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*A Thematic Study Of Islamic Perspectives In Scopus Indexed Articles.
Implications On Medical Imaging.*

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Abstract

Discussions pertaining to the various Islamic dimensions are actively being undertaken in the media. Within the academic circle, journal articles are accepted as an effective media in the dissemination of knowledge. Articles with Islamic perspectives can be found in disciplines that include Medicine, Banking, Economics and Finance. However, there is little to suggest of the types and frequencies of Islamic perspectives in Medical Imaging. This paper attempts to fill the gap. The methodology involves the use of Scopus database and its interactive search facility. The justification of using Scopus is the user-friendliness of its search interface and the ability to perform off-line analysis via the CSV (Comma Separated Value) facility that permits the resultant data to be appreciated on an Excel spreadsheet. With nearly 55 million documents, including 100 percent coverage by Medline, the data extracted from Scopus is taken as a general representation of Islamic perspectives in literature. Twenty-seven Islam related terms were used to represent Islamic perspectives. A general survey involving all subject areas as well as a specific study involving Medical Imaging were conducted. The results suggest minimal representation of articles with Islamic perspectives in Scopus. Discussions on the implications of the results and proposals to alleviate the situation upon the Muslim Medical Imaging practitioner are given.

Keywords: Medical Imaging, Radiography, Islamic perspectives, journal articles, database

Introduction

Scientific writings or journal articles are widely accepted as effective media to disseminate and update knowledge in the various fields of specialisations. The philosophical, conceptual or application dimensions currently present in these literatures are evidences of increasing prominence in writings that portray Islamic perspectives. Muslim as well as non- Muslim professionals have presented Islamic viewpoints that support, refute or simply provide understanding and directions for communities in matters that need religious clarification. The presence of these publications is a manifestation of the Islamic paradigm to overcome the

dearth of literature that addresses Islamic viewpoints in educational and professional areas. Seen from a different perspective the efforts of Muslim professionals, in particular to present Islamic viewpoints in these publications can modify or change misunderstandings or misconceptions about Islam. Terms that include Islam, Muslims and Moslem are among those Islam related terminologies that have been used to in these publications. However, depending on how those terms are used in those publications, the mere presence of these terms may not be enough to depict the overall Islamic concept that the religion champions. Caution should be exercised on how best those Islam related terms could contribute positively to reshape the Muslim minds in embracing the religion as it should be. The exercise should also be seen within the context of providing the understanding concerning the religion to those who harbor misconceptions or misinterpretations of the faith.

There are ample evidences of the active discussions involving Islamic perspectives in disciplines that include Economics, Finance, Banking and Medicine. However, little is known of such discourses in the field of Medical Imaging. The current status in scientific writings or journal articles in relation to this needs to be ascertained. This is to determine the position of Muslim Medical Imaging practitioners in presenting Islamic beliefs, thoughts, values or practices to address the various concepts in their field of specialisation. It would also be worthwhile to determine how well these individuals have contributed to complement the efforts of other Muslim professionals in other fields of specialisation.

This paper presents the status of Islamic perspectives in journal articles indexed in Scopus as a general indicator of the prominence of Islamic perspectives being addressed in the scientific writings. The study highlights the various Islamic themes that these literatures represent. Special emphasis was given to the field of Medical Imaging. The results show a dearth in the frequency and type of Islamic perspectives being addressed in Medical Imaging. The implications of this void were discussed and proposals were made to overcome the

situation. These serve to facilitate for clear directions for future undertakings in aligning Islam to the profession.

Current status in Medical Imaging literature

The advent of Medical Imaging and its subsequent technological advancements and practices has been influenced by the West. Subsequently, there is a heavy dependence on Western literature addressing the theory and practice of the discipline. The present author, an academician in Medical Imaging acknowledges the dearth of references to spiritual or religious matters in Medical Imaging textbooks. There is hardly any mention of the term “God” or “Superior Being”, what more the Islamic perspective in the term “Allah” in these type of literature. The influence of such literatures upon the minds of a Muslim Medical Imaging practitioner and Medical Imaging student is the dichotomy between professional knowledge and practice to essence of the religion. This gives the impression that the secularisation agenda is successful, with or without any noticeable effect on the Muslim Medical Imaging practitioner. Subconsciously, this could effectively distance the Muslim practitioner, in terms of segregation of worldly professional matters to the principles and objectives of what Islam champions. The need for initiatives to be undertaken to reconcile this state of affairs in order to bring back the Muslim practitioner into the folds of the religion is vital. While the void of Islamic perspectives may be the case for textbooks, the status with respect to other forms of Medical Imaging literature has yet to be established.

Literature review

Terms that include “Islamic perspectives”, “Islamic Worldview”, “Islamisation”, “Qur’anic”, “Muslims” and other Islam related terms have been used to relate to the macro and micro levels of the various fields of human knowledge. At the macro level, Islamic perspectives

have been used to examine the discipline of Economics (Mohamed Aslam, 1997) and Psychology (Haque, 2004; Noraini, 2009), while the Qur'anic perspective towards human health has been presented (Yousofi, 2011). The concept of the Islamic Worldview was used to examine Islamic Educational Philosophy (Mohd Shukri, 2013). At the micro level, Yesil, Sekkeli and Dogan (2012) examined Islamic work ethics at the workplace. Other works include Mohd Kamal (2011) who critiques the thoughts of Al- Qaradawi, a noted Muslim Jurist, on Human Intellect, Divine Revelation and Knowledge. Tilde (1989) forwarded a critique by Ja'far Shaykh Idris who argued about the procedure or methodology of Islamisation of the Sciences, while Zarqa (2003) contended the methodology of Islamisation in Economics. Collectively, these works present a tip of the iceberg of the literatures that depict various Islamic perspectives in the various disciplines. This calls for an appreciation of what can be done from the Medical Imaging perspective to complement these works.

Three studies have profound influence to the present study. A study by Laird, de Marrais, and Barnes (2007) on the promotion of Islam as evident in publications indexed in Medline was believed to be among the few studies that examines the frequency of Islamic perspectives in databases. Concentrating on articles published between 1966 till August 2005 and indexed in Medline, a total of 2342 articles had either the words "Islam", "Muslim", "Muslims", "Moslem" in their titles or abstracts. The total number of citations in Medline, as of September 30th 2005, stood at more than 13,476,000 (Medline). It can be concluded that there was insignificant number of articles with Islamic perspectives to the overall number of articles in the Medline database. Meanwhile, the use of the four terms representing Islamic perspectives did not give an overall picture of the state of affairs of Islamic viewpoints. In a positive way, the findings of the study should be seen within the context of opportunities upon Muslim practitioners to improve the situation.

