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Assessing the Role of Islamic Banking in Advancing Sustainable Development Goals through Environmental Energy and Economic Efficiency in Asia

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Research Article

Keywords: Islamic banking, Sustainable development goals (SDGs), Environmental sustainability, Energy efficiency, Economic efficiency and Asia

Posted Date: October 8th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10979602/v1

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Additional Declarations: No competing interests reported.

Abstract

Islamic banking is a banking system that follows Islamic law (Shariah). It is based on the principles of sharing risk and profits and making ethical investments. Islamic banking has been growing rapidly in recent years and is becoming a key player in the global financial system. In this article, the role of Islamic banking in supporting sustainable development in Asia is explored, highlighting its potential in environmental conservation, energy efficiency, and economic efficiency. The Sustainable Development Goals (SDGs) are the United Nations' (UN) Goals. The study is quantitative, using a systematic approach to collect and analyze data. Islamic banks have greater incentives to invest in green, sustainable, and environmentally friendly companies and are more inclined to finance social and economic development projects that help the poor and disadvantaged. The data recorded in MIX Market is from Asia between 2016 and 2025. Data analysis was conducted using a statistical program, STATA 17 and panel data analysis. The data were analyzed to assess the influence of Islamic banking on three efficiency factors: environmental, energy, and economic. The outcomes of this study clearly explain the possible ways in which Islamic banking supports sustainable development. Islamic banking has been seen to be sustainable and to promote environmentally friendly and energy-efficient enterprises and projects. By supporting environmentally friendly businesses and projects, Islamic banking boosts economic, energy, and environmental efficiency by giving customers access to funds for projects and businesses that would otherwise be unavailable in the formal financial system.

Introduction

Sustainable development is a major priority in the rising economies and population in Asia. Sustainable development plays an important role in addressing critical environmental, social, and economic issues in Asia (A. Jan et al., 2021; Arauskis et al., 2021). This context has seen the rise of Islamic banking, which may be a catalyst for promoting sustainable development goals (SDGs) in the region. Principles of social justice, equal distribution of wealth, and environmental stewardship are at the heart of Islamic banking, which is based on ethical and Shariah-compliant procedures (Pathan et al., 2022). The architecture of Islamic banking in Asia has great potential to contribute to sustainable development because it reflects values consistent with the SDGs. Existing literature on Islamic finance and SDGs focuses mainly on the international level. However, the SDGs also have a role to play in the Asian context, and Islamic banking can help achieve SDG targets (Bosu et al., 2023). This study aims to fill that gap by examining Islamic banking's role in achieving the objectives of Asia's SDGs, with a special focus on resource maximization and cost-effectiveness.

The present study aims to explore the potential role of Islamic banking in achieving Asia's sustainable development goals, such as environmental protection, energy conservation, and fiscal stability. This will be done by addressing the question below: How can Islamic banking promote environmental, energy, and economic efficiency even in Asia and help achieve other sustainable development goals?

Many studies are available on Islamic banking and SDG goals; however, few studies examine the impacts of Islamic banking on SDG targets in Asia (Gökgöz & Yalçın, 2022; A. Jan et al., 2023). Previous studies have helped address global challenges but have failed to investigate the more specific characteristics and challenges those Asian countries face (Khan & Badjie, 2022; Samusevych et al., 2023; Wang et al., 2023). Therefore, the current research aims to address this information void by conducting a comprehensive evaluation of the role of Islamic banking applications in achieving the SDGs, providing insights and perspectives for academia, policymakers, and practitioners.

The project intends to increase awareness and use of Islamic banking as a catalyst for the future development vision for Asia. The results of this study will help to fill a few gaps in our knowledge. This is because it focuses on the potential role of Islamic banking in bringing Asia closer to its long-term development aspirations through its emphasis on environmental, energy, and economic efficiency. The results open several avenues for how Islamic banking may play a supporting role in the region's environmental agenda. Another benefit of this research is to provide empirical evidence to support Islamic Banking principles in Asia's Sustainable Development framework.

Literature Review

In Asia, there has been a significant amount of research on the potential of Islamic banking in promoting SDGs. This literature review examines how Islamic banking contributes to SDG achievement and the interrelationships among the SDGs from the perspectives of environmental, energy, and economic efficiency. This study aims to reveal how Islamic banking seeks to improve sustainable development in the Asian context and the challenges it faces (Gareeb and Doufa, 2022; Samusevych et al., 2023; Tabebore, 2022). This literature review follows a natural approach and focuses on the potential of Islamic banking to support SDG 7 (affordable and clean energy), SDG 13 (Climate action), and SDG 15 (Life on land) in its triple dimension (economic, Environmental, Social) for the Asian region.

