A Consideration and Overview of the Popular Religiosity Measures for and by Muslims in Business Research

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Abstract

This study identifies the most frequently used religiosity scales and examines the rationale provided by researchers for using these scales, the applicability of these scales to Muslims, and their commonalities. A comprehensive literature review was utilized to collect and analyze data from the Journal of Islamic Marketing (JIMA), examining all articles published between its inception in January 2010, and June 2024. A total of 152 studies were found to specifically measure religiosity in a variety of ways. To illustrate and enhance our research findings, we employed VOSviewer version 1.6.20 software for data mapping. Our findings identified the six most popular religiosity scales which authors use because they measure the intended dimensions relevant to their studies (study purpose), the scales are popular (popularity), they can be adapted for the Muslim context (adaptability), they are supported by references from the Quran and sunnah (evidence-based), and they have been validated and deemed reliable by previous research (validity and reliability). Additionally, the findings indicate some commonalities among the popular religiosity scales despite their different origins, contexts, and structures. This study adds to the religiosity literature by offering a detailed overview of the most widely used religiosity scales for Muslim samples, the reasons authors chose these scales, their relevance for Muslim samples, and the commonalities among the different scales.

Keywords: Popular Religiosity Scale; Muslim Consumers; Islamic Marketing, Business Research; Journal of Islamic Marketing (JIMA).

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1. Introduction

Research on Muslim consumers has highlighted the significant influence of religiosity on their purchasing attitudes and behaviors (Al-Issa & Dens, 2023; Çavuşoĝlu et al., 2023; Muslichah et al., 2020; Salam et al., 2019). This growing recognition has sparked increased interest in measuring religiosity to better understand Muslim consumer preferences, leading to the development of several scales aimed at capturing this concept.

Selecting an appropriate scale to measure religiosity, especially in marketing and consumer research, presents a significant challenge. This is primarily because most existing scales were originally developed in the field of religious psychology and are rooted in Western perspectives (Salam et al., 2019), structured most commonly around Christianity. Typically, little attention is given to the Islamic context and there is often inadequate justification for selecting a specific religiosity metric (Salam et al., 2019). The challenge becomes even more pronounced when measuring religiosity in Islam, as the definition and concept of religion in the Western world is different from that of *din* in Islam. Islam is taught as a comprehensive code of life that serves as the foundation for ethical and legal perspectives across all aspects of society and social life (Ul-Haq et al., 2020), and this code is supported in a group of source books common to Muslims worldwide

Accurately measuring religiosity in Islam, therefore, requires a deep understanding of its nuances. Adopting or adapting a religiosity scale without this understanding risks compromising the scale's validity for a Muslim sample. Unfortunately, this superficial approach is prevalent in marketing and consumer research, where researchers often provide limited rationale for selecting specific religiosity scales with a Muslim sample (Nabi et al., 2023). Such a casual approach to this crucial measure can result in misleading conclusions about the influence of religion on consumption and as a lived framework (Boulanouar et al, 2017).

Previous reviews of religiosity scales and efforts to develop new scales more aligned with Islamic principles can be categorized into two main approaches. The first approach focuses on methodological issues, addressing statistical flaws, response biases, sampling errors, and concerns related to validity and reliability (Mahudin et al., 2016; Na et al., 2021; Nabi et al., 2023; Salam

et al., 2019). For example, Salam et al. (2019) criticized the dichotomization of Islamic religiosity as either high or low, arguing that such extremes fail to capture the diversity of respondents' beliefs. They suggested that researchers prioritize the five evaluation criteria proposed by Abu-Raiya and Hill (2014) when selecting an Islamic religiosity measurement: theoretical clarity, sample representativeness, reliability, validity, and generalizability. Additionally, they recommended two further criteria—clarity of objectives and a reduced number of items. Similarly, Nabi et al. (2023), through a systematic review of religiosity measurement scales, identified several methodological limitations, such as sampling errors and items prone to response bias.

The second approach takes a conceptual perspective, critiquing the underlying concepts of popular religiosity scales and proposing new or additional dimensions (Amalia et al., 2023; Haji-Othman et al., 2019; Mahudin et al., 2016; Mohd Dali et al., 2019; Ul-Haq et al., 2020). For instance, Haji-Othman et al. (2019) critiqued the Judeo-Christian orientation of widely used religiosity scales and sought to develop a scale more reflective of an Islamic perspective. They proposed three dimensions of Muslim religiosity which they called: Tawhid (encompassing aspects related to the nature of God, revelation, creation, humanity, knowledge, and other theological elements), Special Ibadah (direct acts of worship towards Allah, exemplified by the Pillars of Islam: Shahada, Salah, fasting during Ramadan, Zakah, and performing Hajj for those able), and General Ibadah (interactions with oneself and others, demonstrated through Islamic character and behavior).

Despite these significant contributions, a gap remains in understanding how popular religiosity scales in business research align with Islamic principles and whether they adequately reflect the diversity and depth of Islamic religiosity. This paper seeks to fill this gap by identifying and describing popular religiosity scales referenced in the *JIMA* and their commonalities. Additionally, the paper provides insight into the authors' stated rationale for using (and choosing) these scales.

