Reasoning Methods based on the Science of Mantiq for Islamic Research Methodology

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ABSTRACT

In the context of this paper, the process of reasoning refers to the shift in thinking from assumed-to-be-true statements to true statements. This is also commonly known as logic. Logic is a science that can be used as the fundamental in doing research. If an Islamic Research methodology is to be invented, what are the appropriate reasoning methods? Can logic be used or are there more appropriate reasoning methods stemming from the Islamic Tradition? Based on the above questions, this paper tried to examine the Mantiq (Islamic logic) reasoning method for Islamic Research Methodology. This study has two main objectives. First, to identify the reasoning methods in Mantiq. Second, to analyse the application of the Mantiq reasoning method as a method of reasoning in Islamic-related research. To achieve these objectives, this study utilizes the qualitative method via library research to obtain secondary data regarding Mantiq reasoning methods through a thorough examination of works on Mantiq. Thereafter, the Mantiq reasoning method is analysed as a reasoning method in Islamic-related research using textual analysis. The study found that there are at least eight Mantiq reasoning methods. First, the method to the introduction of knowledge. Second, the three stages of reasoning method. Third, describing something through 'alfaz, mafahum and masadaq method. Fourth, getting-a-holistic-view through nisbah. Fifth, defining a method based on Mantiq. Sixth, the method of constructing statements and propositions that is true through tasdiq. Seventh, the method of evaluating statements and propositions that is true or false through taqabal and 'akas. Eighth, the methods of yaqin, zann, shakk and batil as a method of measurement in research and Islamic knowledge. The results of this study show that the application of Mantiq reasoning methods in Islamic-related research can be used as one of the reasoning methods in the construction of Islamic Research Methodology related to Islam and Moslems.

Keywords: Social Research, Mantiq, Reasoning Methods, Islamic Research Methodology

INTRODUCTION

In general, social research is conducted by sociologist, social scientist, and others to seek answers to questions about the social world (Neuman, 2011:8). Social researchers find, describe, understand, explain, evaluate and track patterns or regularities in social life (Blaikie, 2009 & Babbie, 2013). The process of comprehending something as complex as social interactions or human behaviours and cognitions is not easy (Weathington, Cunningham & Pittenger, 2010).

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In particular, it refers to the use of scientific methods to study the way people organize social life and create a network of contacts to enable them to lead the life (Hassan, et. al. 2001: 10). According to Goldhaber and Nieto (2010:940), the scientific method is a group of techniques to investigate a phenomenon, acquiring new knowledge or the correction and integration of previous knowledge. Adler and Clark (2008:6), state in greater detail that the scientific method is a way of conducting empirical studies based on specific objectives, logic and the existence of communication between the research community by connecting researches with theoretical studies.

It is evidently clear that the scientific method relies on logical reasoning and based on reasonable facts in accordance to a specific angle of thinking. In addition, a principle discovered by science must be tested empirically.

From the discussion above, we can deduce that there are two main requirements in conducting research: it must be logic-based and must have a systematic research method. However, according to Islamic *tasawwur* and epistemology, it is compulsory for Moslems not only to believe in the tangibles but also the unseen. The question is, in conducting Islamic-related research, what reasoning methods should be used to discern these tangibles and the unseen?

This paper has two objectives. Firstly, to identify the reasoning methods in *Mantiq*. Secondly, to analyse the application of the use of *Mantiq* reasoning method as a method of reasoning in Islamic-related research. To answer these objectives, this paper will be divided into three discussions. Firstly, the science of Mantiq; secondly, the analysis of Mantiq reasoning methods for Islamic Research Methodology; and thirdly, conclusion.

