

ADVANCING DATA MANAGEMENT AND ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING FOR SUSTAINABILITY IN RELIGIOUS INSTITUTIONS

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ABSTRACT

Background and Purpose: Web-based environmental, social, and governance (ESG) reporting is becoming increasingly important in religious institutions, particularly within the State Islamic Religious Councils (SIRC) in Malaysia. This paper explores the role of this reporting in ensuring the sustainability of religious institutions in the country.

Methodology: To gain insights into the essential elements for formulating a coherent web-based sustainability reporting framework, a multi-site qualitative research approach comprising 13 religious institutions was employed. A total of 27 semi-structured interviews were conducted with heads of departments, information technology officers, webmasters, and administrative staff.

Findings: The findings advocate for a framework integrating ESG elements, viz., environmental stewardship, stakeholders' engagement, transparency and accountability, supported with data management, tailored to the unique context of religious institutions. Salient implications of adopting a

digitalized, unified sustainability reporting method were discussed, potentially guiding SIRC's through the complexities of ESG reporting.

Contributions: This paper provides a foundational framework for policymakers, offering a lens through which the reporting framework can be evaluated and refined to promote enhanced stakeholder collaboration, transparent communication, and evidence-based decision-making in pursuing sustainability goals within religious institutions. The integrated framework presents a novel approach to empower religious institutions via ESG reporting.

Keywords: Sustainability reporting, framework, website disclosure, content analysis, religious institutions.

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1.0 INTRODUCTION

In recent years, the concept of sustainability has gained significant traction across various sectors and industries (Richnák & Fidlerová, 2022). Organisations are increasingly acknowledging the significance of integrating sustainability concepts into their operations to tackle environmental, social, and economic concerns. In the public sector, sustainability reporting provides governments an opportunity to demonstrate their commitment to addressing these multifaceted challenges (Rahim & Omar, 2017). Similarly, religious institutions are also experiencing a shift towards sustainability reporting (Ruiz-Agudelo & Cortes-Gómez, 2021). This trend is particularly relevant in Islamic religious institutions, which not only hold spiritual importance but also significantly influence societal values and behaviors (Bsoul et al., 2022).

Environmental, Social, and Governance (ESG) reporting and effective data management are becoming increasingly vital in this context. ESG reporting provides a comprehensive view of an organization's impact on sustainability, beyond traditional financial metrics. For religious institutions, particularly in Islamic contexts, ESG reporting can encompass a wide range of activities, from religious education and public welfare to economic initiatives, all of which have far-reaching implications for sustainable development (Tomalin et al., 2019). Despite the growing recognition of sustainability's importance, many religious

institutions struggle to adopt comprehensive reporting practices that align with sustainability goals and communicate their efforts to stakeholders effectively.

In Malaysia, where Islam is the religion of the majority, Islamic religious institutions are deeply embedded in the social, economic, and cultural fabric of society. This context presents a valuable opportunity to examine how religious values and teachings influence environmental practices and sustainability efforts. The State Islamic Religious Councils (SIRCs), which oversee Islamic affairs across Malaysia, play a pivotal role in managing religious, educational, and social activities (Ismail et al., 2022). Traditionally, SIRCs have focused their reporting on financial aspects and religious activities, such as managing Islamic wealth—zakat (almsgiving), waqf (endowment), baitulmal (property and financial institution), and other Islamic funds (Mahadi et al., 2018).

While these reports provide insight into certain aspects of their operations, they often fail to capture the full impact of their activities on ESG dimensions, including environmental conservation, social justice, and economic development. The lack of standardized reporting frameworks tailored to the unique responsibilities of SIRCs has further complicated efforts to effectively measure, manage, and communicate sustainability-related information. The existing reporting models used by SIRCs often lack the digital integration and structured approach needed to meet the diverse needs of stakeholders and support sustainability objectives (Ismail et al., 2022).

The rapid advancement of digital technologies presents new opportunities for enhancing reporting practices. Digital reporting frameworks can reduce administrative burdens while maintaining regulatory effectiveness (Troshani et al., 2018). By integrating digital tools and platforms into reporting processes, SIRCs can improve data collection, analysis, and dissemination, providing real-time, comprehensive insights into their sustainability initiatives. A digitally unified reporting framework could bridge existing gaps, enabling SIRCs to align their activities with sustainable development goals more effectively.

Given the diverse stakeholder groups that SIRCs must answer to—including government agencies, religious scholars, and the public—a unified reporting framework should be designed to meet their specific information needs, fostering greater transparency, accountability, and collaboration (Masruki et al., 2022). However, there are limited studies on ESG reporting within religious institutions, particularly in Islamic contexts. This study aims to develop a digitally unified reporting framework that addresses the unique reporting challenges faced by Malaysian SIRCs and aligns with their roles as promoters of Islamic values and sustainability.