2. Research Objectives and Approach

The measurement of Islamic religiosity has gained significant attention in the past decade, particularly within the context of Muslim consumer research. However, previous review studies have raised concerns about the widespread adoption of popular religiosity scales, many of which were originally developed in non-Muslim countries and tailored to measure religiosity in other

religions, like Christianity and Judaism. These review studies point out that the standards used in these scales often fail to accurately capture the nuances of Islamic religiosity. Additionally, there has been limited discussion on the rationale behind selecting these measures of religiosity (Nabi et al., 2023; Salam et al., 2019; Ul-Haq et al., 2020). Efforts to define what an appropriate religiosity scale should entail have produced mixed results, with studies proposing different approaches.

Building on existing reviews, this paper aims to contribute to the ongoing discussion by conducting a literature review to identify and describe the most popular religiosity scales used in the leading business journal catering to Muslims and Islamic sensibilities, the JIMA, and to discuss their commonalities. The study also examines the justifications provided by researchers for adopting these scales.

2.1. Review questions

The review was guided by the following questions:

1. Which religiosity scales are most frequently used in the JIMA?
2. What justifications do researchers provide for adopting these commonly used religiosity scales?
3. Which Islamic principles and conceptualizations were considered during the development of these scales?

2.2. Data collection

JIMA was selected as our primary data source due to its relevancy, reputation and comprehensive focus on Muslim consumers within the field of Islamic marketing. Established in 2010, the journal has published 12 volumes, initially releasing three to four issues per year and increasing to nine issues annually since 2020. Each issue contains between 9 and 11 articles. We conducted a thorough review of all volumes, from the journal's inception in 2010 through June 2024, to identify studies where religiosity and related terms were used as variables.

2.3. Inclusion and exclusion criteria

Studies were included if they explicitly measured religiosity or related terms such as religious belief, religiousness, and spirituality. This criterion excludes literature, systematic, and bibliometric reviews. Additionally, the religiosity scale used in the study had to be clearly stated, and the studies must have been published between 2010 and June 2024.

2.4. Selecting popular religiosity scales

The scale selection process began with an initial identification of a total of 152 religiosity scales cited in studies within the JIMA from 2010 to 2024. These scales represented diverse approaches to measuring religiosity, each referenced at least once. To refine the focus, scales cited fewer than twice were excluded, leaving 21 scales for detailed analysis. These 21 scales were referenced a total of 84 times across the reviewed studies. The mean frequency of references per scale was calculated by dividing the total number of references (84) by the number of remaining scales (21), resulting in an average of four references per scale. This systematic process ensured the inclusion of scales with more consistent application in the literature, facilitating the identification of widely accepted and frequently utilized measures for examining Islamic religiosity in business research.
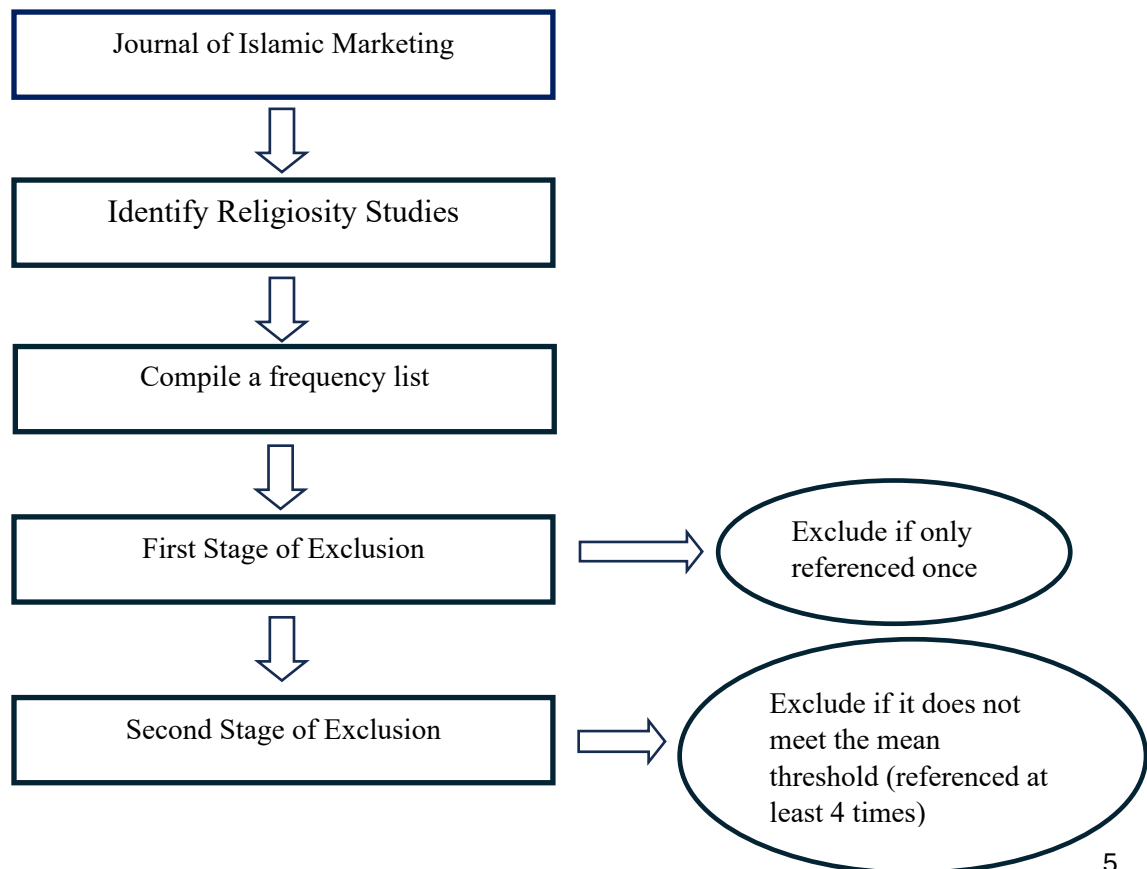