THE SCIENCE OF MANTIQ

The discussion on the science of Mantiq revolves around three main methods. First, *tasawwur*; second, *tasdiq* and third, *al-istidlal*. The discussion on *tasawwur* involves five methods. First, *dilalah*; second, *'alfaz*; third, *kulliyyat alkhams*; fourth, *al-ta'rif* and fifth, *nisbah*. The discussion on *tasdiq* focusses on *qadiyyah* i.e. statement. *Qadiyyah* consists of *qadiyyat hamliyyah* and *qadiyyath shartiyyah*. The final method is recognised as *al-istidlal*. *Al-Istidlal* consists of the direct and indirect method of reasoning. The direct reasoning is done through *taqabal* and *'akas*. The indirect reasoning method are *qiyas*, *istiqra'* and *tamthil*. In the method of reasoning, there is also a discussion regarding to *hujjah* according to the science of Mantiq. According to the science of Mantiq, there are at least two *hujjahs* which are *dalil Naqli* and *dalil 'Aqli*. The following discussion sheds more light on the science of Mantiq.

The first method is *tasawwur.* Generally, *tasawwur* is a discussion of concepts. A concept is an intellectual device generally used to identify individual objects that describe the world. A concept of an object is merely a mental statement of the said object. In other words, a concept is what can be understood about an object by the mind. The understanding of an object or its

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concept means that a person must be able to identify the components that constitute the object. In order to acquire the correct concept of an object, a person can observe it through at least five methods. First, *dilalah*; second, *alfaz*; third, *kulliyyat al-khams*; fourth, *al-ta'rif* and fifth, *nisbah* (Damanhuri, 2006; Al-Shanqiti, 2007 & Muttahhari, 2011).

The second method is *tasdiq. Tasdiq* is a thought process that connects two objects (variables), either positively (*ithbat*) or negatively (*nafi*) (Damanhuri, 2006; Al-Habannakah, 1993; Al-Shanqiti, 2007). In addition, *tasdiq* is also a decision-making process in thinking about the thought object. Said thought object is known as *qadiyyah*. *Qadiyyah* is a perfectly formed statement which contains the right or wrong possibilities (Al-Fadli, n.d.; Al-Quwaisni, n.d.; Fadlullah, 1998; Al-'Akhdari, 2007 & Muttahhari, 2011). In other words, *qadiyyah* is a statement that provides explanation. However, not every statement has right or wrong values. There are statements that merely provide explanations or questions. However, when two words are combined in a form of *maudu'*(subject) and *mahmul* (predicate), it can denote either true or false. When this happens, it will form either a *hamliyyah* or a *shartiyyah* statement. A *Hamliyyah* statement is a statement where it and its substance is determined by other objects. For example, in the statement of "The teacher is diligent". Being 'diligent' is associated to the teacher. *Hamliyyah* statement is a statement that is true within statements and reality. If a statement is not consistent with reality, it is considered wrong. Since there is the possibility of being right or wrong, it is called *hamliyyah*. *Shartiyyah* statement are statements that depend on other statements to determine right or wrong. For example, "if the sun rises, then the day will exist". *Shartiyyah* statements describe facts or laws which are truncated, or presented as incomplete predicates. *Shartiyyah* statements are also known as conditional or hypothetic results (Sambas, 2003).

Third, other than the discussions pertaining concepts and validity, the science of Mantiq incorporates verification methods. This verification method is called *al-Istidlal* (postulation). It is an extension from the discussion on *tasdiq*. In addition, *al-Istidlal* is a discussion to find *dalil* through *istinbat* (Al-Quwaisni, n.d.; Fadlullah, 1998 & Al-'Akhdari, 2007). Finding *dalil* can be done directly or indirectly. Direct postulation can be done through *taqabal* (Opposition) and *'akas* (Exchange). Indirect postulation, on the other hand, utilises *qiyas* (Deduction), *istiqra'* (Induction) and *tamthil* (Analogy) (Al-Habannakah, 1993 & Damanhuri, 2006).