By addressing these challenges, the proposed framework seeks to empower religious institutions to pursue sustainability goals effectively, enhancing stakeholder collaboration, transparency, and evidence-based decision-making. The findings of this study will contribute to the existing body of knowledge by bridging the gap between Islamic values, sustainability, and reporting practices. Moreover, the framework developed through this study could serve as a model for other religious institutions and organizations aiming to integrate sustainability into their operations while fostering stakeholder engagement and accountability. Finally, this paper is structured as follows: Section 2 reviews relevant literature and theoretical frameworks; Section 3 details the research methodology; Section 4 presents the findings and discussion; and Section 5 concludes with the study's implications and recommendations.

2.0 LITERATURE REVIEW

The existing literature on sustainability reporting in religious institutions primarily highlights the growing recognition of the role these institutions play in promoting sustainability, yet it often points to challenges in adopting comprehensive and standardized reporting practices. This study builds upon the existing literature by not only confirming the significance of religious institutions in sustainability efforts but also offering a concrete, actionable framework that addresses the specific needs and challenges faced by these organizations.

2.1 Stakeholders' Theory and Accountability Theory

The theoretical framework of this study is based on the fundamental principles of both accountability theory and stakeholder theory. Accountability theory revolves around the concept of individuals providing reasons for their actions and taking responsibility for them, as stated by Parker and Gould (1999). This notion of accountability has its roots in agency theory, where the agent, typically represented by accountants, is responsible for reporting their actions to the principal, as discussed by Barton (2006). This relationship reflects a form of stewardship, where the agent's duty is to provide the principal with information to meet their informational needs, as emphasized by Gray and Jenkins (1993). Given that SIRC's are obligated to report on the management of Muslim assets like waqf and zakat to the public, it becomes crucial to understand the recipients of this accountability and the underlying reasons for it.

Within the context of Islam, there exist two distinct forms of accountability: primary accountability and secondary accountability, as outlined by Masruki et al. (2018). Primary accountability is directed towards Allah, while secondary accountability is owed to others,

whether individuals or organizations. Achieving public accountability, especially in its most fundamental sense, is more challenging in the public sector due to the broader and more diverse array of stakeholders involved, as noted by Gaia and Jones (2017). Consequently, stakeholder theory emerges as the primary and most valuable framework for understanding sustainability reporting practices in both public and commercial sectors, as highlighted by Meutia et al. (2021).

Meanwhile, stakeholder theory posits that corporations have obligations to non-shareholder groups with vested interests beyond just shareholders, as proposed by Freeman (1984). This perspective categorizes stakeholders into two groups: internal and external stakeholders. "Internal stakeholders" comprise individuals directly involved in the company's operations, such as top executives, management, and support staff. Conversely, "external stakeholders" include oversight bodies, SIRC's creditors, and the public, encompassing the broader Malaysian Muslim community, as the SIRC's issue Islamic rulings affecting the entire Muslim population (Masruki et al., 2018). However, the specific focus of this study is on meeting the accountability expectations of SIRC's as custodians of Muslim wealth. Consequently, the research scope exclusively targets external stakeholders, specifically the public.

2.2 Web-Based ESG Reporting

Web-based ESG reporting for sustainability refers to the practice of using websites as a platform to communicate sustainability information and corporate responsibility reports. It involves publishing and updating information related to sustainability issues on the organization's website and providing stakeholders with timely and interactive content (Palma et al., 2021). This approach offers advantages over traditional periodic sustainability reports, as websites allow for more updated and interactive communication (Di Tullio & La Torre, 2022). However, there are concerns that relying solely on web-based communication may lead to a deinstitutionalizing effect on sustainability reporting (Nicolò et al., 2021).

Studies have examined the web-based communication practices of universities and their relationship with sustainability reporting, highlighting the potential of websites to provide insights into social issues and engage stakeholders (Raghupathi & Raghupathi, 2019, 2020). Companies have also been evaluated on their online sustainability disclosure practices, revealing differences in design and content across industries. Overall, web-based sustainability reporting aims to enhance transparency, stakeholder relationships, and the perception of corporate sustainability.

2.3 Integrated Framework for Web-Based Sustainability Reporting

This study has identified four elements for an integrated framework for web-based ESG reporting for sustainability as shown in Figure 1. The components of the framework are: (1) environmental stewardship; (2) stakeholders' engagement; (3) transparency and accountability and (4) data management.