Figure 1: Popular Religiosity Measures Selection

Following the exclusion process, the six most frequently used religiosity scales were identified as follows: the Religious Commitment Inventory (RCI-10) by Worthington et al. (2003), the Religiosity Orientation Scale (ROS) by Allport and Ross (1967), the 5-Dimensional Islamic Religiosity Scale (5-DIRS) by Rehman and Shabbir (2010), the Islamic Belief and Practice Scale (IBPS) by Eid and El-Gohary (2015), the Islamic Religiosity Scale (IRS) by Zamani-Farahani and Musa (2012), and the Religiosity Scale (RS) by Abd Rahman et al. (2015). The frequency of use for each scale, along with details of their items, is presented in Table 1 below.

Table 1: Scales' frequency of use in the JIMA and their items

No.	Scale Name and Author(s)	Frequency	Items*	Studies
1	Religious Commitment Inventory (RCI-10) (Worthington et al., 2003)	16	1. I often read books and magazines about my faith. 2. I make financial contributions to my religious organization. 3. I spend time trying to grow in understanding of my faith. 4. Religion is especially important to me because it answers many questions about the meaning of life. 5. My religious beliefs lie behind my whole approach to life. 6. I enjoy spending time with others of my religious affiliation. 7. Religious beliefs influence all my dealings in life. 8. It is important to me to spend periods of time in private religious thought and reflection. 9. I enjoy working in the activities of my religious organization. 10. I keep well informed about my local religious group and have some influence in its decisions.	Mukhtar and Butt (2012), Al-Hyari et al. (2012), Yousaf and Malik (2013), Abdur Razzaque and Chaudhry (2013), Bachleda et al. (2014), Dekhil et al. (2017), Dekhil et al. (2017), Rahman et al. (2018), Hosseini et al. (2020), Saeed et al. (2021), Farah (2021), Rostiani et al. (2021), Johan et al. (2020), Al-Issa and Dens (2023), Shahid et al. (2023), Kasber et al. (2023).
2	Religiosity Orientation Scale (Allport and Ross, 1967)	10	*Extrinsic Religiosity* 1. Although I believe in my religion, I feel there are many more important things in my life. 2. It doesn't matter so much what I believe so long as I lead a moral life. 3. The primary purpose of prayer is to gain relief and protection. 4. The church is most important as a place to formulate good social relationships. 5. What religion offers me most is comfort when sorrows and misfortune strike. 6. I pray chiefly because I have been taught to pray. 7. Although I am a religious person, I refuse to let religious considerations influence my everyday affairs. 8. A primary reason for my interest in religion is that my church is a congenial social activity.	Hashim and Mizerski (2010), Abou Bakar et al. (2013), Karami et al. (2014), Islam and Chandrasekaran (2016), Akbari et al. (2018), Uysal and Okumus (2019), Rehman et al. (2022), Shahid et al. (2023), Nickerson et al. (2023), Mursid (2024)

9. Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
10. One reason for my being a church member is that such membership helps to establish a person in the community.
11. The purpose of prayer is to secure a happy and peaceful life.

Intrinsic Religiosity
1. It is important for me to spend periods of time in private religious thought and meditation.
2. If not prevented by unavoidable circumstances, I attend church.
3. I try hard to carry my religion over into all my other dealings in life.
4. The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.
5. Quite often I have been keenly aware of the presence of God or the Divine Being.
6. I read literature about my faith (or church).
7. If I were to join a church group I would prefer to join a Bible study group rather than a social fellowship.
8. My religious beliefs are really what lie behind my whole approach to life.
9. Religion is especially important because it answers many questions about the meaning of life.

| 3 | 5-Dimensional Islamic Religiosity Scale (Rehman and Shabbir, 2010) | 10 | *Ideological dimensions*
1. I believe the Quran is Allah's word
2. I have firm belief in all basic ideological dimensions of Islam
3. Muhammad (PBUH) is His last Prophet
4. I believe there is only one Allah
Ritualistic dimensions
1. I regularly offer prayer five times a day
2. I fast regularly during Ramadan
3. I regularly recite the Holy Quran | Alam et al. (2011), Abd Rahman (2015), Yeniaras (2016), Yeniaras and Akarsu (2017), Zinser (2019), Suhartanto (2019), Suhartanto et al. (2020), Widyanto and Sitohang (2022), Bouteraa et al. (2024) |

4. I believe that I am obliged to perform Hajj if I meet the prescribed criteria

Intellectual dimensions
1. I never offer Sajjda saint's graves
2. I always keep myself away from earning through haram (prohibited) means
3. I always try to avoid minor and major sin
4. I know the basic and necessary knowledge about my religion
5. I always try to follow Islamic junctions in all matters of my life

Consequential dimensions
1. It is my duty to give respect to others and give them their rights according to Islamic injunctions
2. I try to avoid any activity, which hurt others
3. I always try to help those who need my help
4. I try to be honest and fair with others
5. I always avoid humiliating others because Islam does not allow doing so