This literature review examines literature that covers the Islamic point of view about environmental sustainability (Guoyan et al., 2021; Thao et al., 2022; Alamsyah & Uddin, 2024); Islamic banking environmental financing and investment practices; and specific efforts made in environmental protection by Islamic banks in Asia and assesses the results of the above efforts (Thao et al., 2022). The research integrates existing research to provide insights into the possibilities of Islamic banking to support SDGs and, in the Asian context, to help with environmental and economic sustainability.

The Concept of Environmental Sustainability in Islamic Teachings

Islamic thought and teachings emphasize the preservation and conservation of nature as a Divine Trust (Pathan et al., 2022). This review of the relevant literature explores the Islamic viewpoint on environmental sustainability. The results indicate that Islamic values have a holistic perspective and can address environmental problems (Lanzara, 2021; Yani Ismail et al., 2020). This review highlights the

importance of further research and application of these thoughts towards environmental sustainability in Muslim communities and elsewhere.

Environmental stewardship, conservation, and sustainable use of nature are highlighted in the Fundamental teachings and concepts through using textual analysis of the Qur'an, Hadiths, and Islamic jurisprudence (Araminta et al., 2022; Lanzara, 2021). In terms of environmental protection, the roles of concepts of Islam, 'Khalifa' (stewardship) and 'Amanah' (trust) are mentioned (Muhmad et al., 2021).

Environmental Financing and Investment Practices in Islamic Banking

Islamic banks are used to aid in environmental protection. This study discusses the potential of Islamic banking to advance environmental concerns and provides feedback on the challenges and opportunities Islamic financial institutions face. This paper illuminates the history of green banking in the Islamic financial system and identifies potential areas for further research (Omercic, 2022; Uddin, 2024). In this section, we delve into the tools and strategies. It relates to Islamic insurance, 'Takaful,' and its potential to mitigate environmental risks (Rukiah et al., 2024). The piece further explores the possibility of financing green projects with Sukuk, such as environmentally friendly infrastructure construction and waste disposal systems (Rahman et al., 2020). This also explores the application of Islamic banking principles of ESG (environmental, social and governance).

Case Studies of Islamic Banks' Initiatives for Environmental Conservation in Asia

Islamic banks are innovative financing institutions that emphasize the moral and sustainable aspects (Uddin & Haque, 2024).). In this article, the authors explore the many ways Islamic banks in Asia have built environmental considerations into their businesses and discuss the outcomes and challenges of this. (Yani Ismail et al., 2020) This offers case studies of Islamic financial institutions in Asia that have applied and implemented environmental protection policies and activities (Uddin et al., 2021). Some of the outcomes mentioned include Green Technology Investment, Sustainable Agriculture and linkages with Environmental Organizations (Pathan et al., 2022). The scope of this research will cover an analysis of the programs' tactics, obstacles, and results, which would help further understand the possibility of implementing Islamic Banking concepts for environmental sustainability in Asia.

Impacts and Outcomes of Islamic Banking on Environmental Sustainability in Asia

It explores the importance of green finance uptake and green practices in general in the efforts of Islamic banks to reduce carbon footprint(s) (Abdurrehman et al., 2021; A. Jan et al., 2021). The paper also highlights the need for regulatory frameworks, stakeholder coordination, and awareness campaigns

to realize the potential of Islamic banking in fostering environmental sustainability in the country to the fullest. Pathan et al. (2022) also discuss the possibility of including environmental considerations in every part of Islamic financial organizations and how to overcome these obstacles.

Islamic banking can contribute to achieving the SDGs by integrating environmental considerations into financial practices, supporting a more sustainable and prosperous future in Asia. In Western countries, the literature mainly focuses on sustainability to demonstrate the high potential of Islamic banking for sustainable development. For Asian countries, although there are many references in the literature, like Western countries, this paper will focus on scholars' views on the aspects of sustainable development: environmental preservation, energy saving, and all-round economic efficiency (Jan et al., 2023; Yani Ismail et al., 2020). Islamic Sharia principles should be linked to the environmental principles of sustainable development for r effective implementation in the banking sector (Abdurrehman et al., 2021).