In addition, the types of argumentations are also discussed in the science of Mantiq. According to the science of Mantiq, argument can be divided into two; *Naqli* and *'Aqli*. *Naqli* argument are based on the al-Qur'an and al-Sunnah (Damanhuri, 2006). While *'Aqli* argument are based on the human thought. This is a clear division. It distinguishes between arguments based on revelation and arguments based on the human minds and senses. *Naqli* arguments are then divided into al-Qur'an and al-Sunnah which are the main sources of revelation. However, some scholars also include *ijma'* and *qiyas* as *dalil naqli* because the requirements for *ijma'* and *qiyas* are also the al-Qur'an and al-Sunnah.

The discussions on '*Aqli* arguments are more complicated (Damanhuri, 2006). According to Al-Quwaisni (n.d.) and Al-Akhdari (2007), under *aqli* arguments there are five sources. These include *burhan* (Truth), *jadal* (Debate), *khitabah* (Lecture), *sha'r* (Feeling) and *sufastah* (Imaginative*)* arguments (Al-Shanqiti, 2007).

From these discussions, the science of Mantiq can be viewed in the context of Islamic research methodology to identify Mantiq reasoning method for application in Islamic research methodology. Islamic reasoning methods are discussed in the following paragraphs.

THE ANALYSIS OF MANTIQ REASONING METHODS FOR ISLAMIC RESEARCH METHODOLOGY
The introduction to the science of Mantiq as discussed above shows that there are a few reasoning methods that can be utilized in conducting Islamic research. *Tasawwur*, *tasdiq*, and *al-istidlal* are generally well structured by earlier scholars in order to ensure that ideas and reasons can be systematically compiled while maintaining a minimum amount of errors in reasoning. From previous discussions, there are at least eight methods which scholars have found to be helpful for reasoning in conducting research related to Islam.

The eight methods are; first, knowledge identification method. Second, three stages of reasoning method. Third, the method of describing through '*alfaz*, *mafahum* and *masadaq*. Fourth, the method of obtaining a comprehensive overview through *nisbah*. Fifth, the method of defining according to the science of Mantiq. Sixth, the method of constructing the true fact and proposition through *tasdiq*. Seventh, the method of assessing whether facts and propositions are true or false through *taqabal* and '*akas*. Eighth, *yaqin*, *zann*, *shakk* and *batil* as the quantifying methods in research and Islamic knowledge. Detailed discussions on each method are described below:

First: Knowledge identification method. The science of Mantiq emphasizes regularity in making a statement through reasoning. It must not be excessive, nor lacking or incomplete that it reduces the right as it should be. Similarly, Mantiq tries to explain and at the same time create limitations in explaining. This can be seen clearly in the initial description of the science of Mantiq itself.

According to Damanhuri, (2006), the science of Mantiq entails that each discipline has to clearly state 10 subjects (Al-Quwaisni, n.d.). The 10 subjects are base (*mabda'*), definition (*hadd*), subjects (*maudu'*), function (*thamarah*), priority (*fadl*), *nisbah* (its relationship to other Islamic sciences), the founder (*wadi'*), its name (*Ism*), the sources (*istimdad*), the ruling on learning it (*hukm al-shar'i*), and the issues (*masa'il*). All of these 10 subjects are utilised concurrently to explain the framework of Islamic sciences. For example, before an in-depth discussion of a branch of Islamic sciences is held, there should be discussions on its definition, the object of the discussion, its uses, sources as well as issues that were discussed and solved through it.

Second: The three reasoning methods. As previously discussed in the introduction of the science of Mantiq, there are three main methods in it. The first one is the *tasawwur* (Concept) reasoning method. Next, the second is *tasdiq* (Authenticity) reasoning method. The third is the method of validating the reasoning (*al-istidlal*) (Al-Fadli, n.d.; Damanhuri, 2006; Al-Habannakah, 1993; Al-Quwaisni, n.d.; Al-Shanqiti 2007; Fadlullah, 1998 & Muttahhari, 2011). These three methods form one complete cycle. *Tasawwur* is a method to describe the objects and concepts that are studied (Al-Fadli, n.d. & Damanhuri, 2006). While *tasdiq* provides the method to study the subject that was characterized by *tasawwur*, whether it is true or false (Al-Quwaisni, n.d. & Al-Shanqiti, 2007). In order to support the truth or provide arguments to falsify it, *al-istidlal* acts as the verification method (Al-Habannakah, 1993).