Experiential dimensions
1. I feel sorrow and dissatisfaction when I do something against my faith
2. I have feeling of being tempted by devil
3. I have feeling of being afraid of Allah
4. I have feeling of being punished by Allah for something doing wrong
5. I feel pleasure by seeing others following Islamic teaching

| 4 | Islamic Scale of Religiosity (Eid and El-Gohary, 2015) | 7 | *Islamic belief* | Abror et al. (2020, 2021, 2022), Wisker (2021), Liat et al. (2020), Berakon et al. (2023), Mutmainah et al. (2024) |

Islamic belief
1. In my personal life, religion is very important.
2. Islam helps me to have a better life.
3. The Dua'aa (supplication) supports me.
4. The Prophet Muhammad (peace-be-upon-him) is the role model for me.
5. Performing Hajj is one of my main priorities.
6. I believe that Allah (God) helps me.

Islamic Practice

1. I perform all my prayers.
2. I perform my prayers always on time.
3. I perform my daily prayers in the mosque regularly.
4. I perform the obligation of Zakat.
5. I read the Qur'an regularly.
6. I fast the whole month of Ramadan.

| 5 | The Islamic Religiosity Scale (Zamani-Farahani, 2012) | 4 | *Islamic Belief*
1. I believe in God strongly
2. I believe that Allah helps me
3. The supplication (dua') helps me
4. Muhammad (peace be upon him) instructs me in good conduct
5. Islam helps me lead a better life
Islamic Piety
1. In my personal life, religion is very important
2. I regularly contribute to charity/ sadaqah
3. I believe hejab is obligatory for all women
4. Performing hajj will be my priority the moment I've fulfilled all the necessary conditions
5. I'm a religious person
Islamic Practice
1. I fast the whole month of Ramadan
2. I pray five times a day
3. I perform the obligation of zakat maal (asset/income) annually
4. I make my prayer always on time
5. I read the Quran regularly
6. I perform Friday Prayer regularly
7. I perform my daily prayers in the mosque regularly | Adi and Adawiyah (2018), Hassani and Moghawemi (2020), Wardi et al. (2022), Mursid (2023) |

| 6 | The Religiosity Scale by Abd Rahman et al. (2015) | 4 | 1. I happily and willingly pay my zakat on time
2. I enjoy spending time with others of my religious affiliation
3. I often participate in religious talk at mosque
4. I often read religious books and magazines
5. I often watch religious programs on TV | Hanafiah and Hamdan (2021), Ngah et al. (2021), Suparno (2020), Widyanto and Sitohang (2022) |

* Items are often modified to fit the objectives of studies

3. Data Analysis

3.1. VOSviewer data analysis of religiosity scales.

This section includes the findings of the data analysis conducted with VOSviewer version 1.6.20 along with their visualization and interpretation. Van Eck & Waltman (2010) stated that VOSviewer can display a map in four distinct ways, depending on the available data. These views are label view, density view, cluster density view, and scatter view. In the label view, items are represented by a label and, by default, a circle. An item's label and circle get bigger the more significant it is. If an item is assigned a color, the circle representing it will be displayed in that specific color.

Like the label view, the density view uses labels to indicate items on a map. The color of each point on a map represents the density of items in that area. The density view illustrates the most significant areas of a map and helps to understand its overall structure. In a cluster density view, the visibility of items depends on their assignment to specific clusters. Apart from the density of items being shown differently for each cluster of items, the cluster density view is similar to the regular density view. According to Van Eck and Waltman (2010), the cluster density view is crucial for understanding how items are grouped into clusters and how those clusters relate to one another.

This study presented the results and interpretations of its VOSviewer map using label, density, and cluster views. One of the main objectives is to identify the most popular religiosity scale found in JIMA. To achieve this, a co-occurrence mapping approach was applied, which examines the relationships among the keywords (Kuzior & Sira, 2022). According to Oladinrin et al. (2023), co-occurrence is the frequency of a keyword or term appearing alongside other terms. The Keywords scope of this study is limited to religiosity scales (RSs) such as the ROS, RCI-10, IRS and their respective authors to identify the most popular RSs. The study placed some restrictions during the VOSviewer analysis to produce a more accurate result. It means less relevant keywords were removed to modify the number of keywords to be used. One limiting factor was that a keyword had to appear at least four times to be regarded as popular.

The first step in the map creation process involves selecting the data type, which we chose to be text data. This choice was made to create a term co-occurrence map based on text. In the second

step, we selected the VOSviewer corpus and score files option as our data source to enable the software to read the data.

In step three, we uploaded a corpus file consisting of 152-studies that measured religiosity. This corpus file is a text file, with each line containing the English-language text from one document. The next step involves selecting a counting method, and we opted for the full counting option. This means that all occurrences of a term within a document are counted. Additionally, we uploaded a thesaurus file to merge abbreviations and synonyms into single terms. This optional step helps eliminate redundancy, combine synonymous terms, and prevent duplication (Van Eck & Waltman, 2018). For example, we merged "ROS," which stands for "Religious Orientation Scale," to avoid duplication and ensure accurate counting.