It would be worthwhile to replicate the above study to determine the status of Islamic perspectives in the literature after nearly ten years. This is in consideration of the changes in perceptions to Islam as evident in the term “Islamophobia”. This term highlights the contrived fear or prejudice directed at a perceived or real Muslim threat. Such perceptions rationalises the necessity to deploy violence as a tool to achieve "civilizational rehab" of the target communities, in particular Muslim communities (University of California, n.d).

There could also be the possibility that other terms that depict Islam are currently being used in the current literatures. The undertaking could outline a more realistic picture of the efforts that has taken place to depict the essence of Islam. A clearer understanding, in particular to the field of Medical Imaging, will inform the practitioners, Muslims or otherwise, the various Islamic perspectives that can be aligned to the profession.

Trevelyan, Cook and Fisher (2007) opines that ninety per cent of readers will read only the title and abstract of an article, with the majority reading only the title, before deciding to read further. Thus, the importance of having the right choice of words in the title and abstract is instrumental to draw the interest of readers. The use of relevant keywords in the title, abstract or article keyword could increase the likelihood of the article being displayed higher up in the result list in online searches. Vidmar (2012) felt that for online searches, failure to find relevant materials after the first 20 to 50 sites would require a change to the search strategy.

The user-friendliness of using the Scopus database, and its subsequent justification to be used in the study, can be appreciated in the following ways. Documented at <http://www.elsevier.com/online-tools/scopus> the database boasts it being the largest abstract and citation database of peer-reviewed literature. Its 55 million records or documents covers close to 22,000 titles from 5,000 publishers. It has more than 20,000 peer-reviewed journals while the rest consists of conference proceedings, Book Series, book chapters, reports,

editorials and others (Elsevier Content overview, 2015). These records address the fields of science, technology, medicine, social sciences, and arts and humanities. Scopus also provides 100 percent Medline coverage. Medline, the U.S. National Library of Medicine (NLM) premier bibliographic database has accumulated more than 21 million journal citations and abstracts from more than 5,600 journal titles for biomedical literature (Medline Factsheet, 2014). This describes the vast amount of literature, translated in terms of accessibility of new information that is virtually available. With 100 percent Medline coverage it can be confidently asserted that a thorough coverage of scientific writings related to the field of Medicine, for which Medical Imaging is one of its sub-disciplines, is thus assured. Publications are indexed in Scopus after they satisfy the Scopus selection criterion, managed by “an independent and expert content selection & advisory board” (Elsevier Content overview, 2015).

The interactive nature of the search platform in Scopus accommodates for document searches to be more specific. The terms to be searched can be specifically explored for their presence in the title, abstract or keywords or in some other search directives. This capability simplifies for specific searches for various Islamic based terms to be made. Another important feature is the depiction of information pertaining to the selected documents to be exported via CSV (Comma Separated Values) in Excel spreadsheet. This enables further examination of the documents to be made offline.

Research objectives

The study examines the current state pertaining to Islamic perspectives as evident in Scopus. It examines the general trend, themes and frequencies of Islamic perspectives in journal articles in the Scopus database over time. Special emphasis is given to Medical Imaging and this is discussed in relation to the overall results.

Research methodology

The researcher identified Islam related terms to be used in the study. They include *Islam, Islamic, Islamisation, Qur'an, Quran, Quranic, Sunnah, Hadith, Hadeeth, Fiqh, Fi'qh, Muslim, Moslem, Maqasid, Qawa'id, Sharia, Shariah, Shari'ah, Syariah, akhlaq, Prophet, Da'wah, Taqwa, Qiyas, Qi'as, Tauhid* and *Tawhid*. The researcher cautions himself that these terms are not exhaustive, yet it is felt to be sufficient for the purpose of the study.

The Scopus database <http://www.scopus.com/> was then accessed. Using Boolean operator “OR” and additional search tabs, the above Islamic terms were individually entered into the database. A general survey involving “All Years” and “All Document”, but limiting the Islamic terms to “Title, Abstract and keywords” was done. This approach eliminated documents that have any of the Islamic terms elsewhere in the documents including in the authors' name and the text.

Using the “filtering” function, only journal articles were chosen. The CSV (Comma Separated Value) facility that permits the resultant data to be appreciated on an Excel file is optimally utilised. The data in the file relevant to this study consists of the authors, titles of articles, year of publication, journal title, abstract and keywords. The data was filtered for:

1. the number of articles that have the Islam related terms.
2. the number of journals for which the terms were present.
3. use of the term “Islamic” and “Muslim” as adjectives. The nouns that followed those terms are used to formulate a thematic classification.

The data was also filtered to determine the presence, type and frequency of Islamic terms in journals that relate to the field of Medical Imaging or Radiography. This was done by filtering the “Source title” column with terms that include “*Radiography*”, “*Medical Imaging*”, “*Medical Physics*”, “*Radiology*”, “*Radiation*”, “*Neuroradiology*”, “*Nuclear Medicine*”, “*Ultrasound*”, “*Magnetic Resonance Imaging*”, “*Computed Radiography*”,

“Digital Imaging”, “Computerised Tomography” and “Radiographics”. These results were then compared to those obtained from the general survey, as well as to the thematic classifications established earlier.

Descriptive analyses of the above results were done. This was followed by a thematic classification of the various Islamic perspectives in the data. The approaches taken were to present an overall picture of the state of affairs pertaining to all disciplines and comparing that to Medical Imaging.

Results

The General survey.

The Scopus database indexed more than 55 million documents of all source types. The general survey using the selected Islam related terms using the Scopus search engine involving “All Years”, “All Documents” and “All Areas” identified 27,729 articles that have one or more Islamic terms either in the title, abstract or keywords.

Narrowing down to Medical Imaging certain subject areas were chosen.

Table 1. The breakdown of articles according to those chosen subject areas.