Third: The method of describing through *'alfaz*, *mafahum* and *masadaq*. In the previous part, it was stated that one of the stages for reasoning is *tasawwur*. *Tasawwur* is a process of transcribing a real-world observation in words. It can be described as the process of translating an observation or an imagination into words (Al-Fadli, n.d. & Damanhuri, 2006). *Tasawwur* actually has its own method in describing something. According to the science of Mantiq, in order to create a precise picture (*tasawwur*), a person has to at least understand and master the meaning of *'alfaz*, *mafhum* and *masadaq*.

Based on the *'alfaz* method, each word that is used in the process of reasoning is explained (Al-Fadli, n.d.; Damanhuri, 2006; Al-Habannakah, 1993 & Al-Quwaisni, n.d.;). The role of *'alfaz* is to disclose the concrete and abstract reality (*maujudat*) to the form of expressible words. That is why Mantiq divides *lafz* (expressible words) into two parts i.e. *lafz mufrad* and *lafz murakkab* (Al-Shanqiti, 2007; Fadlullah, 1998; Muttahhari, 2011 & Al-Habannakah, 1993). The fact of whether a *lafz* is *mufrad* or *murakkab* will provide an overview of reality. The process of reasoning can be done either through a single *lafz* or one that is constructed from a few words. *Lafz mufrad* is discussed in terms of shapes and types.

In terms of shape, the science of Mantiq explains that the process of *tasawwur* may occur through *lafz mufrad*. Words can consist of a single syllable or more. Some *lafz mufrad* may have meaning, however that meaning may not be intended by the words (Sambas, 2003 & Muda, & Ali, 2009). For example, the word *Abdullah*. The word '*Abdun* has one meaning, i.e. servant and Allah Almighty has one meaning which is a proper noun for God. However, *Abdullah* here does not mean the servant of Allah Almighty, but instead a proper noun of a person. In other words, *Abdullah* means a person named 'Abdullah'. Some *lafz mufrad* may show meaning, but the meaning is not intended. For example, *hayawan al-natiq*. *Hayawan* means animals. While *Al-natiq* means 'who speaks'. This lafz does not mean that there are animals that can talk, however it is a *lafz* that describe human as living objects just like other animals. Yet human are special in which they can reason and speak. Thus, the title *hayawan al-natiq* is addressed to humans since only mankind can talk and think unlike other animals (Al-Shanqiti, 2007; Fadlullah, 1998; Muttahhari, 2011 & Al-Habannakah, 1993).

Discussions and divisions such as this seems to minimise errors in describing. The process of reasoning is distinguished from the process that involves one other word. Only then will the words uttered in succession, known as *lafz murakkab*, be identified.

According to the science of Mantiq, *lafz murakkab* occurs in two forms. The first form can be understood while the second cannot. *Lafz murakkab* that can be understood is called *lafz tam* (perfect). The meaning is perfect and it can be understood. *Lafz murakkab* that cannot be understood is called *lafz naqis* (imperfect). The meaning is imperfect and incomprehensible. Even though a lot of words are used, the meaning is incomplete and audiences are unable to understand it (Damanhuri, 2006 & Al-Shanqiti, 2007).

Although *Murakkab tam* cannot be understood, not all can be involved in the process of reasoning. *Murakkab tam* can be divided into two categories. The first is *Murakkab khabari* which means news or *qadiyyah*. Each word with meaning has the probability of being right or wrong. The other category is *Murakkab 'insha'i* which content has no probability of being right or wrong. *Murakkab 'insha'i* are for examples of affirmative and negative command words, interrogative pronouns, as well as exclamations. *Murakkab 'insha'i* cannot be objects of reasoning since it has no right or wrong (Al-Akhdari, 2007 & Sambas, 2003).