Prior to uploading the thesaurus file into the VOSviewer software, we analyzed 1,298 terms or keywords. Out of these, 128 terms met the minimum threshold of four occurrences, and the software selected 77 terms, which represented 60% of the most relevant entries. After uploading the thesaurus file, 124 terms met the four-occurrence threshold, and the software selected 74 keywords, still representing 60%.

In step five, as previously explained (refer to page 5), we established a minimum threshold of four occurrences for a term to be considered popular. Finally, we de-selected additional keywords based on their relevance to our study objectives, ultimately narrowing the total down to the 22 most relevant terms.

The links and total link strength attributes are the two primary weight attributes in VOSviewer. The links feature indicates how many connections a specific item has with other items, while the total link strength feature reflects the overall strength of these connections. According to Van Eck and Waltman (2023), total link strength illustrates the overall strength of the co-occurrence relationships between a particular keyword and other keywords.

Finally, the software analyzes each keyword related to religiosity, calculating their links, total link strengths, and co-occurrences with other terms. The number of articles in which these keywords appear indicates their occurrences. The results for the six religiosity scales with the most frequent co-occurrences are presented in Table 2. These scales are as follows: the Religious Commitment Inventory (RCI-10), the Religious Orientation Scale (ROS), the Islamic Religiosity Scale (IRS),

the Five-Dimensional Islamic Religiosity Scale (5-DIRS), the Islamic Belief and Practice Scale (IBPS), and the Religiosity Scale (RS). Their occurrence weights (links) are 35 (11), 26 (10), 24 (4), 23 (6), 16 (2), and 6 (1), respectively. The total link strengths for the top six religiosity measures are 61, 73, 28, 12, and 16, while the last scale has a link strength of 6.

Table 2: Most occurring Religiosity Scales (RSs).

| Keywords	Author (s)	Cluster Number	Cluster Items	Links	Total link Strength	Occurrences
1. Religious Commitment Inventory (RCI-10)	Worthington et al. (2003)	6 (light blue)	2	11	61	35
2. Religious Orientation Scale (ROS).	Allport and Ross (1967)	3 (dark blue)	3	10	83	30
3. Islamic Religiosity Scale (IRS)	Eid and El-Gohary (2015)	1 (red colour)	6	4	28	24
4. Five-Dimensional Islamic Religiosity Scale (5-DIRS)	Rehman and Shabbir (2010)	2 (Green colour)	5	6	12	23
5. Islamic Belief and Practice Scale (IBPS)	Zamani-Farahani and Musa, (2012)	1 (red colour)	6	2	16	16
6. The Religiosity Scale (RS)	Abd Rahman et al. (2015)	4 (yellow colour)	3	1	6	6

The nodes and labels in the label view of the network visualization mapping output (see Figure 2) are sized according to the weights of the nodes, with larger sizes indicating greater weight. The distance between two nodes indicates the strength of their association, with a shorter distance denoting a closer relationship, as seen between Worthington et al. (2003) and the RCI-10 in Figure 2. When two keywords are connected by a line, it indicates they have occurred together (e.g., Allport and ROS). Nodes that share the same color make up a cluster.

Furthermore, the VOSviewer mapping output showed a density view version of figure 2 (see figure 3). This view summarizes a map's overall structure and highlights its most significant areas, denoted by the level of color intensity and the number of items surrounding a point or label. For instance, among the authors, the color around the keywords labelled as 'Worthington et al' and 'Allport' are the most intense, indicating the high occurrence of these labels (Figure 3).

The cluster view results showed that VOSviewer divided the religiosity scale-related keywords into six clusters. Cluster 1 is a red color with six items, Cluster 2 is a green color with three items, Cluster 3 has dark blue color with three items, Cluster 4 has yellow color with three items, Cluster 5 is violet color with three items, Cluster 6 has light blue color with two items, and Cluster 7 is an orange color with two items.

The generated network, nodes, labels, and links in Figures 2 and 3 showed the keywords that appear most are student and religiosity scale. However, in terms of religiosity measures, the keywords with the highest frequencies/occurrences and with strong co-occurrences that met the

