

The Roles of Quantity Surveyor in Sustainable Development within Islamic Framework

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Abstract

Islam offers a broad ethical framework and concepts that can direct sustainable practices because it is a holistic way of life. Integrating the Islamic framework into sustainable development practices requires a deep understanding of both sustainable development principles and Islamic teachings. This includes knowledge of the *Maqasid Shariah*, which provides a comprehensive framework for Islamic values and objectives and the concept of *khalifa*, which sees human as the representative in managing the earth. The study discusses Islamic framework from the context of *Maqasid Shariah* and the concept of *khalifa* on earth. Existing literature on the roles of quantity surveyors in sustainable development primarily focuses on environmental and economic aspects, limited attention may be given to the integration of Islamic frameworks. Understanding the role of quantity surveyors in sustainable development within Islamic frameworks is paramount. This paper aims to examine the opportunities for quantity surveyors in implementing Islamic frameworks into their professional roles and responsibilities in sustainable development. Methodology for the study involves reviews of relevant literature and in-depth structured interviews with five (5) experts. The findings indicate that quantity surveyors have the opportunity to implement the *Maqasid Shariah* framework into their roles in sustainable development.

1. Introduction

Sustainable development is the development that meets present needs without compromising future generations (Fischer *et al.*, 2023). In the construction industry, professionals play a key role in integrating sustainable practices into project delivery. Quantity surveyors, highlighted by Nur Syamsina (2023), are particularly crucial due to their pivotal roles in procurement, project planning, cost and contract management, and other areas.

As a major step towards advancement in society and the economy, the United Nations established the 2030 Agenda for Sustainable progress in 2015, aiming to tackle global challenges such as poverty, inequality, climate change, environmental degradation, peace, and justice (Fei *et al.*, 2021). The agenda includes 17 Sustainable Development Goals (SDGs) with specific targets and indicators to measure progress.

Quantity surveyors play a crucial role in promoting sustainable development by implementing sustainable approaches in construction, procurement, and analyzing the best materials for building use. As a result, quantity surveyor's roles are crucial to ensure environmentally sustainable, resource-efficient construction projects and reduced economy footprint.

From an Islamic viewpoint, sustainable development involves humans as Allah's representatives (*khalifa*) responsibly using resources for mutual benefit, without selfish monopolization (Ahmadi, 2016). Within the Islamic framework, Shariah prescribes a sustainable lifestyle with five essential components (faith, self, intellect, lineage, and property) guiding its application within the *Maqasid Shariah*. According to Ahmad Sarkawi *et al.* (2016), these five essential components provide the necessary background for sustainable development and are essential to it.

Maqasid Shariah refers to the objectives and goals of Islamic law, which serve as a comprehensive framework for understanding the principles and values that underpin Islamic teachings (Afridi, 2016). One key objective is promoting welfare and social justice for the Muslim community and society at large, aligning with sustainability principles that emphasize well-being and equitable resource distribution. Therefore, quantity surveyors can apply the concepts of *Khalifa* and *Maqasid Shariah* to establish a solid foundation for sustainable development within an Islamic context.

Despite increasing emphasis on sustainable construction, there might be limited knowledge on the role of quantity surveyor in implementing Islamic framework into sustainable construction practices. This is because, Koigi (2017) notes their lack of comprehension, attributed to skill gaps, limited awareness of eco-friendly products, and high costs. This suggests a significant gap in their comprehension of their roles in sustainable development, especially within an Islamic framework.

Other than that, the literature on quantity surveyors' role in sustainable development primarily focuses on environmental and economic aspects, with limited attention given to the integration of Islamic frameworks. This research seeks to address this knowledge gap by exploring the specific opportunities faced by quantity surveyors in integrating sustainable development principles based on Islamic frameworks into their roles.

Thus, this paper examines and synthesizes theories and literature concerning the opportunities for quantity surveyors in implementing Islamic frameworks into their professional roles and responsibilities in sustainable development. It seeks to answer the question of whether the roles and responsibilities of quantity surveyors in sustainable development are in line with a broader framework of Islam which is *Maqasid Shariah*.