Subject area	Number of articles	Subject area	Number of articles
Medicine	5910	Health profession	174
Nursing	468	Multidisciplinary	596
Social science	14,867	Engineering	903
Psychology	1185	Undefined	661

Overall total : 24,764

The term “Islam” was used in a document presented by Maccarthy (1862). In 1879, the same term was recorded in eight documents that carried the same title “The Religion of Islam”

by different authors. These were followed by publications entitled “Islam in Western Sudan” (Blyden, 1902), “Qanoon-i-islam” by Crooke (1918) and, “Islam in the Cameroons, West Africa” by Malcolm (1921). The journal Nature, in 1923 published “Chemistry in medieval Islam” and “The Ismaili sect of Islam”. In 1950, there were 10 publications that used the term “Moslem” as subjects of the studies or addressing Muslim community needs in specific areas. Perhaps a more significant publication is “Ethnology and dermatology. III. The dermatological significance of Islamic ritual ablutions” (in German) by Marchionini in 1954. This article reflects on the Islamic practice of ablution. Galdston (1955) gave recognition to a Muslim scholar in his work “Avicenna and Islamic science”, while Bausani (1957) presented “On some recent translations of the Qur'an”. A discourse in comparative religion is evident in a journal article “Moses in Christian and Islamic tradition” by Wolf (1959). A contemporary issue “Why does the Islamic religion permit polygamy?” was presented by Akbar (1960). In the same year Rosenthal highlighted the Muslim contribution to dentistry in “Bibliographical notes on medieval Muslim dentistry.” The attention given to Muslims and their contribution to healthcare was further acknowledged in 1962 where five articles, “A glimpse into Muslim medicine of the Middle Ages.”(Gaetje, 1962), “Medieval Muslim hospitals: administration and procedures.”(Levey, 1962), “Development of hospitals in Islam” (Hamarneh, 1962), “The medicine of the Prophet”(Elgood, 1962) and “The rise of professional pharmacy in Islam.” (Harmaneh, 1962), provide the platform for other publications on similar topics in the field of Medicine and healthcare later. This can be seen in a publication by Monette (2012) who wrote “The medicine of the Prophet”, replicating the title by Elgood (1962). The term “Islamisation” appears in the publication “Islamisation and muslim ethnicity in South India” by Mines (1975).

Filtering the above results for duplication in publications, a total of 22,657 articles from 5024 journal titles indexed in Scopus were identified. Studying for Islam related terms in articles' titles only the themes and frequencies for which they appear is given below.

Table 1: The frequency of the various Islam related terms in the articles' titles.

Terms	Frequency in Article titles	
Islam	5606	(includes Islam, Islamic, Islamophobia and Islamisation)
Islamic	3303	
Islamisation	21	
Quran	137	
Qur'an	116	(including Quranic)
Quranic	53	
Sunna	26	
Sunnah	11	
Hadith	50	
Hadeeth	1	
Fiqh	23	
Muslim	3667	
Moslem	214	
Maqasid	8	including Maqasidic
Qawaid	2	including Qawa'id
Sharia	101	including Shariah
Shariah	32	
Shari'ah	37	
Syariah	14	
akhlaq	3	including akhlak
Prophet	389	
Da'wah	12	
Taqwa	2	
Tauhid	1	
Tawhid	6	

An observation to be highlighted is the the presence of different spellings that relate to a particular description. They include Hadith/Hadeeth, Quran/Qur'an, Muslim/Moslem and Sharia/Shariah/Shari'ah/Syariah. This in effect cautions researchers to be aware of existence

of these differences to facilitate their online searches, for certain instances, those searches could be case-sensitive.

A rising trend in publications with Islamic terms was observed, especially. It is only from 1950 onwards that documents with Islamic terms began to appear as yearly publications.

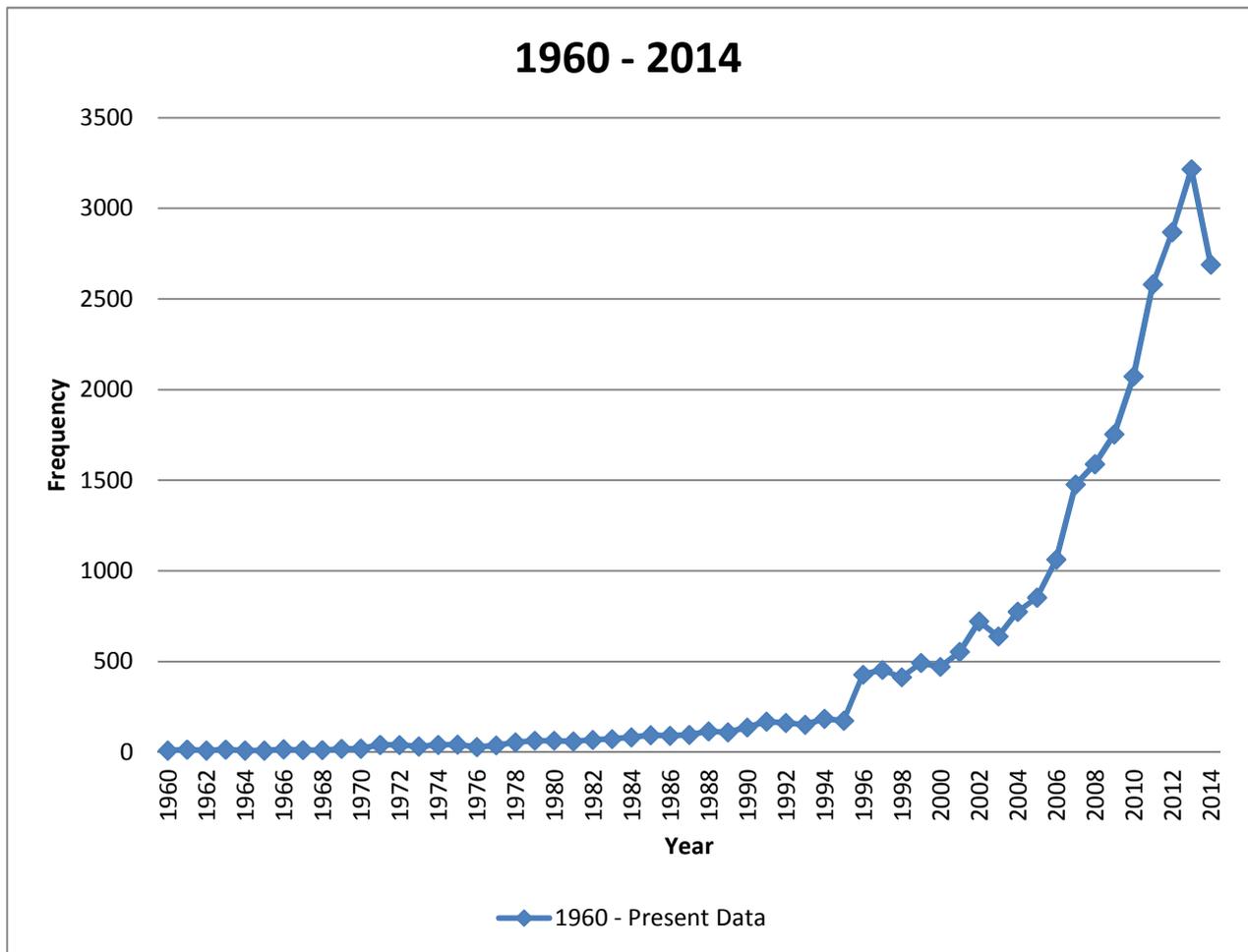


Figure 1. The trend in journal articles indexed in Scopus with Islam related terms from 1960 till 2014.