study's threshold of a minimum of four occurrences are the RCI-10, ROS, IRS, 5-DIRS, IPRS, and TRS, respectively.
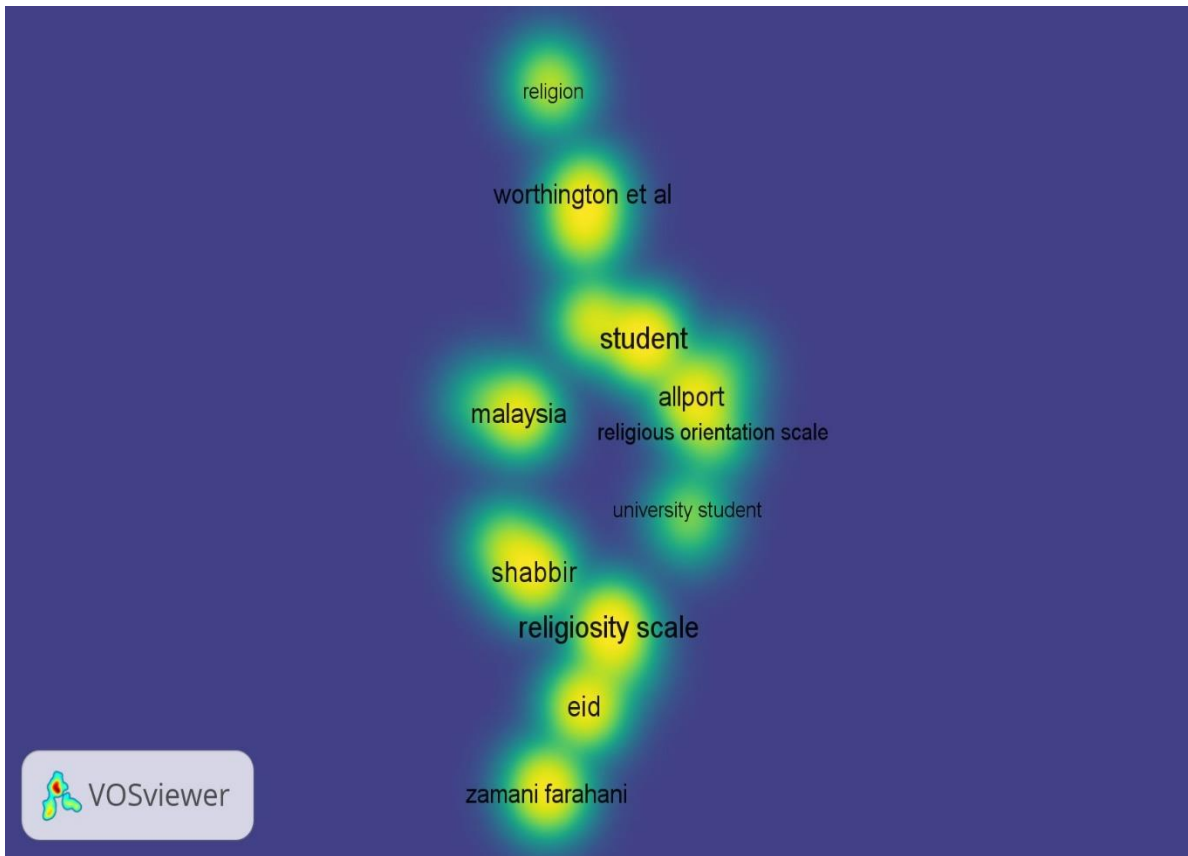
4. Overview of The Six Popular Religiosity Scales.

4.1. The Religiosity Orientation Scale (ROS)

The Religious Orientation Scale (ROS) by Allport and Ross (1967) was developed to measure two distinct aspects of religious orientation: intrinsic and extrinsic (Allport and Ross, 1967). Intrinsic religious orientation refers to individuals who live their religion internally, seeing it as an end in itself. Their religious beliefs are deeply integrated into their lives and guide their actions and decisions. While extrinsic religious orientation describes those who use religion for external benefits, such as social status, security, or personal comfort.

Historically, the scale was created in the context of a study on subjective religion and ethnic prejudice. By distinguishing between these two orientations, the researchers aimed to better understand how different approaches to religion could influence attitudes and behaviors, particularly in relation to prejudice and discrimination (Allport and Ross, 1967). The ROS consists of twenty items, with nine measuring intrinsic religiosity and eleven measuring extrinsic religiosity (see Table 1). This measure separates the intrinsically worded items from the extrinsic, gives score values for each item, and reports on item reliabilities.

4.2. The Religious Commitment Inventory (RCI-10)

The Religious Commitment Inventory (RCI-10) scale by Worthington et al. (2003) was developed to provide a brief, reliable measure of religious commitment. The primary goals were to assess the degree to which individuals adhere to their religious values, beliefs, and practices, and to use these in their daily lives. It was based on an earlier 17-item version and aimed to maintain strong internal consistency, reliability, and validity (Worthington et al., 2003). The RCI-10 was designed to be applicable in both research and counseling settings, offering a concise yet comprehensive tool for evaluating religious commitment across diverse populations. The scale comprises ten questionnaire items. Out of the 10 items, 6 items measure intrapersonal (cognitive) religiosity while 4 items measure interpersonal (behavioral) religiosity.

4.3. The Five-Dimensional Islamic Religiosity Scale (5-DIRS)

The five-Dimensional Islamic Religiosity Scale (5-DIRS) by Rehman and Shabbir (2010) was developed to measure religiosity comprehensively. It encompasses dimensions such as ideological,

ritualistic, intellectual, consequential, and experimental aspects of religiosity. The scale was designed to provide a nuanced understanding of how different aspects of religiosity influence attitudes, values, and behaviors, particularly in contexts related to cultural factors and consumption phenomena (Rehman & Shabbir, 2010). Although its items are tailored for Muslim consumers, the scale was originally based on Glock's (1972) five dimensions (Rehman & Shabbir, 2010): ideological (overall beliefs), ritualistic (prescribed actions), intellectual (one's knowledge of religion), consequential (religion importance), and experimental (religion practicality) to operationalize religiosity. The 5-DIRS scale has a total of twenty-three (23) survey items (see table 1).

4.4. The Islamic Belief and Practice Scale (IBPS)

The Islamic Belief and Practice Scale (IBPS) by Eid and El-Gohary (2015) was developed to assess the level of Islamic religiosity among individuals within research contexts. The primary purpose was to understand how Islamic beliefs and practices influence various aspects of behavior, particularly in the context of consumer behavior and tourism. The scale has 12 items - the Islamic belief and practice dimensions each comprises 6 items. It provides a standardized tool to measure the intensity and commitment to Islamic teachings, allowing researchers to explore the moderating effects of Islamic religiosity on different outcomes, such as perceived value and satisfaction, in tourism (Eid and El-Gohary, 2015). Thus, the IBPS facilitates a deeper understanding of the role of religion in shaping behaviors and attitudes within Muslim populations.