If analysed in terms of *'alfaz mufrad* and *murakkab* as previously discussed, it can be proven that the process of reasoning and *tasawwur* starts by choosing the words to describe something. Not every word is suitable for describing things. In fact, even if an argument or statement is constructed out of a few words, it still may not be used in the process of *tasawwur* because words such as negative and affirmative commands are not considered as right or wrong, thus there is no need for reasoning (Al-Shanqiti, 2007; Fadlullah, 1998 & Muttahhari, 2011).

In Islamic research methodology, a mandatory requirement of the research methodology is *lafz mufrad kulli* which consists of *musta'mal* and *ghair musta'mal* (Al-Quwaisni, n.d.). *Lafz mufrad kulli musta'mal* is defined descriptive wordings that are used in Mantiq and in reasoning. According to *mutaqaddimin* (earlier) Mantiq scholars, *mufrad kulli musta'mal* is composed of three sections. First, *lafz* which describe elements that exist but are invisible to plain sight such as angels, genies, and devils. Second, *lafz* that can be seen but unique that only one ever existed such as the sun. Third, *lafz* which evidence of existence in the material world that can be seen such as mankind (Al-Akhdari, 2007 & Sambas, 2003).

According to *muta'akhkhirin* (later) scholars, *lafz mufrad kulli musta'mal* is composed of six sections. First, lafz *mufrad kulli* that is unseen (abstract) and impossible to occur, such as the merging of the East and the West horizons. Second, *lafz mufrad kulli* where is abstract but can rationally exist such as silver sea water. Third, *lafz mufrad kulli* where there only exist as one and only, without any other such as Allah Almighty. Fourth, *lafz mufrad kulli* where evidence can only partly be seen, although more possibly is in existence, such as the sun. Fifth, *lafz*

mufrad kulli where evidences exist and can be witnessed and experienced such as eating. Sixth, *lafz mufrad kulli* where evidences exist, but it is an abstract concept such as the "rizq" or the bounty of Allah Almighty (Sambas, 2003).

Although there are differences between the thought concepts of *mutaqaddimin* and *muta'akhkhirin*, these are not contradictions. The opinion of the *mutaqaddimin* only classify three subjects, while the *muta'akhkhirin*'s opinions takes an in-depth perspective by having more classifications. However, both *mutaqaddimin* and *muta'akhkhirin* share a thought concept, which is to accept those that cannot be sensed with human senses as objects that can be reasoned. This is all encompassing irregardless of whether the evidence can be seen or learned from the Quran and Hadith, it is categorized and described as the s*am'iyyat* (the unseen).

Fourth: The method of obtaining a comprehensive overview through *nisbah*. *Nisbah* refers to the concept of 'a part of'. In describing something with words, *nisbah* can be used to provide specific description aimed at clarity and precision that is focused on a subject matter. According to the science of Mantiq, there are 15 words that can be used under nisbah. First, *tabayun*. Second, *tasawi*. Third, general and specific in absolute terms. Fourth, general and specific in one aspect. Fifth, *tawatu'*. Sixth, *tashkik.* Seventh, *taraduf*. Eighth, *al-Ishtirak*. Ninth, *al-Takhaluf.* Tenth, *al-Tadad*. Eleventh, *tanaqud*. Twelfth, *tamathul*. Thirteenth, *al-Kulliyyat wa al-juz'iyyah.* Fourteenth, *al-Kulli wa al-Juz'i*. Fifteenth, *al-Idafah*.