A reduction in the number of journals with Islamic perspectives is observed for 2014. The study could not offer any explanation for this at this time.

The data was also analysed for the use of the terms “Islamic” and “Muslim” as adjectives. The nouns that follow the adjective are varied and they include perspectives, view,

Worldview, contexts, contexts, beliefs, knowledge etc. These will be discussed in relation to the various dimensions in Medical Imaging theory and practice.

The Medical Imaging survey

From the list of 5024 journal titles, the data was filtered to identify journals that relate to Medical Imaging. Terms that include “Radiography”, “Medical Imaging”, “Medical Physics”, “Radiology”, “Radiation”, “Neuroradiology”, “Nuclear Medicine”, “Radionuclide Imaging”, “Mammography”, “Ultrasound”, “Magnetic Resonance Imaging”, “Computed Radiography”, “Digital Imaging”, “Computerised Tomography” and “Radiographics” were used. Limiting the search to subject areas that include Medicine, Health professions, Engineering, Psychology, Nursing, Social sciences and “undefined” results in more than 232,000 articles from 227 possible journal titles.

Overall, the findings for the Medical Imaging or Radiography field are rather dismal. Only fourteen studies were identified. The studies by Hodgson (1989), Sharma, Chibb, Puri, Sharma and Mishra (2005), Pamecha, Patel, Patel and Patel (2004) do not provide abstracts. Studies by Borochowitz, Berant and Kristal (1988), Nambiar, Ibrahim, Tandjung and Shanmuhasuntharam (2008), Ni, He, Liu, Xing, Zhao and Pan (2010), Amin, Amin and Nawwar (2013), Rajeshkannan, Kulkarni, Kappanayil, Nampoothiri., Malfait, De Paepe and Moorthy (2014), used Muslims as subjects of their studies, while Cannie, Votino, Moerman et al (2012) makes use of non-Muslim subjects. Sohrabpour (1990), Zanjani, Mazloui, Zeinaloo et al (2012) and Esmailzadeh, Delavari, Kazemi-Bajestani et al (2014) used an Islamic country, while Mohamed, Alfull and Dawood (2014) used an Islamic city as sites of their studies, respectively. Gunderman and Jackson (2013) touched upon the various religious perceptions of the Abrahamic faith concerning viewing the internal dimensions of the human anatomy.

Discussion

General findings of the study

An important asset in conducting library studies is the use of databases that offer interactivens and CSV. The author, being an academician finds those characteristics desirable, paving for multiple appreciations of what could be unearthed from those possibilities. The various types of studies, as depicted in the article titles, the statistical data and the easy identification of journals, all within a single Excel spreadsheet have made this particular study and future studies friendlier.

It would be justified to denote that the number of articles with Islamic perspectives in the title, abstract or keywords is insignificant compared to the overall number of documents indexed in Scopus. The study did not acknowledge the reasons behind this dismal numbers. However, it can be postulated that one of the reasons could be the specific nature of the journals in determining the type of articles that they publish. Some journals are rather selective over empirical studies and would not facilitate for writings that involve religious matters. The scarcity of Islamic viewpoints in the literature should be translated in gterms of opportunities and obligations for Muslim practitioners to formulate initiatives to remedy the situation.

A positive finding is the presence of more than 5,000 journal titles that accommodates for Islamic terms to appear in their publications. This is nearly 25 percent of the journal titles indexed in Scopus. Their presence should dispel notions that journals are not willing to publish writings imbued with religious aspects. It can be deduced that within a certain framework of acceptance, journals do accept Islamic viewpoints to be published. However, this will be subjected to the policy, aims and scope as well as the discretion of the Editorial board of the individual journals. It would be imperative that Muslim practitioners identify

those “Islam friendly” journals to ease their quest towards publishing Islamic perspectives in their field of specialisations. To be able to align elements of their professional knowledge and practice is another avenue to provide others with the understanding of Islam that had been unjustly negatively presented of late.

The general survey reveals that historically, Islam has gained some attention in scientific writings. Within 150 years, from 1862 to the present, the selected publications presented in the results show the scope of coverage pertaining to Islam. They include introducing Islam, Islamic law, Islamic communities and civilization, Islamic ritual, recognition to Muslim scientists, Qur’anic studies and integration of Islam into the professions. These efforts present the possibilities for present practitioners in general to replicate or further explore those areas, as well as other dimensions that relevant to their professions in the present time.

It is suggestive from the names of the authors that some of these publications could have been contributed by non-Muslims. On one side, their writings to address Islam is translated in the attention and interests of those scholars to present their views in issues pertaining to the religion. Without any confrontational stance to ridicule the beliefs of others, these writings should be seen in the light to inculcate further discourses within the academic framework on elements related to Islam. It is imperative that Muslim scholars come forward to engage, refute, dispel or correct those negative perceptions. Applying the concept of sincerity, integrity and wisdom in their subsequent writings, a positive effect on those yet to be Muslims to be drawn to the religion might be possible. Furthermore, the religious beliefs and practices of the fellow Muslims can be further enhanced through these writings. Initiatives taken to support, refute or further enhance the discussions of those articles merely add to the knowledge that relates to Islam.

An important observation is the results highlight that before 1977 discussions that relate to Islam did not receive much attention. The increasing trend post 1977 though not remarkable was an important turning point for Islamic based literature. Though the study did not reveal the reasons behind this, a postulation can be made in relation to the contribution of the First World Conference in Muslim Education held in Makkah in 1977. In this conference, Muslim scholars acknowledged the heavy influence of the Western Worldview upon the knowledge and education on the Muslim Worldview. In the same year, the First Conference on Islamisation of Knowledge was held in Switzerland (Adebayo, 2004), followed by other conferences and seminars addressing similar grounds in the various cities in the world.