4.5. The Islamic Religiosity Scale (IRS)

The Islamic Religiosity Scale (IRS) developed by Hamira Zamani-Farahani and Ghazali Musa in 2012 is a tool designed to measure the level of Islamic religiosity among individuals. This scale focuses on three main dimensions: i) <u>Islamic Belief</u> - This dimension assesses the core beliefs and faith aspects of Islam, and it has 5 items. ii) <u>Islamic Practice</u> - This dimension evaluates the practical aspects of religious observance, such as daily prayers and fasting. It consists of 5 items. and iii) <u>Islamic Piety</u> - This dimension looks at the personal and spiritual aspects of religiosity, including moral and ethical behavior (Nadeem & Buzdar, 2017). This dimension comprises 7 items. The IRS has been used in various studies to understand the relationship between religiosity and different socio-cultural impacts, particularly in the context of tourism and community attitudes (Nadeem & Buzdar, 2017).

4.6. The Religiosity Scale (RS)

The Religiosity Scale (RS) by Abd Rahman et al. (2015) was developed to provide a standardized measure of religiosity specifically tailored for Islamic contexts. This development addresses the need for culturally and contextually appropriate instruments to study religiosity in Islamic populations, ensuring accurate and consistent measurement in fields such as psychology, sociology, and health sciences. The scale likely draws from previous research on Islamic religiosity scales. And it aims to facilitate research across various sectors by offering a reliable tool to assess religious beliefs, practices, and attitudes within the framework of Islam (Mohd Dali et al., 2019). This scale has a total of 5 items as shown in Table 1.

5. Findings

5.1. Popular scales and their commonalities.

A common feature of popular religiosity scales is their multi-dimensionality, which typically ranges from 2 to 5 dimensions. Uni-dimensional religiosity scales have faced criticism for being misleading, insufficient, and prone to incorrect conclusions (Bergan and McConatha, 2001). As indicated by its name, the RCI-10 comprises ten items. Similar to the 20-itemed ROS which is a two-dimensional scale (i.e., extrinsic and intrinsic), the RCI-10 also measures intrapersonal (cognitive) religiosity comprising of items 1, 3, 4, 5, 7, and 8 and inter-personal (behavioral) religiosity consisting of items 2, 6, 9, and 10. Both popular scales were originally designed and mainly used in Christian populations. However, they could possibly be adaptable for use in Muslim contexts – an example is the Muslim Religious Commitment scale (MRC 10) by Abdur Razzaque and Nosheen Chaudhry (2013). The MRC 10 was developed primarily to gauge the religiosity level of Muslim respondents. This new scale has eight survey questions on the five pillars of Islam: faith (Iman), prayer (Salat), almsgiving (Zakat), fasting (Siam), and pilgrimage (Hajj) and two items on applying Islamic values, goals, and principles into daily decision making.

On the other hand, the popular 5-DIRS, IBPS, and IRS were originally developed for Muslim respondents or consumers. All three scales have the Islamic belief/ideology and ritual/practice constructs with a minimum of four items in each to measure Islamic beliefs and practices. The Islamic belief items in all the three scales seek to gauge a respondent's belief in Allah, Prophet

Muhammed (SAW) and Islam, while the Islamic practice items measure a person's performance of salah (prayer), zakat (charity) and sawm (fasting) among other things. Aside from the RS by Abd Rahman et al. (2015), overall, all the popular scales used in JIMA regardless of their context, origin and dimensions have at least 10 items to measure the religiosity level of consumers.

5.2. Why do authors use these scales?

The review showed that, generally, most researchers chose to use these scales because the scales capture the dimension(s) the researcher intends to measure. For example, to examine the relationship between religiosity and ethical behavior, Karami et al. (2014) used the ROS as it enables researchers to comprehend how religion affects a person's behavior, beliefs, and values. Also, findings revealed that some authors used these religiosity scales because they perceived them as adaptable to the Muslim context and are more comprehensive as they measure different aspects or dimensions of religiosity. Abdur Razzaque & Nosheen Chaudhry (2013), for instance, adapted the RCI-10 by Worthington et al. (2003) as it includes multiple instruments that previous scholars (Allport and Ross, 1967; Gorsuch and McPherson, 1989) used to measure both inter-personal (behavioral) and intra-personal (cognitive) religiosity.

The literature showed that some studies used these scales because previous researchers have endorsed them, and their validity and reliability were affirmed by several studies. In this regard, Delener and Schiffman (1988), Essoo and Dibb (2004), and Mokhlis (2009) assert that the ROS has shown practicality in marketing contexts generally and consumer research specifically. It has also been proven to have adequate reliability. In understanding religiosity, Ghorbani et al. (2002) contend that the ROS provides a sound framework for researching religious motivation in both Western (non-Muslim) and Muslim societies. Besides, Burnaz et al. (2009) affirm that the ROS scale may help to study how religion affects moral behavior.