The descriptive relating to *nisbah* are aspects that can be evidenced in order to obtain a comprehensive understanding. For example, in discussing *Moslem* and *Mukmin*. Moslems are described as those who accept the message of the Prophet p.b.u.h., while the *Mukmin* are those who believe that the message of the Prophet p.b.u.h. to be true. Moslem and Mukmin are similar (*tasawi*) in that they accept the message of the Prophet p.b.u.h. However, more clearly (*tabayun*), *Moslems* only accept, while *Mukmin* truly believe. In contrast, this is contrary (*takhaluf*) to the *Munafeq* which are those who pretend to believe the message of the Prophet p.b.u.h. The opposite (*al-tadad*) of *Moslem* and *Mukmin* are the non-believer. In this context, a discussion can be made clearer and more comprehensive with the use of *nisbah by describing the extent or the intensity of the matter that is being described*. Although *nisbah* can describe an issue comprehensively, it is time consuming. Sometimes, a simple and concise explanation is needed. Therefore, a defining method is needed in order to describe clearly while being concise and compact.

Fifth: Method of defining according to the science of Mantiq. According to the science of Mantiq to define something, five minimum concepts should be understood which are *nau', jins, fasl, 'arad khas* and *'arad 'am* (Al-Habannakah, 1993; Fadlullah, 1998; Al-Shanqiti, 2007 & Muttahhari, 2011). All of these are known as *kulliyat al-khams. Kulliyyat al-khams* is the foundation for the formation of definitions and meanings.

Nau' is *lafz kulli* that encompasses many individual concepts that is similar in nature or *lafz kulli* which is under other *lafz kulli* that has a wider coverage of individual concepts such example can be attributed to human names. The *Afrad* are vast such as Uthman, Ahmad, Abdullah and others (Damanhuri, 2006).

While *Jins* is *lafz kulli* that encompasses individuals with different attributes, or *lafz kulli* that include other specific *lafz kulli*. For example, animals include deer, horses, cats and more (Al-Shanqiti, 2007).

Fasl is the substantial property or group that can be differentiated between an individual from another, whenever they are grouped together. For example, thinking (*al-Natiq*) can differentiate human from non-human (Al-Quwaisni, n.d.).

While *'Aradh Khas* is a property or group of properties uncharacteristic of an individual attribute while *'Arad 'Am* is a property or properties uncharacteristic of individuals with different set of attributes (Sambas, 2003).

When something is identified from the five aspects discussed above, a definition (*al-ta'rif*) can be constructed. At the very least, there are four rules in making a definition according to the science of Mantiq. First, it has to encompass all aspects of its definition and it has to exclude other aspects beyond the defined definition. Second, it has to be clearer than what is being defined. Third, it is not garbled. Fourth, it is free from the use of *majazi* words and words that contain a lot of meaning (Sambas, 2003).

Sixth: The method of constructing the true fact and proposition through *tasdiq*. *Tasdiq* is a thought process that connects two objects (variable) positively (*ithbat)* or negatively (*nafi)*. *Tasdiq* is also a decision-making process, in thinking about the particular object of thought. This object is known as the *qadiyyah*. *Qadiyyah* is a complete statement that contains the concept and probabilities between right and wrong (Al-Fadli, n.d.; Damanhuri, 2006; Al-Habannakah, 1993 & Al-Quwaisni, n.d.;).

A statement will be true if it is in line with the facts (reality or evidence). Conversely, if it is inconsistent with the facts, the statement is wrong. A statement is evaluated by its content, not the person who made it. *Qadiyyah* consists of *qadiyyat hamliyyah* and *qadiyyat shartiyyah* (Al-Fadli, n.d.; Al-Habannakah, 1993; Al-Quwaisni, n.d.; Damanhuri, 2006; Al-Shanqiti 2007 & Muttahhari, 2011).

Qadiyyat hamliyyah is the thought process of connecting variables to another. For example, the world is new (*hadith*) and prayer is obligatory. *Qadiyyat shartiyyah* is a thought process that connects results to another. For example, if the sun rises there is daylight. In examining *qadiyyah, qadiyyat hamliyyah* and *qadiyyat shartiyyah* have a few categories as discussed.