The concept of Islamisation of Knowledge is seen as an avenue to establish a symbiotic relationship between Islamic Revealed Knowledge and acquired Knowledge. Between 1995 till 1997, thirteen such events organized by the International Institute of Islamic Thought (IIIT 2007). These developments could have had their positive impact on the rising trend of Islamic based literature post 1997. Another notable increase is observed post 2001 that could have been a manifestation of interest in discussing Islam after the 9/11 episode. Muslim scholars might have played an important role to tone down the negative sentiments about Islam and the prevailing “Islamophobia” that ensued following the event. Evidently, the momentum in addressing issues pertaining to the religion has strongly been sustained since then. Hence, in the spirit of extending these noble objectives, practitioners in all disciplines should acknowledge a shared responsibility to sustain those efforts by introducing the concept of integrating Islamic perspectives in their disciplines.

The number of articles with the term “Islamic” as an adjective in the title stands at more than 3,300. The term has been used to highlight Islamic Finance, Islamic Accounting, Islamic Banking, Islamic Family, Islamic Insurance, Islamic Economics, and Islamic Medicine. Other instances include Islamic Worldview and of course, Islamic perspectives and Islamic

viewpoints. While arguments to the term “Islamic” that is being used under these circumstances persist, the reason to use the term “Islamic” to those instances was primarily to indicate the prominence of particular aspect when viewed from the religious point of view, which could be different to what is currently accepted and practiced.

Meanwhile, the number of articles with the term Muslim in their titles stands at 3,667. No attempt was made to determine exactly the number of articles that depict the term as an adjective. Nevertheless, some references of the term used as an adjective include Muslim communities, society, brotherhood, world and culture.

A profession is described by, at macro level, its unique dimensions in foundation knowledge, practice and professionalism. Those dimensions can be further examined at their micro levels, thus underlining an in-depth examination of the said profession. This in essence creates the identification of areas where harmonisation with Islamic perspectives can be made. For example, the micro-components of Professionalism can be seen within the context of Islamic values and ethics that should be used to mould the mindsets of the Muslim practitioner towards building the Muslim human character. The Islamic values and ethics thus proposed should not be seen as a confrontational or a fundamentalist stance in depicting the present practice as non- Islamic. Rather, it is a value-added dimension to a practice that aligns itself to the spiritual dimension; a dimension that is lost in the current practice of most professions. Hence, for Medical Imaging, this gives rise to the possibility of introducing the term “Islamic Medical Imaging”, which could be explored in the future.

The use of relevant Islamic perspectives serves to shed light on how Islam provides an understanding and solutions to contemporary issues that mankind are facing. Some are seen to correct misconceptions of the religion as outlined by Qutb (1980) in his book “*Islam, the misunderstood religion*”. The learned scholar aptly highlights pertinent questions being

levelled at Muslims on Islam's stand towards slavery, feudalism, status of woman, concept of punishment and a host of other contemporary issues at the time the book was published. To him, Islam is a creed that does not merely address education of souls, or a refinement and training of human virtues. Rather, Islam is holistic for its teachings is directed towards the establishment of a well-balanced social organisation, with a just economic system and the presence of codes of civil, criminal as well as international law. The fundamental creed of Islam in the essence of its moral, spiritual temperament and physical instruction support the religion's philosophical outlook upon life. The multifaceted dimensions of the religion seen by Qutb reflect the universal nature of the religion, transgressing all worldly borders that one could think of. Present day professionals should make use of these observations by the scholar to guide them to understand and perform an undertaking to align their individual profession and professionalism to what Islam aspires.

For reasons yet to be unearthed, scholarly works of Muslim individuals in International Institute of Islamic Thought (IIIT) is not indexed in Scopus. This particular organization boosts Muslim scholars that include Taha Jabir Al-Alwani, Ismail Al-Faruqi and Dr. 'Abdul Hamid Ahmad Abu Sulayman, just to name a few. However, the non-indexing in Scopus of the scholarly works has not dampened the contributions of these Muslim to champion the concept of Islamisation of Knowledge. It is believed that this concept has been instrumental to motivate practitioners in all disciplines to examine their practice from Islamic viewpoints.

Findings for Medical Imaging

Overall, the findings for the Medical Imaging or Radiography field too are rather insignificant. It can be concluded that at the moment there is no literature related to the field that specifically address the essence of Islam. It would be unfair to suggest that Muslim Medical Imaging professionals in Medical Imaging have failed completely to publish

literature contain elements of Islamic perspectives. The methodology in this study that used the Scopus database is considered valid only to articles indexed in the database.

While it can be argued that the demographics of the subjects as well as site of a study need to be presented in scientific writings, the mention of Islam or Muslim as mere sites of data collection or subjects in the identified studies could not do justice to the objectives and principles of Islam. Studies by Borochowitz, Berant and Kristal (1988), Pamecha, Patel, Patel and Patel (2004) and Sharma, Chibb, Puri, Sharma and Mishra (2005) for example, merely depict Muslim as subjects in their case reports. The findings to their studies carry a circumstantial significance as their subjects were Muslims. In cases where the results portray an undesirable situation, a positive interpretation of the religion or among its followers might be compromised.

One postulation to the low numbers in Islamic based literature in Medical Imaging is that fact that the discipline is rather new compared to Medicine and Nursing. With the main development and advancement in Medical Imaging has been from the West, naturally the Western influence has casted a pronounced influence in Medical Imaging theory and practice. The secular educators who had the privilege to practice these professions at an earlier stage are thus able to model the knowledge in a way that distinctly separates the knowledge and practice from spiritual elements. Subconsciously, this represents the indoctrination of the Secularisation agenda as well as the inculcation of Western values, norms and practices that might be contrary to Islam. The scarcity of Islamic perspectives being addressed in Medical Imaging journal articles could be a justification to denote that Muslim Medical Imaging professionals have failed to address yhis particular “malaise” within their profession. The dichotomy between professional knowledge and practice to Islamic aspects can effectively distance these Muslim practitioners in terms of segregation of worldly professional matters from Islamic principles and objectives.