The paper is structured as follows. In Section 2, the roles of quantity surveyor in sustainable development, the Islamic framework related to sustainable development and the roles of quantity surveyor in sustainable development within Islamic framework are reviewed. This will be followed by Section 3 highlighting the methodology used. The discussion on the roles of quantity surveyor in sustainable development within Islamic framework are highlighted in Section 4. Finally, Section 5 presents a brief concluding comment.

2. Literature Review

2.1 The Roles of Quantity Surveyor in Sustainable Development

Professionals in the construction industry are essential in forming sustainable practices and incorporating them into project delivery processes. Among these professionals, quantity Surveyors are crucial to sustainable development because of their roles in procurement, project planning, cost and contract management, and other areas. In the context of this paper, the roles are divided into 6 main aspects which are bill of quantities (BQ), energy efficiency, cost management, material selection, dealings with client and sustainable procurement.

According to Nur Syamsina (2023), quantity surveyors can contribute to sustainable development by incorporating sustainable materials, energy-efficient systems and environmentally responsible construction practices into the BQ since the traditional role and services of the quantity surveying profession is preparing a BQ. As a result, these roles are aligned with the Sustainable Development Goal (SDG) 9 as it aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Furthermore, quantity surveyors play an important role in managing the cost of projects to achieve energy efficiency in buildings. These can be done by conducting life cycle cost analyses to determine the most cost-effective and sustainable energy solutions and evaluating energy-efficient systems and materials by using BIM (Song *et al.*, 2015). Hence, the practices are aligned closely with SDG 7.

Next, cost management for sustainable practices entails balancing economic and environmental concerns throughout the lifecycle of a construction project. As mentioned by Omotayo *et al.* (2022), the fundamental role of quantity surveyors in encouraging sustainable construction practices includes cost estimates and analysis of sustainable choices in cost management. This involves estimating the costs of energy-efficient technologies, eco-friendly materials, and other environmentally friendly aspects. Hence, it can be seen that SDG 12 to ensure sustainable consumption and production patterns is aligned with the role of quantity surveyors in managing costs for sustainable practices.

Quantity surveyors also play a crucial role in the selection of sustainable materials during the materials procurement process as they are involved in the early stage of construction. This entails implementing green materials for the quality of building (Govindan *et al.*, 2016). SDG 11 focuses on making cities and human

settlements inclusive, safe, resilient, and sustainable. As a result, it is aligned with the role of quantity surveyors in the selection of sustainable materials.

Other than that, quantity surveyors play a critical role in educating their clients about sustainable development approaches that can be implemented in construction projects. This is because, according to Lop *et al.* (2019), their expertise in cost management, procurement, and project delivery positions them as valuable contributors to the decision-making process. This practice is aligned with the SDG 4 where it contributes to raising awareness and understanding of sustainable development.

Finally, as mentioned by Sarkis *et al.* (2012), quantity surveyors can actively contribute to sustainable procurement by creating a sustainable assessment framework that uses a thorough decision-making technique to evaluate potential sustainable approaches and choosing contractors that have sustainable criteria. Thus, these practices can be linked to SDG 9 and SDG 17 as it contributes to the advancement of sustainable practices within the industry and infrastructure sector and emphasizes the importance of partnerships for effective implementation of sustainable development goals. Table 1 below summarizes the roles of quantity surveyors in sustainable development.