Both of these methods are different in terms of their construct which addresses a specific need. When a statement directly connects to variables, it has to follow the method of *qadiyyat hamliyyah*. However, when the variables are set with specific conditions, the method of *qadiyyat shartiyyah* is applied. If the prescribed method is not followed, there is a risk of exposure to substantial errors. The result may also be erroneous. Therefore, the relationship between *muqaddam* and *taliy* has to be observed. *Muqaddam* is the first variable in a proposition. While *taliy* is the second variable connected to the first.

In terms of the relationship characteristic of *muqaddam* and *taliy* or the necessity of the relationship between the two, there are two types of relationships. First is *luzumiyah*. For every *muqaddam*, there must be a *taliy*. The relationship between the two ensures that, where muqaddam becomes the rational reason for *taliy* to exist. There are three types of *luzumiyah*. First is rational (*'Aqli*). For example, if the world is new, there must be a creator. Second, *Shar'iyyah*. For example, if a person is of sound mind and has reached puberty (*baligh*), then prayer (*salah*) is obligatory for him. Third, natural or common law. In example, if there is no water, there will be no plant growing (Al-Quwaisni, n.d.). The second type of relationship is known as *'ittifaqiyyah*. *'Ittifaqiyyah* relationship occurs when the presence of *muqaddam* is not a requirement for *taliy*, where the relationship occurs due to inter-connectedness. For example, when Mustafa went out, his son accompanied (Al-Shanqiti, 2007).

Seventh: The method of assessing whether facts and propositions are true or false through *taqabal* and *'akas*. *Taqabal* and *'akas* are parts of the study of the validation of reasoning (*Dilalah*). *Dilalah* is the process of understanding a subject from another subject. The first subject is called *madlul* (the indicated) and the second subject is called *dal* (the indicator) (Al-Fadli, n.d.; Al-Quwaisni, n.d.; Damanhuri, 2006 & Al-Shanqiti, 2007). *Dilalah* can be divided into two, i.e. direct and indirect postulations. *Taqabal* and *'akas* are included in direct postulation as it is used on direct propositions.

For example, Sambas (2003) stated that in every *qadiyyah*, whether it is *mujabah* or *salibah*, there is a possibility that needs to be considered and understood such as one other *qadiyyah* in terms of quantity or situation. If it is *qadiyyat mujabah*, there is a possibility that it can be combined (*taqabal*) with *qadiyyat salibah*. The same with *qadiyyat salibah*, it can be combined with *qadiyyat mujabah*. *Qadiyyat kulliyyah* can also be combined with *qadiyyat juz'iyyah*. Likewise, *qadiyyat juz'iyyah* can be combined with *qadiyyat kulliyyah*. An example of *qadiyyat mujabah* is 'devils exist'. The example can also construct *qadiyyat salibah*, i.e. 'devils do not exist'. What if both *qadiyyah* above are presented? Which one is true, and which one is false? This is where direct verification, i.e. *taqabal* is used. *Taqabal* is used to evaluate the true *qadiyyah* and false *qadiyyah* through four methods. First is *Tanaqud*. Second, *Tadad.* Third, *al-Dukhul taht al-Tadad* and fourth, *al-tadakhul* (Al-Fadli, n.d.; Al-Quwaisni, n.d.; Fadlullah, 1998; Damanhuri, 2006 & Al-Shanqiti, 2007).

The second method to evaluate true statements is *'akas*. *'Akas* is switching the position of *maudu'* and *mahmul* with each other by maintaining truth and the aspects of *mujabah* and *salibah*. Sometimes, in order to test the truth of something *qadiyyah*, *maudu'* and *mahmul* can be switched around. *Maudu'* is replaced with *mahmul*. While *mahmul* is replaced with *maudu'* by maintaining truth and aspects of *mujabah* and *salibah* (Al-Habannakah, 1993). For instance, *qadiyyah mujabat kuliyyah* is *'akas* to *mujabat juz'iyyah* as shown below:

> *Qadiyyah* 1: All plants proliferate.
> *Qadiyyah* 2: Some of the things that proliferate are plants.