The secular agenda could have also influenced the Medical Imaging curriculum itself. The present author, an academician in Medical Imaging could not identify any textbooks used in Medical Imaging with spiritual elements being mentioned in those books. This phenomenon in the curriculum is further aggravated when lecturers who pursued their studies in a secular environment were influenced in the way the curricula were designed. The characteristics of those curricula were then subconsciously assimilated in those designed for the local use. The secularisation agenda is thus extended and the importance of infusing Islamic inputs into the teaching and learning activities will be overlooked. Saqeb (2000) feels that Muslim scholars suffered from chronic dependency on Euro-centric concepts and opened themselves to the tendency of imitation and borrowing of easy, ready-made Western conceptions sidelining the Islamic vision. This influence will not equip the Muslim practitioners with the necessary insight to integrate Muslim perspectives in their professional area later.

As a consequence to the above, Medical Imaging students, the soon to be practitioners, will find difficulty to appreciate or align the Islamic paradigm in their professional activities. This effectively results in these individuals establishing a separation of sorts; professional and non-professional environments. A distancing stance between the professionals to the noble traits or characteristics of a Muslim Medical Imaging Practitioner will be apparent. This vicious cycle will be repeated with the new batches of Muslim students who will be dragged further into the abyss of ignorance, practicing their profession purely from what had been indoctrinated into them. Islam as a directed way of life could then be compartmentalised to non-professional areas, in particular limited to the religious rituals as outlined by the religion.

The negative effects of this segregation could be examined from another perspective. It cannot be denied that students and academicians are with different levels of religious knowledge, beliefs and practice accumulated from different Islamic religious backgrounds.

After being subjected to a learning environment that professed secularisation, these individuals are opened to appreciating the sectarian thoughts, beliefs, values and practices. If left unchecked, the long term negative effects upon the individuals and communities would be difficult to avoid. From the historical perspectives the domineering effects of secularism are still evident in secularised Muslim countries. As part of the effort towards Islamic revival efforts have to be intensified to reconcile this state of affairs in order to guide the Muslim practitioner into the folds of the religion. The intended reconciliation can be achieved by aligning the Medical Imaging theory and practice with relevant Islamic perspectives.

As in any profession in healthcare, the main components in Medical Imaging include the patient and patient care. To generate the images of the human anatomy, the practitioner has to deal with the use of different imaging technologies as well as the technicalities involved. The outputs aspects involve quality, safety, cost and meeting customer satisfaction. All these components are aligned to the professionalism that is unique to the discipline.

The study identifies some common nouns that are used with the terms “Islamic” and “Muslim” as adjectives. To facilitate for future publications in Medical Imaging, it is hereby proposed that the use of these adjectives can be tailored to some of the macro or micro components in Medical Imaging.

Table 2: Use of the the term “Islamic” and “Muslim” as adjectives and the possible applications to Medical Imaging theory and practice.

The nouns	Application to Medical Imaging
Perspective / perspectives / view / views / principles / Worldview / world / contexts / concept / discourse / understanding	Islamic perspectives on a wide range of topics: Objectives and principles of healthcare and Medical Imaging, knowledge and other components of Medical Imaging
Law / jurisprudence	Islamic Law, Fiqh (Islamic Jurisprudence)

	in relation to Medical Imaging practice and professionalism.
Religion / religiosity / Spiritual / Spirituality	Islamic Spirituality and Religiosity at the workplace and practice, Islamic Spiritual care.
Culture / tradition	Medical Imaging Practice and Rights of the patient.
Thought / thoughts / Revival / Islamisation	Aligning thoughts of Muslim scholars to Medical Imaging. Concept of Islamisation of Knowledge.
Knowledge / Theology / Study / studies	Medical Imaging Knowledge Comparative, descriptive, pilot studies.
Beliefs / values / practice / faith / teachings / ethics / ethical / Moral / morals / morality / Bioethics / Bioethical / Medical ethics	Medical Imaging Professionalism and Islamic Work ethics.
Identity / identities / communities	Muslim Medical Imaging Human Character.
Scholar / scholarship / Pedagogy / pedagogical / Education	Medical Imaging Knowledge, teaching and learning.
Professional	Professionalism and ethics.
Da'wah / mission	Muslim Medical Imaging Human Character.
Science / Medicine	Islamic perceptions to science and medicine.
Empire / period	Islamic history and civilization.
Management / organisation	Islamic Management.
Theme / Debates / Discourse	Comparative studies and Inter-religious dialogues pertaining to practice.

Taking the results as a strong indication of the state of Islamic perspectives in Medical Imaging, the stance should be in realising the obligations and in opportunities. The ensuing discussion examines from these two aspects.

Implications on the Muslim medical imaging practitioner

Perhaps, it would be justifiable to begin the discussion on the implications on the Muslim Medical Imaging practitioner by drawing on the historical perspective of Muslims and knowledge. The contributions of Muslims to the field of knowledge have been acknowledged to the times of the Abbasid Caliphate onwards. However, the systemic latinisation of Islamic contributions in the various fields of science, medicine, Physics, technology, mathematics, chemistry and astronomy had been successful to blanket the contributions by Muslim scientists and scholars. There are still Muslims who are oblivious to Avicenna (Ibn Sina), Al-Rhazes (Muhammad ibn Zakarīya Rāzi), Albucasis (Abu al-Qasim al-Zahrawi), and Al-Hazen (Ibn Al-Haiytham) who had their contributions in medicine to this day. On a positive note, Hehmeyer and Khan (2007) defended the contributions of these Muslim scientists and disputed the misconception that those contributions were merely transmissions of Greek Science and the works of scholars of the Renaissance. It is refreshing to know that there are authors who have taken the liberty to portray the contributions of Muslim scholars and give them the recognition.

However, the conquest of the Islamic Knowledge centers of Cordoba and Baghdad by Queen Isabella of Spain and the Mongols respectively, have somewhat diminished the contributions of those Muslim scholars. A need for educational revival has been the topic among the contemporary Muslim scholars with efforts towards that revival is actively being undertaken. This revival should be seen in all aspect of the various professions.

Obligation on the part of the Medical Imaging individual

The current findings point to the fact that there is a deficiency in Islamic based literature in Medical Imaging. The time has come for the Muslim professional to take charge of the circumstances that has led to the void. The need to introduce and promote Islamic viewpoints

into the literature should be an important agenda. The following sub-sections outline what needs to be done in order to reduce the negativities that have dominated the Medical Imaging literature. Hopefully, they will precipitate for a revival in strengthening Islamic based literature.

a) **Reaffirm the Islamic way of life in oneself**

Muslims are reminded of the purpose of their existence on earth as a servant to the Creator within the framework of the concept of Vicegerency. To submit to the Oneness of Allah, applying justice to Mankind, to use the Allah given intellect to benefit self and others and to call others to the folds of Islam are among the foundations of the concept. Seen as a religious obligation to all who profess to be a Muslim the onus will be upon the Muslim to manifest those foundations in his daily activities. Distancing oneself from the religion in any aspect of one's life not only suggests the ignorance concerning the essence of the religion but also manifests the successful extension of the secular agenda. Mohamed Aslam (1997) quoted Eliade who states that: “. . . *this dichotomy between the religious and the remainder of human life is a western product and concern . . . This distinction between the sacred and the profane, between religion and other aspects of human endeavour is a result of the process of secularisation that has been the experience of Christian/Western civilization especially since the 17th century.*” Thus, efforts to reduce or even halt the negative consequences of the secularisation agenda have to be intensified.