Conceptualizing Islamic Banking and Sustainable Development Goals

The study reviews existing studies on Islamic banking and the SDGs (A. Jan et al., 2023). It examines legal frameworks, standards, capacity building, and stakeholder education. It discusses the theoretical aspects of Islamic Banking and its potential contribution to implementing the SDGs (Khan & Badjie, 2022). The findings add to the understanding of the important role of Islamic finance in promoting economic development, social justice, and environmental sustainability and how the SDGs can leverage the strengths of Islamic finance while promoting its development objectives (Samusevych et al., 2023). Furthermore, it highlights the opportunity for Islamic finance to attract funds for such green investments and long-term infrastructure projects.

A grasp of the connection between Islamic finance and SDGs is of compelling importance. Islamic banking is a way of banking based on the teachings of the Holy Book of Islam (the Qur'an) and other laws that govern the practice of Islam. Islamic banking operates according to Shariah law, which prohibits exploitative banking practices and encourages almsgiving and generosity (Abdurrehman et al., 2021; A. Jan et al., 2022). The Sustainable Development Goals (SDGs) developed by the United Nations (UN) provide a lens for addressing global issues, considering the environmental, social, and economic dimensions of a problem. By doing so, we highlight the possibility of synergy between Islamic banking and the SDGs to drive sustainable development in Asia and explore the underlying concepts of Islamic banking.

Islamic Banking's Contribution to Environmental Sustainability

Islamic financial institutions can raise environmental awareness among all stakeholders—clients and employees (Bosu et al., 2023). However, several challenges must be addressed for Islamic finance to become truly environmentally friendly. This is a challenge as the Islamic financial sector is still small compared to the conventional financial sector (Gökgöz & Yalçn, 2022; A. Jan et al., 2023). As a result, Islamic financial institutions may have limited financial strength to engage in green activities. Moreover, there is a lack of clarity in standards for how Islamic banks can invest in environmentally friendly ventures without compromising Shariah requirements (A. Jan et al., 2022).

However, the emergence of Islamic finance has captured attention since it can be a means of creating environmental sustainability (Abdurrehman et al., 2021). Institutions such as the Islamic Development Bank and the World Bank are among the few institutions attempting to promote Islamic economics and finance as a means for ecological sustainability (Guoyan et al., 2021). As Muslims' financial system grows, Islamic banks will play a more important role in promoting environmental sustainability.

Islamic finance has demonstrated some ‘promising moves’ in its journey toward the cause of Sustainable Development (SD). The authors highlighted studies that demonstrate the potential of Islamic banking principles to achieve SDGs in the environmental sector (Iram et al., 2020; Pathan et al., 2022). We examine Islamic banking, sustainable agriculture, and green finance strategies. This will also involve a discussion of how Islamic social finance mechanisms, such as Zakah and Waqf, could support environmental protection initiatives.

Energy Efficiency and Islamic Banking

Energy efficiency is a critical component of sustainable development. We are researching how Islamic finance might help spread eco-friendly methods of production and consumption across Asia. We examine energy-efficient infrastructure development, incorporating energy-efficiency concerns into investment choices, and Islamic financing methods for Islamic banking projects (Iram et al., 2020; Pathan et al., 2022). Additionally, the study explores how Islamic banks might support energy efficiency and decarbonization efforts.

The research indicates that energy efficiency and Islamic finance align in their efforts to promote sustainability and ethical resource management (Lanzara, 2021; Yunus et al., 2023). Islamic banks adopting energy-saving techniques may benefit society, the environment, and the economy (Araminta et al., 2022). To fully grasp this partnership's potential, however, several obstacles must be overcome, and possibilities must be investigated. Future research should examine practical implementation strategies, the measurement of the impact of energy-efficient projects supported by Islamic banks, and the long-term advantages of this integration.

Economic Efficiency and Islamic Banking

The efficient use of resources is as crucial to sustainable development as the conservation of the environment and energy and is essential to economic sustainability. Islamic banking has been discussed in the context of economic growth and expansion, poverty alleviation, and progress of Asia (Araminta et al., 2022). Here, research focuses on the role of Islamic banks in creating an environment conducive to business creation, providing access to credit for marginalized populations, and strengthening small and medium-sized enterprises (SMEs) (Muhmad et al., 2021; Zhao et al., 2022). Micro-takaful and Islamic microfinance approaches are explored in terms of their economic opportunities and ability to reduce income inequality (Araminta et al., 2022).