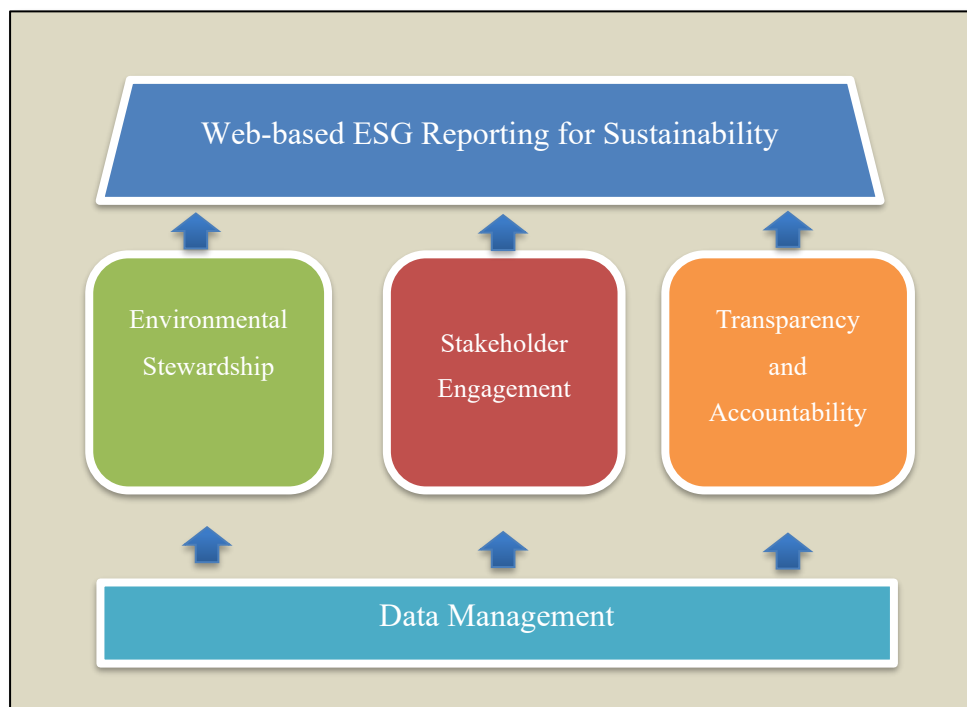


Figure 1: Integrated framework of web-based sustainability reporting

2.3.1 Environmental Stewardship

The effects of environmental interests, development paths, and religious orientations vary across different measures of sustainability (Whitford & Wong, 2009). Joseph et al. (2014) indicated the presence of institutional isomorphism particularly coercive pressure, which explains the extent of sustainability reporting on websites. Alcaraz-Quiles et al. (2015) noted that the publication of sustainability information highlights the need for improvement in the disclosure of economic and environmental information. Meanwhile, Yang and Huang (2018) noted that religious beliefs had negative effects on private environmental behaviors but having positive effects on public environmental behaviors (Yang & Huang, 2018). Nevertheless, some studies highlight that there is a lack of commitment to social and environmental reporting (Dobbs & Staden, 2016). For instance, Joseph and Taplin (2012) found that 15 out of 16 of the councils participating in their study mimicked the sustainability information on other councils'

websites. Thus, there is a need for continued debate and awareness of the dynamics at play in the field of sustainability reporting standardization.

2.3.2 Stakeholder Engagement

Stakeholder engagement in web-based sustainability reporting for religious institutions is an important aspect that needs to be addressed. The stakeholder engagement plays a crucial role in producing more meaningful sustainability reports (Ardiana, 2022). Stakeholders, both internal and external, expect comprehensive financial and non-financial information disclosure from religious institutions' annual reports (Masruki et al., 2016). Majdi et al. (2023) highlight the importance of stakeholder power, including the community, in sustainability disclosure and provide insights into stakeholder expectations and the role of stakeholders in sustainability reporting. From the disclosure perspective, Masruki et al. (2016) found that financial and non-financial information disclosure is important for satisfying stakeholders' expectations. Therefore, there is a need to improve stakeholder engagement strategies in web-based sustainability reporting for religious institutions to meet stakeholders' expectations and produce more meaningful reports.

2.3.3 Transparency and Accountability

Transparency and accountability in web-based sustainability reporting is an important aspect that needs to be addressed. Stakeholders have expectations of accountability from religious institutions, and it is crucial for the meaning of accountability to be clarified (Masruki et al., 2022). Reporting practices of non-profit entities, including foundations, are guided by the perceived importance of the main stakeholder (Ghazali et al., 2022). Integrated reporting, which promotes integrated thinking and decision-making, is a form of innovative reporting that can enhance transparency and accountability (Farizal Mohammed et al., 2020). The development of an Accountability Disclosure Index (ADI) for religious institutions can contribute to analyzing and evaluating annual reports, ensuring the disclosure of relevant information to meet stakeholder expectations (Masruki et al., 2018). Masruki et al. (2016) reported stakeholders have expectations of accountability of information disclosure from annual reports, and there are significant differences in their information expectations. Hence, there is a need to enhance transparency and accountability in web-based sustainability reporting for religious institutions, considering the expectations of stakeholders and the importance of reporting practices.

2.3.4 Data Management

Data management plays a pivotal role in shaping an organization's ability to report on sustainability, significantly impacting the understanding of how organizational activities influence sustainability outcomes (Troshani & Rowbottom, 2024). Aiken (2016) noted that data management is not just a technical discipline, but also a strategic one, thus requiring management attention. The implementation of a secure web-based system automates the collection of data and enhances communication across multiple locations (Winget et al., 2005). From a religious institution perspective, Jansen et al. (2010) found that the Web can be a useful communication medium for religious activities. Similarly, the Internet can be effectively utilized to strengthen religious authority (Knowles, 2013). Furthermore, data management can assist institutions to manage the data life cycle more efficiently and effectively, addressing crucial issues such as data privacy, security, copyright, and licensing (Patel, 2016).