There are some sources from Islamic Revealed Knowledge that are instrumental in the examination of Islamic perspectives in literature. Allah, the Al-Mighty exclaims in the Holy Qur'an in Surah An-Nahl 16, verse 125, “*Invite (all) to the Way of thy Lord with wisdom and beautiful preaching; and argue with them in ways that are best and most gracious: for thy Lord knoweth best, who have strayed from His Path, and who receive guidance.*”(Abdullah, 2009). This call is further strengthen in Surah Ar-Rad 13, verse 40 where Allah says

“Whether We show you part of what We have promised them or cause you to die, your duty is only to convey (the Message) and on Us is the reckoning”(Ibn Kathir, 2003). Another verse that the scholar Ibn Kathir relates to is Surah Al- Ghashiyah 88, verse 21-16, *“So remind them - you are only one who reminds. You are not a dictator over them - Save the one who turns away and disbelieves. Then Allah will punish him with the greatest punishment. Verily, to Us will be their return, Then verily, for Us will be their reckoning”*. The key messages in these verses are the acts to convey and invite others into the essence of Islam, while at the same instance to remind others of the religious obligations. These verses and the ensuing obligations are further reinforced in a hadith of Prophet Muhammad (Peace be upon him) in his Final Sermon by 'Abdullah bin 'Amr bin Al-As who reported: *“The Prophet said, "Convey from me even an Ayah of the Qur’an: relate traditions from Bani Israel, and there is no restriction on that.; but he who deliberately forges a lie against me let him have his abode in hell.”* (Al-Nawawi, 1999). These references therefore, underline the duty upon Muslims at all levels of society to disseminate the essence of Islam. A realisation on the part of the Muslim practitioner, in particular the Muslim Medical Imaging practitioner of this religious aspect in his life underscores the importance of the findings of this study. This will be the foundation for the intended revival.

Understanding and practicing the Islamic way of life, or more commonly known as “Shari’ah” (Islamic way of life) is the kind of living that Muslims are expected to conform. Having expressed the Shahadah (Testimony of faith) in all sincerity, a Muslim’s daily activities dwell around living within a framework laid out by the religion that serves to guide him to achieve prosperity on earth. It begins with the total submission to Allah (SWT), the Creator and this particular stance is depicted in one’s obedience, that is repeatedly expressed in one’s daily prayer as outlined in the Holy Qur’an, Surah Al-Anaam: verse 162. *“Say: "Truly, my prayer and my service of sacrifice, my life and my death, are (all) for Allah, the*

Cherisher of the Worlds” (Abdullah, 2009). From this submission, other branches of the religion emerge. The compulsion to observe the Pillars of Islam and Iman (faith) is followed by the strong conviction to observe the do and the don'ts as laid down by Islamic Jurisprudence (Fiqh). Governed by the principles (Qawaid) as well as the objectives (Maqasid) of the Sha'riah, the Muslim is also obligated to portray Islamic ethics and values that are based on the Divine Revelations from the Holy Qur'an and the practice of Prophet Muhammad (Peace be upon him).

The above description merely relates to the fact that Allah has elevated the position of Man above the rest of His other creations. He states in the Holy Qur'an, Surah Al-Isra' 17, verse 70, *“We have honoured the sons of Adam; provided them with transport on land and sea; given them for sustenance things good and pure; and conferred on them special favours, above a great part of our creation.”*(Abdullah, 2009). While the Muslim in all his senses is expected to acknowledge his creation from clay, a practically low order material, as ordained in Surah As-Sajdah 32 verses 7-9, and Surah Al-Mu'minuun 23, verses 12–14, at the same token, he must accept earnestly his responsibilities on earth as espoused in the purposes of his creation on earth. Allah tells of His decision to delegate Man as a vicegerent on earth as the main purpose of Man's presence on earth. He further exclaims in Surah Al-Baqarah verse 30, *“Behold, thy Lord said to the angels: "I will create a vicegerent on earth." They said: "Wilt Thou place therein one who will make mischief therein and shed blood?- whilst we do celebrate Thy praises and glorify Thy holy (name)?" He said: "I know what ye know not.”*(Abdullah, 2009).

Among others the Vicegerency reiterates man among others, not to associate partners with Allah, enjoin all that are good and forbid all evils, upholding justice, acquire and disseminate knowledge and a host of other noble values and virtues. All these are consolidated in the concept of the Islamic or Tawhidic Worldview. Emulating the examples

of the messengers of Allah, the Muslim individual is expected to utilise the God-given intellect to call, enhance and remind others to the folds of the religion with the intention of achieving prosperity on earth and in the Hereafter. The Muslim is expected to use his wisdom to identify, create, associate and optimise all avenues to call others to the path of Allah. Thus, in the capacity of a healthcare professional, he is expected to place emphasis on the value and preserve life, while at the same time bringing comfort to all as outlined by the Sha'riah. In other words these aspects relates to the avenues and opportunities that a healthcare practitioner can benefit in spreading the word of Allah to peers, other healthcare practitioners, patients and the general public.

b) Calling others to the religion (da'wah)

It has to be borne in the mind of a Muslim professional that being a professional is not merely a commitment towards one's profession. Being a Muslim first, followed by a person within a given profession, his daily routine includes the responsibility to remind or call others into the fold and essence of Islam. While it is expected of him to practice his vocation to the best of his ability, the obligation to remind others are along the lines as laid down in the Holy Qur'an, in Surah Al-A'la 87, verse 9, "*Therefore give admonition in case the admonition profits (the hearer)*"(Abdullah, 2009) and Surah Al-Anaam 6 verse 69, "*On their account no responsibility falls on the righteous, but (their duty) is to remind them, that they may (learn to) fear Allah.*"(Abdullah, 2009). Furthermore, the hadith narrated by 'Abdullah bin 'Amr bin Al-'As (May Allah be pleased with them) presented earlier, reinforces the obligation to remind others. An important interpretation from the Hadith is the obligation that the Prophet has put upon Muslims to convey his teachings. This is seen within the context of shouldering the elements of da'wah (calling others to the religion).