Table 1 *The Roles of Quantity Surveyor in Sustainable Development*

Aspect	Roles of Quantity Surveyor in Sustainable Development	Sustainable Development Goals	Author (s)
Bill of Quantities (BQ)	Selecting and incorporating for sustainable materials	SDG 9: Industry, innovation and infrastructure	Nur Syamsina (2023)
	Implementing energy-efficient systems and environmentally responsible construction practices		Razali <i>et al.</i> (2016)
	Estimating cost related to sustainable practice		Olanrewajua & Anahve (2015)
Energy Efficiency	Conducting life cycle cost analyses to determine the most cost-effective and sustainable energy solutions	SDG 7: Affordable and clean energy	Song <i>et al.</i> (2019)
	Evaluating energy-efficient systems and materials by using BIM		Lim <i>et al.</i> (2015)
	Conducting value management analysis to evaluate the benefits derived from incorporating energy-efficient measures		Yassin <i>et al.</i> (2022)
Cost Management	Providing cost estimates and analysis of sustainable choices	SDG 12: Responsible consumption and production	Omotayo, Tan, and Ekundayo (2022)
	Providing a comprehensive evaluation of design alternatives through life cycle cost		Rahim <i>et al.</i> (2020)
Material Selection	Implementing of green materials for the quality of building	SDG 11: Sustainable cities and communities	Govindan, Shankar and Kannan (2016)
	Collaborating with others to ensure that sustainable material choices are integrated into the design phase		Ozmen & Unay (2011)

Dealings with client	Educating their clients about sustainable development approaches	SDG 4: Quality education & SDG 17: Partnership for the goals	Lop <i>et al.</i> (2019)
	Communicating and collaborating with client for the successful implementation of green building		
Sustainable Procurement	Creating a sustainable assessment framework for the decision-making technique	SDG 9: Industry, innovation and infrastructure & SDG 17:	Ruparathna & Hewage (2014)
	Evaluating potential sustainable approaches	Partnership for the goals	Sarkis <i>et al.</i> (2012)
	Having good ethical conduct in the process of construction procurement		Hassim <i>et al.</i> (2010)

2.2 The Concept of *Maqasid Shariah* Related to Sustainable Development

Maqasid Shariah aims to achieve welfare and social justice for the Muslim community and society by providing five crucial elements such as religion (*al-Din*), life (*al-Nafs*), intellect (*al-Aql*), lineage (*al-Nasl*), and wealth (*al-Mal*) in which clearly provide the necessary background for sustainable development. It is an obligation for every Muslim to protect these five elements in order to achieve better life in present and the future.

Preservation of faith involves recognizing Allah's existence, keeping a firm and unbroken relationship with Him, and making decisions and actions that are consistent with Islamic teachings (Abdul Rasool *et al.*, 2020). The concept of sustainable development is linked to the concept that preserving faith can significantly impact the well-being of individuals, communities, and the environment. Islamic teachings emphasize acts of kindness, generosity, and ethical behavior, which contribute to the greater values of justice, compassion, and stewardship. Individuals who prioritize virtuous deeds can develop a sense of social duty and promote peaceful coexistence with the Earth. These beneficial actions not only strengthen the structure of society by addressing injustices, but they also promote sustainable practices that prioritize environmental preservation. As a result, preservation of faith becomes a critical component of sustainable development within the Islamic framework, fostering a holistic approach that benefits both current and future generations.

Furthermore, according to Noh (2022), the concept of preserving life within the framework of *Maqasid Shariah* is a multifaceted notion encompassing social justice, physical well-being, safety, and the sanctity of human life, among various other dimensions. This holistic approach mirrors the overarching objectives of Islamic law, ensuring individuals can lead dignified lives within a secure and fair community. Consequently, this principle holds profound implications for sustainable development, aligning with the broader objectives of advancing human welfare and social justice. In the sustainable development context, this entails approaches to secure fundamental necessities like food, clean water, healthcare, and education, contributing to an enhanced quality of life. Moreover, sustainable development is dedicated to rectifying social inequities, alleviating poverty, and elevating the overall standard of living for every segment of society, thereby harmonizing with the principles embedded in *Maqasid Shariah*.

Next, the preservation of intellect as a component of the *Maqasid Shariah* emphasizes the importance of mental health, education, and knowledge in the context of the Islamic framework (Zailani *et al.*, 2022). This principle emphasizes the protection and promotion of intellectual capacities, as well as the pursuit of knowledge and wisdom. This framework fits with the broader goal of nurturing human capital, stimulating innovation, and promoting lifelong learning in the context of sustainable development. Initiatives in sustainable development that prioritize education, skill development, and intellectual empowerment are consistent with the key principles of *Maqasid Shariah*. Thus, they contribute to the advancement of societies by developing intellectually engaged and knowledgeable communities.