3.0 RESEARCH DESIGN

This study employed a qualitative research design to deeply explore and understand the complex subject matter of sustainability reporting in State Islamic Religious Councils (SIRCs). Qualitative research is well-suited for capturing the rich, context-specific information necessary to develop a comprehensive understanding of nuanced phenomena (Creswell & Poth, 2016). Semi-structured interviews were the primary data collection method, allowing for in-depth insights into participants' perspectives, experiences, and interpretations. The interview guide, featuring open-ended questions and prompts, was designed to facilitate discussions around key themes while providing participants the flexibility to freely express their viewpoints. Interviews, lasting between 1 to 1.5 hours, were conducted in person, audio-recorded with participant consent, and subsequently transcribed verbatim for detailed analysis.

3.1 Participant Selection and Data Collection

Participants for the semi-structured interviews were selected through purposive sampling, a technique chosen to ensure the inclusion of individuals with substantial knowledge or experience in sustainability reporting on the websites of SIRCs. A total of 27 participants, including IT officers, corporate communication professionals, and administrative staff, were engaged in the study to provide a broad range of insights. In addition to interviews, a thorough document review was conducted to supplement the data collection. This involved an in-depth examination of relevant documents, including content from the official websites of each SIRC,

to extract pertinent information and contextual insights, thereby enriching the interview data and aiding in the triangulation of findings.

3.2 Data Analysis

The data analysis process was guided by a thematic analysis approach, supported by the use of Atlas.ti software version 9 for efficient data management and coding. Thematic analysis is a robust method for identifying, analyzing, and reporting patterns (themes) within data. Initially, an inductive coding process was utilized to discern emerging themes from the interview transcripts and document reviews. These themes were then systematically refined and categorized through iterative analysis, which involved multiple rounds of reviewing and reorganizing the data to build a coherent narrative. This process facilitated the identification of patterns, contradictions, and key insights related to the research questions. The thematic frameworks were developed based on recurring patterns in the data, and any discrepancies were addressed through discussions among the research team members.

3.3 Ensuring Trustworthiness

To enhance the credibility and reliability of the study's findings, several strategies were employed to ensure trustworthiness. Member checking was conducted to validate preliminary findings with participants, ensuring that their views were accurately captured and interpreted. Peer debriefing sessions were also held with co-researchers and subject matter experts to critically assess the plausibility and coherence of the emerging themes. Additionally, triangulation was used to corroborate findings across multiple data sources, such as interviews and document reviews. This comprehensive approach to validation helped to reinforce the study's validity and reliability, ensuring that the findings are both robust and trustworthy.

3.4 Ethical Considerations

Ethical approval for this research was obtained from the relevant ethical review board, ensuring that the study adhered to rigorous ethical standards. Informed consent was obtained from all participants, with clear communication regarding the purpose of the study, the voluntary nature of their participation, and the measures taken to maintain confidentiality and anonymity. Participants were assured of their right to withdraw from the study at any point without any consequences, safeguarding their autonomy and comfort throughout the research process. These ethical practices were integral to maintaining the integrity of the research and fostering a respectful and transparent relationship with participants.

4.0 ANALYSIS AND DISCUSSION

4.1 Demographic Profile of Participants

In this study, we chose a total of 13 SIRC's that are from five distinct regions in Malaysia. The regions consisted of two SIRC's from the Southern area, two from the Central region, four from the Northern region, three from the East Coast, and two from East Malaysia. These SIRC's are denoted as SR1 through SR13, as indicated in Table 1.

Table 1: Profile of interviewees

Region	SIRC's Code	Interviewee Code	Position	Job Scope	Duration	No. of Interviewees
Southern	SR1	IV01	IT Officer	Website maintenance	1 Hour	1
	SR2	IV02	IT Officer	Website maintenance	1 Hour 30 Mins	2
	SR2	IV03	IT Officer	Website maintenance		
Central	SR3	IV04	Chief Digital Officer	Strategic planning and verified content	1 Hour 22 Mins	3
	SR3	IV05	IT Officer	Website maintenance		
	SR3	IV06	Web Master	Website design and development		
	SR4	IV07	Chief Digital Officer	Strategic planning and verified content	1 Hour 15 Minutes	1
Northern	SR5	IV08	IT Manager	Website maintenance	1 Hour	2
	SR5	IV09	Corporate Relations Manager	Website maintenance		
	SR6	IV10	Head of IT & Communication Unit	Strategic planning and verified content		
	SR6	IV11	Assistant Communications & Corporate Officer	Website maintenance	1 Hour 15 Mins	3
	SR6	IV12	Assistant Chief IT	Website maintenance		
	SR7	IV13	Head of IT & Communication Unit	Strategic planning and verified content	1 Hour	2
	SR7	IV14	Assistant Chief IT	Website maintenance		
	SR8	IV15	ICT Unit Officer	Strategic planning	1 Hour	3
	SR8	IV16	Unit ICT Assistant Officer	Website maintenance		
	SR8	IV17	Assistant	Update content		
East Coast	SR9	IV18	Head of IT & Communication Unit	Strategic planning and verified content	1 Hour 30 Mins	2
	SR9	IV19	Assistant Chief IT	Website maintenance		
	SR10	IV20	Senior Assistant Registrar	Strategic planning and verified content	1 Hour	1
	SR11	IV21	IT Officer	Strategic planning	1 hour	2
	SR11	IV22	Assistant Librarian	Website maintenance		