Some authors have also claimed to adopt these scales primarily because of their widespread popularity (Rehman et al., 2022). Eid and El-Gohary (2015) explained that their Islamic religiosity scale was based on the measurement developed by Marddent (2009) because it is grounded in core religious texts, specifically the Qur'an and the Sunnah. It is imperative to note that the justifications authors give for the selection of religiosity measures raises concerns about the scant attention given to the Islamic context and the weak justification for selecting a specific religiosity metric, in many cases (Salam et al., 2019).

6. Criticism

Salam et al. (2019) and Haji-Othman et al. (2019) are examples of works which criticized the use of 'repurposed' religiosity scales for use with Muslim populations and recommended shifting from the generic dichotomy (high and low) of religiosity. In addition, this work proposes a typology conceptual design framework based on the Islamic concept of din. This concept comprises three phases (Sahih Muslim, Hadith 8) to measure religiosity holistically: First, Al-Islam (Submission): This phase includes the five pillars of Islam, which typically involve actions performed by limbs. 2. Al-Iman (Faith): This consists of the six pillars of faith, with worship primarily occurring in the heart. And 3. Al-Ihsan (Spiritual Excellence): This stage focuses on perfection in manners and pertains to three relationships: a) The servant and the Creator—Allah (SAW); b) The servant and other creations; c) The servant and his actions.

This approach to gauging Islamic religiosity offers a holistic framework that covers actions, beliefs, and social and environmental aspects of Muslim consumer behavior. Phase one focuses on actions like prayer to measure Islamic practice, while phase two assesses belief items related to iman, such as belief in destiny. Lastly, the Ihsan items evaluate Muslim consumers interactions with others, communities, and the environment. Additionally, scholars recognize Islam, Iman, and Ihsan as the three phases leading to Allah (SWT). The first stage involves performing the actions that you know Allah has commanded. The second stage, called iman, goes beyond merely carrying out these deeds; it entails growing closer to Allah (SWT) and beginning to experience the sweetness of that relationship. The third stage, known as Ihsan, is about worshiping Allah as if you can see Him. It encompasses the understanding that although you cannot see Him, He is always aware of you. By progressing along this path, a person moves towards excellence and develops better character.

These three stages illustrate that individual religiosity is not static and cannot be accurately assessed with a one-size-fits-all approach. Therefore, elements from each of these three stages must be considered in order to obtain a valid, comprehensive, and appropriate measure of religiosity in Islam.

These issues have been raised throughout the religiosity measure and development contributions to the literature, but they clearly suffer from a distinct issue with measurability – particularly in a

way that is valid and reliable. As such, many newer suggestions for the measurement of Islamic religiosity in Muslims have not been widely adopted, and Muslim researchers still go back to the 'tried and tested' measures we see being extensively utilized here (particularly the first two by Worthington et al (2003) and Allport and Ross (1967)). The third (Eid and El-Gohary (2015)), fourth (Rehman & Shabbir, (2010)). and fifth (Zamani-Farahani & Musa (2012)) most popular measures are developed by Muslim researchers, and it is heartening to see that they are increasingly popular. Similarly, seeing Muslim researchers adopt and work on this rather complex issue is praiseworthy and important.

7. Conclusion

In this paper, a literature review approach is used to identify the most frequently used religiosity scales by Muslim researchers and/or for measuring the religiosity of Muslim samples. The study also examines the reasons provided by researchers for using these scales, their applicability to Muslims, and the similarities between them. The study found that the most frequently used scales are the Religious Commitment Inventory (RCI-10) by Worthington et al. (2003), the Religiosity Orientation Scale (ROS) by Allport and Ross (1967), the 5-Dimensional Islamic Religiosity Scale (5-DIRS) by Rehman and Shabbir (2010), the Islamic Belief and Practice Scale (IBPS) by Eid and El-Gohary (2015), the Islamic Religiosity Scale (IRS) by Zamani-Farahani and Musa (2012), and the Religiosity Scale (RS) by Abd Rahman et al. (2015). According to this review, authors used these religiosity scales because they measure the intended dimensions, they are popular, can be adapted to the Muslim context, are supported by texts from the Qur'an and sunnah, and are endorsed for their validity and reliability by previous research. The findings also suggest some commonalities among these popular religiosity scales, even though they originate from different contexts and have varied structures. In light of these findings, this work has contributed to the current literature by providing a comprehensive overview of the most popular religiosity scales, the stated reasons authors adopt these scales, their relevance for Muslims, and the commonalities amongst them. It also raises concerns about the rigour applied to scale selection and, therefore, the veracity of the research outcomes reported for Muslim populations.

Authors' Biography

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2. Salieu Senghore

Salieu is a researcher and an educator. He has more than ten years of teaching experience and has worked in the Takaful industry in his country. He holds an MBA from UAE University and a BSc in Economics, with research experience in a university setting. For the past nine years, Salieu has worked on research projects across several departments at UAE University and with external researchers. Salieu's research interests focus on education, youth entrepreneurship, Islamic finance, urban sustainability, and climate change. He is also interested in interdisciplinary research collaboration. His publications are available in Scopus-indexed journals.

3. Taha Yahya AbdulRahman

Taha is a Doctoral Candidate in Education at UAEU with a strong interest in cross-disciplinary research. His work emphasizes integrating diverse perspectives into educational studies, with education serving as the primary focus. Through his research, Taha explores innovative approaches to enhance understanding across fields while maintaining a commitment to addressing core educational challenges.

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