Besides calling and reminding others, the Muslim practitioner should also remind oneself. Sajid (2003) quoted Surah Al-Hashr 59, verse 19, *“And be ye not like those who forgot Allah; and He made them forget their own souls! Such are the rebellious transgressors!”*(Abdullah, 2009). He acknowledged the disintegration of all moral values within individuals and corporate personalities as an effect of secularism. An important reminder by the scholar lies when he coined the Qur’anic verse to the phrase “those who forget God eventually forget themselves”.

The success rate in calling others to the religion should not be an item of concern. That is the prerogative of Allah. The primary concerns will be to initiate and sustain the efforts. The more important issues are “what have we done to remind self and others pertaining to the religion? What have we done to identify all avenues to fulfil the obligation to call others to the religion? What have we done to promote, inform, enhance Islamic beliefs and values to our fellow professionals, irrespective whether they are Muslims or yet to be Muslims?” The answers to those questions are pertinent to become catalysts for change.

c) Going for the Change.

The time has come for Muslim Medical Imaging professionals to take charge and aim for a change in view of the above unfavourable situations. In Surah Ar-Rad 13 verse 11, Allah declares *“For each (such person) there are (angels) in succession, before and behind him: They guard him by command of Allah. Allah does not change a people's lot unless they change what is in their hearts. But when (once) Allah willeth a people's punishment, there can be no turning it back, nor will they find, besides Him, any to protect.”*(Abdullah, 2009). A change in the way in addressing the situation is hereby indicated.

The lack of Islamic perspectives in the Medical Imaging literature should be viewed in terms of its opportunities ahead. The onus is on Muslim professionals now to optimise these opportunities to expand and extend the understanding of Islam, especially among the fellow

professionals and general public. Taking an aggressive stance and being proactive, coupled with the necessary paradigm shift in the way of disseminating knowledge, or reporting of research findings, the above void can be overcome. Examining current position in terms of being a Muslim Medical Imaging professional in the personal capacity as well as a professional within the fraternity is hereby indicated. The processes to identify, plan, implement and sustain possible initiatives to address the current void of Islamic perspectives should be prioritised taking into consideration local constraints that may exist in one's domain. A workable and perhaps simple approach that can be made is to compare Islamic perspectives to an existing article that address an issue from a different belief system. Hogan (2009) addressed ethical issues in Radiology from the Christian perspective. It would be justifiable if a Muslim practitioner can dwell around the issue from Islamic standpoints.

The present study identifies at least 228 journals that are directly related to medical imaging. Out of these 13 journals has an Islamic term either in the title, abstract or keywords. It is believed that there are others that permit Islamic terms to be in the text of the articles. It is to be noted that the general survey identifies more than 5000 journal titles that accommodate Islamic terms. This in essence shows an opportunity to publish Islamic based literature, although in journals not directly related to Medical Imaging. This is to optimise whatever advantage there is to disseminate the Islamic viewpoints, until a time where there are other opportunities to suit for Medical Imaging purpose.

On the personal front, there could be problems among the Muslim practitioners themselves in their inability or not being comfortable to relate or discuss their writings in relation to Islamic perspectives. Lack of the necessary religious background, support or even the knowledge to integrate Islamic perspectives could be the contributory factors. Continuous Professional Development (CPD) sessions that address specifically the art of, either the direct

or subtle, integration of selected Islamic perspectives would be appropriate avenues to overcome those personal deficiencies.

The thematic classification presented in this study should provide the necessary perspectives that can be imbued in their scientific writings. This is followed by identifying the components within the Medical Imaging theory or practice that can be aligned to any one or more of those items in the classifications. A conceptual alignment of those themes to the micro and macro components of medical Imaging is thus envisaged. The wide coverage of areas of specialisation as depicted by the journal titles with Islamic terms are indicators of possibilities. If one were to examine carefully the macro and micro components of the theory and practice of Medical Imaging, some alignment of those macro and micro concepts to the journals will be feasible. For example, the Islamic perspective in Patient care in Medical Imaging may be featured in a journal that addresses Sociology or Psychology. Islamic viewpoints on Medical Imaging professional ethics may be suitable in journals that address Medical ethics. To facilitate for these possibilities, the Muslim professional has to determine “friendly” journal where Islamic perspectives can be infused in their scientific writing.

Efforts to overcome the lack of Islamic perspectives in Medical Imaging should also be seen in terms of increasing the number of Islamic based literature. Furthermore, those efforts are made with the intention to complement the established initiatives of other professionals in the different professions. Ultimately, a wider scope in addressing Islamic viewpoints can be achieved that effectively portray Islam as a holistic way of life.

Limitation of the current study

There could be other Islamic terms used in the body text of the articles related to Medical imaging indexed in Scopus. This reflects the insignificant role of those terms in depicting Islamic perspectives within the articles for which they appear. The essence of the

perspectives is diluted on online searches for there is a higher chance that the article might only appear much later in the “hits” list. This could be the contributory factor that no significant article pertaining to Islamic perspectives in Medical Imaging was unearthed when using the “Google” search facility.

Conclusion

The current lack of Islamic based literature in Medical Imaging should be appreciated within the context of obligations and opportunities. With the determination to fill the void, Muslim Medical Imaging practitioners should shoulder the obligation to introduce, promote, sustain and enhance Islamic beliefs, values and practices in all aspects of the profession. Taking charge of the situation well thought approaches should be tailored towards changing or modifying the mindsets of fellow Muslim practitioners, as well as the yet to be Muslims in viewing and accepting the essence of the religion. The conceptualisation of the various macro and micro dimensions in the theory and practice to Islamic perspectives through scientific writing has to be optimised. The dual role in these avenues in contributing towards enhancement of human sciences as well as propagating the objectives and principles of Islam, enhancing Islamic values and other Islamic perspectives have to be recognised. It is to be realised that efforts to address the above not only complements the works of others in their fields of specialisations, but will further increase the number of Islamic based literature. Though the might of the pen, and the commitment to teach and inspire others, the much needed reform in terms of highlighting Islamic perspectives can be achieved. The aspirations of the Muslim scholars to overcome the malaise of the Muslim community in all fields could then be met.

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