Region	SIRCS Code	Interviewee Code	Position	Job Scope	Duration	No. of Interviewees
East	SR12	IV23	Assistant Administration Officer	Website content	1 Hour	2
	SR12	IV24	Chief Executive- Policy & Regulation	Website maintenance		
	SR13	IV25	IT Officer	Website maintenance		
	SR13	IV26	Zakat Officer	Website content	1 Hour 15 Mins	3
	SR13	IV27	Research & Development Officer	Website maintenance		
Total interviews						27

As shown in Table 1, it is worth noting that SR1 was the only SIRC that could not be included in the interview process, as they only agreed to respond to interview questions in written form. In total, we conducted interviews with 27 participants over a span of four months, from December 2022 to March 2023. The extended duration of the interviews was primarily due to the scheduling challenges posed by the SIRCS.

Regarding the positions of the interviewees, we engaged seven IT officers responsible for website maintenance. Additionally, we interviewed individuals in various IT-related roles within the SIRCS, including Chief Digital Officers (2), Webmasters (1), IT Managers (1), Assistant Unit ICT Officers (1), ICT Unit Officers (1), Heads of IT and Communication Units (3), and Assistant Chief IT Officers (2). We also interviewed individuals holding positions related to office administration, such as Corporate Relations Managers (1), Assistant Communication and Corporate Officers (1), Assistant Administrative Officers (2), Chief Executives in the Law Enforcement and Policy Department (1), Assistant Librarians (1), Zakat Officers (1), Senior Assistant Secretaries (1), and Research and Development Officers (1). Most of these interviewees were directly involved in maintaining, strategically planning, and curating content for their respective SIRCS' websites. Regarding the duration of each interview session, the longest interview lasted for one hour and thirty minutes, while the shortest took one hour. In terms of the number of employees who participated in interviews within the SIRCS, the SIRCS with the most participants were SR3, SR6, SR8, and SR13, with three employees each. In contrast, SR1 opted for online interviews and had the fewest participants.

4.2 Findings

4.2.1 Environmental Stewardship

The environmental sustainability element pertains to the SIRC's dedication to environmental stewardship. Findings show that this theme receives the least attention on the SIRC websites. Only six out of the 13 SIRC's confirmed that their websites place a significant emphasis on environmental responsibility. While not explicitly mentioned on the SIRC's websites, one of the SIRC's discloses their initiatives aimed at reducing paper consumption through digitalization. An example is the strategic shift by SR11 from conventional paper-centric communication towards digital modes, thereby diminishing paper usage. An interviewee ((IV21) noted that:

"Regarding the environment, previously, we used to print pamphlets, but now we have reduced printing and have transitioned to digital formats to minimize paper usage."

Nevertheless, an emerging focus on environmental stewardship was noted from SR6 in the northern region, particularly within the context of sustainable infrastructure development and land use management. The findings from the interview highlight that although there are currently no direct environmental activities widely implemented, there is a growing awareness and effort to integrate sustainability principles into their operations. For instance, in mosque construction, there is a conscious effort to adopt green energy solutions. As one interviewee (IV10) noted, "...when constructing mosques, we consider green energy to reduce long-term operational and maintenance costs...", indicating a strategic approach to minimize environmental impact while managing resources efficiently.

Furthermore, the SR6 is exploring innovative solutions to address the challenge of limited land availability for Islamic burial plots in the state. One notable initiative is the introduction of centralized burial grounds, which aims to optimize land use by preventing the expansion of individual burial plots across different areas. The interviewee (IV10) further explained:

"We have introduced centralized burial grounds to manage land scarcity effectively. This prevents the need for additional land in various locations as current plots fill up."

The interviewee further elaborated that they are also adopting the concept of recycling burial plots, where after a long period, the same plot can be used again once the earlier remains have

decomposed. These initiatives reflect a proactive approach towards sustainability, balancing religious obligations with practical environmental considerations. While environmental stewardship is not yet a formal policy, the discussions and actions taken by several SIRC's indicate a commitment to sustainable practices. By focusing on both resource efficiency in construction and innovative land management strategies, for example, they are setting a foundation for more comprehensive environmental stewardship in the future.

