhdi (2007), Bakar (2008), Awang (2003) and Baharuddin (2007) had elaborated on the meaning of the philosophy of Islamic science from an historical aspect by stating that the combination of religion and science had occurred during the majestic Islamic era resulting in the emergence of innumerable scholars in Islamic science⁸. The history of human civilization has shown that each civilization has its own scientific world view as well as its relations with the environment. Nevertheless, Awang (2003) stated that historians, especially Western historians, look at Islamic science only from the context of its development

⁷ Among the branches of the philosophy of Islamic science that exists are accommodative, reformative, traditional, textual and conceptual branches (Abdullah, 2010).

⁸ In history, one important source of Islamic science, especially in the field of chemistry, is literary works believed to have originated from Hamesah (Hermes) or also called *Corpus Hermeticum* in Western history (Harun, 2007:15). Nasr, who was the pioneer who wrote about philosophy and Islamic science by re-introducing the knowledge framework method as well as the views on life by Ikhwan al-Safa, al-Biruni and Ibn Sina. Moreover, he also re-introduced illustrious Islamic academicians such as Ibn Arabi, Suhrawardi and Mulla Sadra to the Western and Eastern academic world (Ahmad, 2008:xv).

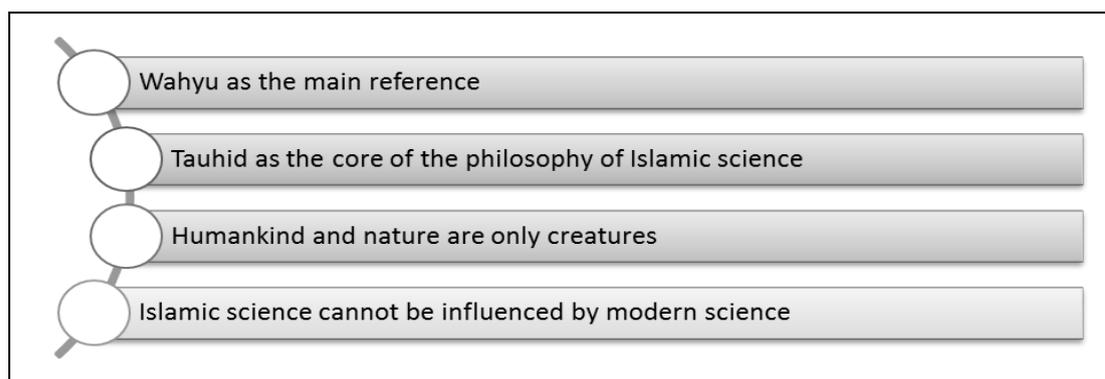
in Islamic civilization without considering the influence of Islamic teachings on the thoughts and principles held by Islamic science scholars.

Bakar (2008:71) stated that although there was a view that modern science had created a unique research method known as scientific research, Islamic civilization had actually commanded this field long before that. The history of science has shown that the scientific method used by Islamic scholars long ago had contributed amazing facts that are still referred today.

Jusoh and Muhammad (2007:19) stated that Islamic science refers to knowledge that basically involves all mental efforts aided by the senses to explain the data or facts obtained through academic research studies. It is also applied in the progress of science and technology. A notable difference between modern science and Islamic science is that Islamic science consists of three parts, namely *tauhid* science, social science and natural science. However, according to Nordin (1992:87), thinking and studying activities would be impeded if factors such as lifestyle, societal organization, a lazy attitude, carelessness, preoccupation with wealth as well as extreme poverty or a thwarted mind and physique negate efforts to think and carry out research. Whereas, modern science only involves natural science. Thus, according to the principles of Islamic science methodology, Bakar (2008:76) stated that it must first be looked at from two aspects. First, humans are the subjective core of knowledge because it is humans who possess the intellectual prowess for exploratory research. Second, the universe is an object that humans can understand and is hierarchal by nature in which it has various stages of existence.

Based on the discussions above it could be concluded that there are four aspects of focus by Islamic science philosophers. This is shown in Diagram 4.1 below.

Diagram 1: Philosophy of Halal Science: A Conceptual Analysis



According to Diagram 1, there are four elements that could be elaborated. First, as in modern science, scientific philosophy involves thinking activities in the scientific, empirical, idealistic and other forms. Hence, there are obvious differences between scientific philosophy and modern scientific philosophy, especially from the epistemological aspect. Islamic science presumes *wahyu* as its core reference. The proving and research cannot override the *wahyu* by Allah SWT. Second, *tauhid* is central to Islamic science. Science only functions as a tool that facilitates human activities and management. Hence, science cannot override or surpass the reality of *tauhid* to Allah SWT. Third, humans and nature are creatures of Allah SWT. Humans

are only responsible for managing nature as best they can. Fourth, Islamic science cannot be influenced by modern science although some methods are similar. The fact is, history has proven that Islamic science has played a role in expanding knowledge as well as contributing to the progress of civilization.

Conclusion

It could be concluded that the philosophy of Islamic science is not only the fundamentals but also the main framework of halal science research. Its contributions would make the philosophy of halal science far from being influenced by Western science, which is solely scientific and empirical in nature, by putting wahyu on the highest pedestal when solving societal problems.

Scientific research and studies are the responsibility of Islamic academicians known as ulama and scientists who can think and respond by carrying out academic research aimed at re-enacting the golden era of Islam, especially pertaining to the philosophy of Islamic science philosophy (Yahaya Jusoh, 2014: 153-160). In addition, al-Qur'an was fully delivered with HIS guidance, as exhorted by Allah SWT, meaning:

"Say, "Observe what is in the heavens and earth." But of no avail will be signs or warners to a people who do not believe" (Yunus, 10:101)

Meanwhile, in another verse, Allah SWT explained that the role of humans as HIS Khalifah necessitates making observations and studies about all HIS creations. Allah SWT exhorted, meaning:

"And it is He who has made you successors upon the earth and has raised some of you above others in degrees [of rank] that He may try you through what He has given you. Indeed, your Lord is swift in penalty; but indeed, He is Forgiving and Merciful" (al-An'am, 6:165)

Therefore, since halal science involves issues pertaining to Muslims; hence, studies related to it should comprehensively refer to al-Qur'an and the Sunnah because these are significant sources of Islamic knowledge.

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Corresponding Author

Shahirah binti Said, Centre for Islamic Development Management Studies (ISDEV), University Sains Malaysia, 11800 Minden, Penang, Malaysia, E-mail: shahirahsaid@gmail.com

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