Other than that, the preservation of lineage within the *Maqasid Shariah* highlights the significance of protecting family structures, cultivating good relationships, and guaranteeing generation continuity within the Islamic ethical framework. According to Rosidi *et al.* (2022), this idea emphasizes the importance of maintaining family ties, lineage, and familial bonds. This is also associated with supporting unity in society, stability, and the well-being of future generations in the context of sustainable development in which the efforts that prioritize lineage preservation include strategies to promote family units, improve familial ties, and create environments that foster the growth of children and future generations. By recognizing the vital importance of family structures in society development, this connection with *Maqasid Shariah* leads to the long-term stability and prosperity of communities.

Finally, the preservation of wealth reflects the importance of economic stability, fair wealth distribution, and responsible financial management within the Islamic ethical framework (Muhammad, 2017). This principle emphasizes the ethical acquisition and utilization of wealth, as well as the avoidance of exploitation and unjust economic practices. In the context of sustainable development, this aligns with the goal of fostering economic resilience, reducing poverty, and ensuring equitable access to resources. As a result, this alignment contributes to the long-term economic sustainability and prosperity of communities by recognizing the ethical dimensions of wealth creation and distribution. Table 2 shows the Islamic framework that reflects sustainable development.

Table 2 *The Elements of Maqasid Shariah That Reflects Sustainable Development*

<i>Maqasid Shariah</i> Elements	Sustainable Development Approaches	Author (s)
Preservation of faith Involves making decisions and actions that are consistent with Islamic law	Addressing justice in society	Abdul Rasool <i>et al.</i> (2020)
	Promoting sustainable development approach	
	Prioritizing environmental preservation	
Preservation of life Refers to making sure that people's lives are protected compliance with the goals and concepts of Islamic law	Advancing human welfare and social justice	Noh (2022)
	Enhancing quality of life by securing the necessities	
	Rectifying social inequities	
	Reducing poverty	
Preservation of intellect Involves preventing activities or conditions that may harm mental well-being	Nurturing human capital	Zailani <i>et al.</i> (2022)
	Stimulating innovation	
	Promoting lifelong learning in education	
Preservation of lineage Stresses safeguarding family structures and ensuring generational continuity under Islamic law.	Promoting family units	Rosidi <i>et al.</i> (2022)
	Improving familial ties	
	Creating environment that foster the growth of children and future generation	
Preservation of wealth Entails protecting and managing financial resources in line with Islamic law	Utilization of wealth	Muhammad (2017)
	Avoiding exploitation in economic practices	
	Reducing poverty	
	Ensuring equitable access to resource	

3. Methodology

The systematic literature review was conducted as it is a method to synthesize research findings to have a better understanding of the topic of the roles of quantity surveyors in sustainable development within the Islamic framework. This includes assessing, selecting, extracting and synthesizing all the relevant information from reliable academic journal articles, conference papers, books, etc. which provides an all-encompassing idea on the roles of quantity surveyors in sustainable development and the concept of *Maqasid Shariah* related to sustainable development. Furthermore, analysis is being done to see the synchronization of the information gathered from the systematic literature review. All the results from the systematic literature review and data analysis are presented in the table format to allow discussion and explanation on the research findings. Figure 1 below shows the research procedure carried out for systematic literature reviews.