4.2.2 Stakeholder Engagement

The stakeholder engagement element discusses aspects of collaboration and partnership with other agencies as well as social services and community engagement. This is the only element that has been fulfilled by all respondents diligently. In terms of collaboration and partnership, SR4, for instance, mentioned their collaboration with the Zakat (Islamic alms) authority, highlighting the potential for promoting sustainability practices through joint initiatives. SIRC's websites were found to showcase successful collaborations, and joint projects, related to sustainability, and the positive impacts achieved through this partnership, thereby demonstrating a holistic approach to sustainability reporting. As mentioned by one of the interviewees (IV07):

"We have collaborations, for example, between (SR4) and the Zakat Board. If it's solely the Zakat Board's program, it will be featured on their own portal. Collaboration depends on events and activities".

The focus of stakeholder engagement in the form of social services and community engagement such as programs for women, and individuals in need, presents an opportunity to expand sustainability reporting into the social dimension. Here, the website could highlight community engagement efforts, social welfare projects, and activities that empower marginalized groups, reflecting the organization's commitment to social sustainability. As explained by the interviewee from the East Coast region, SR9:

"For example, if someone has family issues and needs consultation, they have to apply for assistance through the legal service, and we promote it... They just need to apply, and we'll review the case and forward it to our legal panel for consultation." . (IV18)

The findings also highlight that the SIRC's place a strong focus on stakeholder engagement as a core element of their digital sustainability reporting practices. For example, SR13 has made significant efforts to ensure that various stakeholders, including the public, internal staff, and other governmental and religious bodies, are engaged through multiple digital platforms. However, not only does SR13 use their website to share information but also social media to reach out to their stakeholders. As stated by an interviewee (IV25):

“Our website provides essential information, while social media is used more for interactive engagement and updates on activities, which helps reach a wider audience more effectively”

Similarly, IV20 mentioned that *“In the past, it was Facebook, then it shifted to Instagram, and now it's TikTok.”* This approach implies a broader trend towards digitalization in sustainability reporting, where stakeholder engagement is becoming increasingly essential for effective governance and accountability.

4.2.3 Transparency and Accountability

The transparency and accountability element are discussed by a majority of the respondents with 10 over 13 SIRC's mentioning this element as important to be disclosed on the SIRC website. For instance, one of the main considerations of the SIRC's is clear and fair zakat distribution that is effectively communicated to stakeholders. The SIRC's rely on a centralized system to avoid duplication and ensure that zakat funds are distributed accurately and fairly, preventing misuse or misallocation of resources. This centralized approach makes the process more transparent, as it provides a clear and consistent method for tracking applications and verifying eligibility. An interviewee highlighted:

“We regularly meet to discuss issues like overlapping zakat applications across state borders and are working towards a centralized system to avoid duplication.”

The interview at SR9 also highlights a strong emphasis on transparency and accountability in their sustainability reporting practices. The organization strives to make its website a comprehensive virtual representation of all services, allowing public access to information and enabling users to resolve their needs remotely. For instance, the website displays zakat collections and distributions using pie charts and graphs, providing the public with a

transparent view of how funds are utilized. This transparency helps to build public trust and ensures accountability in the management of resources. Furthermore, there is a structured process for content verification and publication, where all updates, including job vacancies and news, require approval before being published online. This process ensures that all information shared is accurate and reliable, reinforcing the organization's commitment to high standards in its communications.

An interviewee from SR2, i.e., IV03, noted that the website serves as a central hub for core information and static content. Another interviewee from the northern region, SR8, also agreed that data disclosure is important in the context of sustainability reporting, as sustainability-related data such as environmental impacts, social responsibility efforts, and financial information are essential. Such disclosure is also a requirement by MAMPU (i.e., the government) whereby compliance with relevant standards and regulations in sustainability reporting is monitored through the Government Website and Service Monitoring System. An interviewee at SR8 reiterated by commenting:

"...the score set by MAMPU must be 90% or higher now. Because if it's low, the state's information technology department monitors it, so they will push for improvements. They check it four times a year during the meetings. It's real-time scoring". (IV15)

In addition to these practices, SR9 leverages digital tools such as Google Analytics to monitor website engagement and maintain content relevance. This approach allows them to understand user behavior and preferences, which helps keep the website content updated and engaging for various audiences. By continuously monitoring and adjusting their digital presence based on analytics, they demonstrate a proactive stance on accountability, ensuring that the website remains a valuable and trusted resource for the community.

These findings show that a comprehensive approach to transparency and accountability in sustainability reporting is practiced in some SIRC's. This reflects a commitment to effectively manage public perceptions and maintain the trust of stakeholders.