Qadiyyah 1 is *mujabat kulliyyah,* which is then changed to qadiyyah 2 which is *mujabat juz'iyyah*. From this *qadiyyah*, the statement 'all plants proliferate' is true. In order to test the truth of the statement, *qadiyyah* 1 is changed to *qadiyyah* 2. After it is changed, it is found that the *qadiyyah* is still true, illustrated by the statement that some of the things that proliferates are plants. As a result, from the switching process, it is verified that *qadiyyah* 1 is true.

Both of these methods can be used directly on any arguments or statements. Although it is very technical in nature, it is very useful to test and clarify preliminary reviews of statements or propositions.

Eighth: *Yaqin, zann, shakk* and *batil* as the measuring methods in research and Islamic knowledge. In the science of Mantiq, there are at least four benchmarks which are; *yaqin*, *zann*, *shakk* and *batil* (Al-Fadli, n.d.; Al-Akhdari, 2007; Sambas, 2003; Damanhuri, 2006; Al-Habannakah, 1993; Al-Quwaisni, n.d.; Al-Shanqiti 2007; Fadlullah, 1998 & Muttahhari, 2011). According to Al-Akhdari (2007), *yaqin* is when researcher is sure that what he knows is similar to facts. It is then backed up by strong evidences. While Damanhuri, (2006) described that *zann* is close to *yaqin* until there is almost nothing that can contradict it. For example, matters that involve justice and advantages. Al-Shanqiti (2007) defines *shakk* as the situation where the possibility of being true and false is the same. The truth cannot overcome the false. While the false cannot lessen the truth. *Batil* is that which is not up to the level of *yaqin*, *zann* and *shakk* (Al-Fadli, n.d.; Al-Akhdari, 2007).

All of these four benchmarks are also used practically in *fiqh*. For example, in the issue of determining the time for prayer. In Islam, the time for prayer is predetermined. Allah the Exalted said:

> "Indeed, prayer has been decreed upon the believers a decree of specified times."
> (Surah al-Nisa', 4:103)

Practically, if a person's observation is *yaqin* that it is the time of prayer based on the available evidences, he may perform his prayer. Likewise, if he is *zann* or more inclined to *yaki*n, he may

also pray. In the contrary, if he is doubtful (*shakk*) that it is time of prayer, he needs to observe other evidences before he can pray.

Rules to be observed is similar in the science of Mantiq. Every matter can be divided to these four benchmarks; *yaqin*, *zann*, *shakk*, or *batil*. Although, according to Al-Habannakah (1993), *zann* is divided into two; which are *zann al-rajih* and *zann al-marjuh*. *Zann al-rajih* is a *zann* that is close to *yaqin*. While *zann al-marjuh* is a *zann* that is rejected by *zann al-rajih*. Its position falls under *shakk*.

All four of these benchmarks show that all statements or knowledge in Islam are first classified into stages. The clear position of statements or knowledge can help in establishing their strength and position. As a result, the methodology used to accept or reject any statement or knowledge is clearly identified.

Conclusion
From the above discussions, the application of Mantiq reasoning in Islamic research methodology can be summarized into at least three conclusions. Firstly, the discussion of the science of Mantiq itself comprises of three main methods which are *tasawwur*, *tasdiq* and *al-istidlal*; secondly, there are at least eight methods that were found to be helpful in reasoning while conducting researches relating to Islam; and thirdly, Mantiq reasoning provides appropriate reasoning methods that can be technically applied in Islamic research methodology. All three conclusions can be summarized into the statement that Mantiq reasoning has its own significance in ensuring, or at least helping Islamic research to remain true to form the Islamic *tasawwur* and its research techniques which is Islamic research methodology.

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