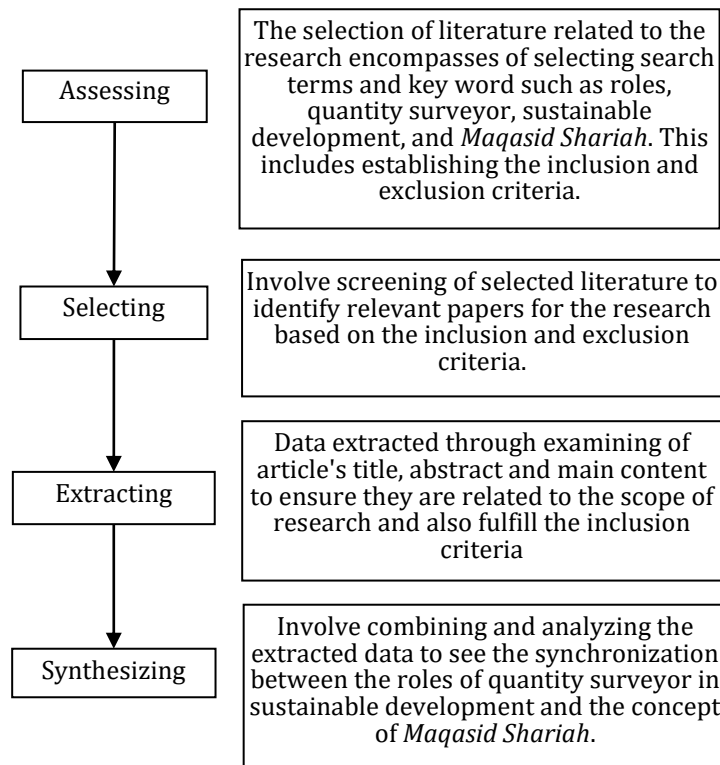


Fig. 1 Framework of the procedure to carry out the systematic literature review

4. Result and Analysis

Achieving well-being and social justice for the Muslim community and society as a whole is one of *Maqasid Shariah's* main goals. Utilizing their crucial role in managing contracts, resources, and costs in development and building projects, quantity surveyors can apply the principles of *Maqasid Shariah* in the context of sustainable construction as well as make a significant contribution to sustainable development in an Islamic framework.

The preservation of life extends beyond the physical realm, encompassing aspects such as social equality, justice, security of life and property, dignity, good governance and poverty reduction. In the sustainable development context, the well-being of construction workers and the future occupants of built structures takes center stage. One of the things quantity surveyors can do to ensure society's well-being is selecting and incorporating sustainable materials because it can improve health, improve workplace environments, and reduce environmental impact. As a result of fulfilling these tasks, it is clear that their roles are consistent with the *Maqasid Shariah* framework, where preservation of life refers to ensuring that people's lives are preserved in accordance with the purposes and ideals of Islamic law and it also aligns with the SDG 9 as it aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Acquiring knowledge is crucial for the personal and professional development of every individual, and in Islam, seeking knowledge is considered an obligation. Preservation of intellect in a sustainable development context involves actively involving communities in decision-making processes. Hence, quantity surveyors have an obligation to educate clients regarding sustainable practices by applying their knowledge of managing and advising in construction projects, particularly within the context of *Maqasid Shariah*. This entails communicating and collaborating with clients for the successful implementation of green building. As a result, quantity surveyors can encourage clients towards an obligation to environmental preservation which is consistent with the *Maqasid Shariah* framework which is the preservation of intellect and in line with SDG 4 and 17 where it contributes to raising awareness and understanding of sustainable development and emphasizes the importance of partnerships for effective implementation of sustainable development goals.

In relation to *Maqasid Shariah* framework which is the preservation of wealth, quantity surveyors play a crucial role in managing costs effectively, ensuring that resources are utilized efficiently and that projects are financially viable in the long term. Within the context of sustainable development, quantity surveyors play a crucial role by advocating for environmentally responsible construction practices through their expertise in cost estimates and sustainable options analysis within cost management. As a result, this aligns with the principles of

Maqasid Shariah, emphasizing the indispensable role of quantity surveyors in cost management for sustainable development and consistent with SDG 12 which ensures sustainable consumption and production patterns.

The concept of sustainable development is closely linked to faith preservation, as Islamic teachings promote acts of kindness, generosity, and ethical behavior which contribute to the greater values of justice, compassion, and stewardship. In relation to *Maqasid Shariah* framework, which is the preservation of faith, quantity surveyors are critical to have good ethical conduct in the process of construction procurement by developing a framework for sustainable assessments that employs a comprehensive decision-making process. As a result, it promotes sustainable practices that prioritize environmental preservation which aligns with the principles of *Maqasid Shariah* and SDG 16 which aims to promote peaceful and inclusive societies, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.