4.2.4 Data Management

Effective data management and management is crucial to ensure the websites can function as platforms for the SIRC's to share information about the organization's policies, programs, and activities related to zakat, *waqf*, and other forms of assistance. As website management involves a lot of data, this element is eminent for the SIRC's, hence a majority of respondents

(12 out of 13 SIRC)s agreed with this element. Our findings suggested a spectrum of sub-themes that combine to shape the digital reporting landscape, including but not limited to website content, integration with social media, data analytics, and website usability, which are instrumental in ensuring the accessible dissemination of sustainability data. Additionally, themes of benchmarking and technological upgrades emerged as crucial in maintaining the relevancy and adaptability of digital platforms, while online services, data disclosure, and digital infrastructure were illuminated as vital for bolstering the utility and functionality of reporting platforms. Meanwhile, efficiency, data accuracy, website maintenance, and establishing an information hub were viewed as pivotal for ensuring operational efficacy and data reliability. The final sub-theme, data security, emerged as a crucial concern, safeguarding the integrity and confidentiality of digitally disclosed data.

Findings suggest that most SIRC)s employ robust data management practices to maintain the security and reliability of their digital platforms. While these SIRC)s emphasize security and accuracy, their approaches to website management differ in execution. For example, after experiencing security breaches in 2017 and 2021, SR13 took significant steps to enhance the security features of its website by collaborating with the State Computer Department and employing internal developers. SR13's strategy focuses heavily on internal development and collaboration with external bodies to secure and update their website, reflecting a reactive approach to data management. Meanwhile, SR10 employs a more centralized approach by housing data management within a corporate unit that oversees all updates and ensures consistency across platforms. This proactive strategy helps streamline data management processes and maintains uniformity in public communications.

The data management element also discusses the aspect of efficiency, particularly in the effort of the SIRC)s to improve sustainability reporting by streamlining data collection, reducing paperwork, and increasing the efficiency of data management. The use of Google Analytics, for instance, shows commitment by one of the SIRC)s to track and have a better understanding of user engagement, ensuring sustainability data is more accessible and real-time data can be shown. As elaborated by one interviewee when asked how the SIRC managed data related to the users,

“ You (the user) can select the type of assistance. The advantage of this online system is that we can filter right away whether the applicant qualifies to receive aid. There are specific criteria, and the applicant can instantly find out if they are eligible or not. The form was developed in-house by us. We have our programmers. For Asnaf (those needy) assistance, you just need to enter the IC number because we do not have the data. To see if a person has received assistance or not, you can check here. This covers the state users. We can check for other states too, but it's limited to authorized personnel. You can also make payments for waqf, zakat and other things. You can even do it through salary deductions.” (IV18)

One interviewee highlighted the ongoing transition in how property *waqf* (property endowment) is managed. IV19 mentioned: *“We are in the process of making it available online only,”* emphasizing a move away from the traditional paper forms and in-person visits to a purely online system. This change reflects a broader effort by the SIRC to use digital technologies for better efficiency and accessibility. The interviewee further discussed the SIRC's online tools related to zakat (almsgiving). Collections are now shown on their website in real-time, and users can apply for higher education assistance online. Additionally, they have an online zakat payment calculator. To assist users, they currently rely on phone support but are considering adding a live chat feature for immediate help. This shows SIRC's efforts to modernize and streamline its services while maintaining user support.

4.3 Discussions

The findings of this study highlight the growing importance of web-based ESG reporting in religious institutions, particularly within the context of SIRC's in Malaysia. These findings are consistent with the broader literature on sustainability reporting, which highlights the necessity of integrating digital tools to enhance transparency, stakeholder engagement, and accountability (Palma et al., 2021; Nicolò et al., 2021). The use of web-based platforms by SIRC's to report on sustainability aligns with the trend towards digital transformation in reporting practices observed in various sectors (Troshani et al., 2018).

A limited but growing focus on environmental stewardship among SIRC's, primarily through digital initiatives aimed at reducing paper use and adopting sustainable infrastructure practices is noted. The move towards digital communication methods, such as reducing the reliance on printed materials, is consistent with the findings of Alcaraz-Quiles et al. (2015), who noted that digitalization can reduce environmental impact by minimizing resource use.

Additionally, the adoption of green energy solutions in mosque construction reflects a strategic effort to integrate sustainability principles into religious practices, resonating with the observations of Yang and Huang (2018) regarding the influence of religious beliefs on environmental behaviors. However, the study indicates that explicit reporting on environmental initiatives remains sparse, suggesting a need for more comprehensive and visible reporting on sustainability efforts. This gap in reporting is echoed by Joseph et al. (2014), who found that local governments often mimic sustainability information rather than proactively disclose their own initiatives. To address this, SIRC's could benefit from developing standardized frameworks for environmental reporting that are tailored to their unique contexts and responsibilities.