Preservation of lineage in the context of sustainable development entails supporting unity in society, stability, and the well-being of future generations. In relation to the roles of quantity surveyors in sustainable development, they play a crucial role in implementing green materials for the quality of building as it can enhanced the structural life span, minor environment footprint and increase energy savings. As a result, it can improve familial ties and create environments that foster the growth of children and future generations. Thus, this practice is consistent with the *Maqasid Shariah* framework which is the preservation of lineage as well as SDG 11 which focuses on making cities and human settlements inclusive, safe, resilient, and sustainable. Table 3 summarizes the opportunities for quantity surveyors in implementing Islamic frameworks into their professional roles and responsibilities in sustainable development.

Table 3 *The Roles of Quantity Surveyor in Sustainable Development Within Islamic Framework*

<i>Maqasid Shariah</i> Elements	Sustainable Development Approach Related to Maqasid Shariah Framework	Roles of Quantity Surveyor in Sustainable Development Within the Context of <i>Maqasid Shariah</i> and <i>Khalifa</i>	Sustainable Development Goals
Preservation of life (<i>al-Nafs</i>)	Advancing human welfare and social justice Enhancing quality of life by securing the necessities Rectifying social inequities Reducing poverty	Conducting value management analysis to evaluate the benefits derived from incorporating energy-efficient measures Selecting and incorporating for sustainable materials Estimating cost related to sustainable practices Evaluating energy-efficient systems and materials by using BIM	SDG 7, SDG 9 & SDG 17
Preservation of intellect (<i>al-Aql</i>)	Nurturing human capital Stimulating innovation Promoting lifelong learning in education	Educating clients about sustainable development approaches Communicating and collaborating with client for the successful implementation of green building	SDG 4 & SDG 17
Preservation of wealth (<i>al-Mal</i>)	Utilization of wealth Avoiding exploitation in economic practices Reducing poverty Ensuring equitable access to resource	Providing cost estimates and analysis for sustainable choices Providing a comprehensive evaluation of design alternatives through life cycle cost Conducting life cycle cost analyses to determine the most cost-effective and sustainable energy solutions	SDG 7 & SDG 12
Preservation of faith (<i>al-Din</i>)	Addressing justice in society Promoting sustainable	Having good ethical conduct in the process of construction procurement	SDG 9 & SDG 16

	development approach	Creating a sustainable assessment framework for the decision-making technique	
	Prioritizing environmental preservation	Evaluating potential sustainable approaches	
Preservation of lineage (<i>al-Nasl</i>)	Promoting family units	Implementing energy-efficient systems and environmentally responsible construction practices	SDG 9 & SDG 11
	Improving familial ties	Implementing of green materials for the quality of building	
	Creating environment that foster the growth of children and future generation	Collaborating with others to ensure that sustainable material choices are integrated into the design phase	

5. Conclusion and Recommendations

Sustainability is a critical and emerging concept in the construction industry that seeks to address the environmental, social, and economic implications of construction activities. Quantity surveyors are among the professionals that are crucial for sustainable development because of their roles in procurement, project planning, cost and contract management, and other areas. Additionally, quantity surveyors also have the opportunities to implement Maqasid Shariah framework into their roles in sustainable development. In addition, it is evident that the roles of quantity surveyor in sustainable development are in line with the framework provided in Maqasid Shariah. Furthermore, Maqasid Shariah provides a comprehensive framework for understanding the principles and values that underpin Islamic teachings in which its highest objectives is to achieve social and welfare for the community as a whole. By incorporating the key elements of Maqasid Shariah into their works, quantity surveyors can contribute to sustainable development within an Islamic framework. Despite the limitation of literature where the literature on the role of quantity surveyors in sustainable development primarily focuses on environmental and economic aspects, limited attention may be given to the integration of Islamic frameworks, this study suggests that there should be more future research conducted to produce extensive reference towards the knowledge of Islamic framework within the professionals in construction industry.

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Conflict of Interest

Authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** Aliff, N; Sharina Fariyah, H; **data collection:** Aliff, N; **analysis and interpretation of results:** Aliff, N; Sharina Fariyah, H; **draft manuscript preparation:** Aliff, N; Sharina Fariyah, H. All authors reviewed the results and approved the final version of the manuscript.

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