Stakeholder engagement emerged as a crucial theme in the study, with SIRC's actively involving diverse stakeholder groups, including government bodies, religious scholars, and the general public, in their sustainability initiatives. This finding is in line with Ardiana (2022), who stressed the importance of stakeholder engagement in producing meaningful sustainability reports. The study suggests that effective engagement strategies, such as transparent communication of both financial and non-financial information, can enhance stakeholder relationships and foster a more collaborative approach to sustainability. The incorporation of community feedback mechanisms and the use of social media platforms for real-time engagement further illustrates the dynamic nature of stakeholder interactions facilitated by digital reporting tools (Raghupathi & Raghupathi, 2020). Meanwhile, Bielefeld and Cleveland (2013), highlighted that collaborations between religious institutions and social service entities can significantly enhance the scope and efficacy of sustainability initiatives, through the incorporation of resources and joint advocacy. However, the challenge remains in uniformly documenting these interactions and their outcomes, a concern noted by Hellemans et al. (2022) in their study of digital platforms and sustainability.

Transparency and accountability are critical components of effective ESG reporting, particularly for institutions like SIRC's, which manage public and religious funds. The study reveals that SIRC's are increasingly using their websites as comprehensive platforms for disclosing financial data and programmatic activities, such as zakat collections and distributions. This practice enhances public trust and ensures that stakeholders have access to accurate and timely information. This aligns with the findings of Farizal Mohammed et al. (2020), who emphasized the importance of integrated reporting for improving transparency and accountability in public sector organizations. Moreover, the integration of tools like Google Analytics to monitor website engagement demonstrates a proactive approach to maintaining

content relevance and enhancing accountability. This practice supports the findings of Hossain (2018), who noted that digital tools can significantly improve the quality and accessibility of sustainability data, thereby fostering greater stakeholder trust and engagement. The structured processes for content verification before publication, as observed in this study, further reinforce the commitment of SIRC's to uphold high standards of communication, which is essential for maintaining accountability in sustainability reporting (Masruki et al., 2022).

Effective data management is pivotal for the successful implementation of web-based sustainability reporting frameworks. The study shows that SIRC's are increasingly adopting digital tools to manage data collection and dissemination, thereby enhancing the efficiency and accuracy of their reporting processes. This finding is supported by Troshani and Rowbottom (2024), who highlighted the role of robust data management systems in shaping sustainability reporting. The implementation of secure, web-based systems to automate data processes not only reduces administrative burdens but also improves data security and reliability, which are critical for maintaining stakeholder trust (Winget et al., 2005).

The integration of ESG reporting practices within SIRC's, supported by digital tools and platforms, offers a promising pathway to enhance sustainability efforts in religious contexts. However, there is a need for continued development of standardized reporting frameworks and enhanced stakeholder engagement strategies to fully realize the potential of web-based sustainability reporting in these institutions.

5.0 CONCLUSION

This study provides a comprehensive framework for web-based ESG reporting for sustainability tailored to the unique context of State Islamic Religious Councils (SIRC's) in Malaysia. The framework integrates key elements such as environmental stewardship, stakeholder engagement, transparency and accountability, and data management, all of which are crucial for enhancing sustainability practices in religious institutions. By employing a multi-site qualitative research approach, including 27 semi-structured interviews and document reviews, the study offers a greater understanding of the challenges and opportunities associated with ESG reporting in religious settings. This research highlights the potential of digitalized, unified ESG reporting to better align religious obligations with environmental advocacy, thereby supporting SIRC's in achieving broader sustainability goals.

The findings emphasize the importance of adopting a more structured and transparent approach to sustainability reporting within SIRC's. Current practices often lack standardization and do not fully capture the environmental, social, and governance dimensions crucial for

comprehensive sustainability efforts. The proposed framework addresses these gaps by emphasizing the integration of digital tools and platforms, which can significantly enhance the efficiency and effectiveness of data collection, analysis, and dissemination. This approach not only reduces administrative burdens but also ensures more accurate and timely reporting, ultimately fostering greater stakeholder trust and engagement.

However, this study is not without limitations. The research focuses specifically on Islamic religious institutions in Malaysia, which may limit the generalizability of the findings to other contexts. The reliance on qualitative methods also introduces a degree of subjectivity, as the results are based on interpretations of interviewees' responses and the content of reviewed documents. Future research could expand on these findings by incorporating quantitative methods to validate the proposed framework and assess its applicability across different religious and cultural settings. Additionally, exploring the experiences of other religious institutions could provide further insights into the broader applicability of the framework.

Despite these limitations, the study makes a significant contribution to the field by bridging the gap between Islamic values, sustainability, and reporting practices. It provides a foundational framework for policymakers and religious leaders to evaluate and refine their sustainability reporting practices. The insights gained from this research could inform future efforts to enhance transparency, accountability, and stakeholder collaboration in sustainability initiatives, not only within Islamic religious institutions but also in other faith-based and non-profit organizations.

Future research should also consider the evolving digital landscape and its implications for sustainability reporting. As technological advancements continue to reshape communication and data management practices, religious institutions will need to adapt their strategies to maintain relevance and efficacy in their reporting. This will involve exploring new digital tools and platforms that can support more interactive and dynamic forms of engagement with stakeholders, thereby promoting a more comprehensive understanding of sustainability practices within religious contexts.

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