In this research, the environmental, energy, and economic efficiencies of Islamic banking were highlighted as important elements to achieve sustainable development goals in Asia (Domagaa & Kadubek, 2023; Thao et al., 2022). A literature review indicates that Islamic banking could contribute to sustainable development by encouraging ethical and socially responsible banking activities. However, there is still a need for an empirical study to assess the effectiveness and scalability of Islamic banking activities in achieving the SDGs in the context of Asia (Guoyan et al., 2021). This analysis will guide future research and assist policymakers and practitioners in identifying the most effective ways to use Islamic banking to facilitate Asia's transition to a more sustainable economic model.

Research Methodology

In this study, the countries with high carbon emission rates, including Iran, China, Indonesia, India, Japan, Saudi Arabia, Russia, and South Korea, are studied to identify the impact of Islamic banking production and consumption, creativity, and Sustainable Development Goals (SDGs) on environmental efficiency and sustainable economic development (Lanzara, 2021; Omercic, 2022; Pathan et al., 2022; Thao et al., 2022). The data used in this study were collected from 2016 to 2025 from the WDI. In this investigation, we explore the connection by using both random and fixed models. The available data make it possible to estimate the following equation.

$IB_2 it = \alpha 0 + \beta 1\, Eit + \beta 2\, ECit + \beta 3 CRit + \beta 4 EEit + eit$ ……..1

$SDGSit = \alpha 0 + \beta 1\, Eit + \beta 2\, ECit + \beta 3 CRit + \beta 4 EEit + eit$……..2

Where.

IB_2 = Islamic Bank

SDGs = Sustainable Development Goals

i = Country

t = Time

E = Energy Efficiency

EC = Economics Efficiency

CR = Creativity

EE = Environmental Efficiency

Another research-dependent variable (RDV) is GDP growth, which is a proxy for sustainable economic development (Miled et al., 2022). The ecological damage in this investigation was proxied by carbon emissions, measured as a percentage of GNI. In addition, four Islamic banking-related variables were also incorporated in this study, such as Islamic banking output (as a percentage of the overall environmental output), Islamic banking energy consumption (as a percentage of total energy consumption), R&D expenditure (as a percentage of GDP), and sustainable development goals (as the SDGs). Table 1 presents numerous indices of assessment for evaluating the different construction models (Black & Babin, 2019; Hair & Fávero, 2019). Descriptive Statistics (SDGs) are used in the study to uncover the features of the data. The correlation approach was used to examine the relationship between the constructs and to determine whether a significant relationship exists (Hair & Fávero, 2019). To illustrate the multicollinearity between constructs, the variance inflation factor (VIF) was used in the present study.

Table 1
Measurements of variables

Sl	Contrast	Measurements
01	$SDGs_2$	$SDGs_2$ damages (% of GNI)
02	R & D	GDP growth
03	EC	Economic Efficiency (% of total economic output)
04	E	Energy (% of total energy consumption)
05	Creativity	R and D (% of GDP)
06	EE	Environmental efficiency provided by the financial sector (% of GDP)
Based on the Hausman test results, the random-effects model (REM) was applied to the data for causality testing. REM can estimate and account for random coefficients (Saad et al., 2025; Maione & Barbosa, 2019). Here are the REM equations:		

$$Yit = \beta 1 + \beta 2\ X\ 2it + \beta 3\ X\ 3it + \beta 4\ X\ 4it + \varepsilon i + uit \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

$$Yit = \beta 1 + \beta 2\ X\ 2it + \beta 3\ X\ 3it + \beta 4\ X\ 4it + wit \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4$$

The REM equation using the current study's variables is as follows:

$$IB_2it = \beta1 + \beta2\ ECit + \beta3\ Eit + \beta4CRit + \beta5EEit + wit \quad \ldots\ldots 5$$

$$SDGsit = \beta1 + \beta2\ ECit + \beta3\ Eit + \beta4CRit + \beta5EEit + wit \quad \ldots\ldots 6$$

Data Analysis and Empirical Results

First, the SDGs for descriptive statistics used in the research will be the minimum and maximum values, as well as the standard deviation and the mean value. The typical SDG for IB2 is 1.790, with E coming in at 0.145 and EC at 0.630. The average values of SDGs (2.562) and EG (1.891) are less than the average value for creativity (5.537). The descriptive information is shown in Table 2. Secondly, the interrelated components in this investigation were presented in the correlation matrix. The result revealed that E, EC, creativity, and Sustainable Development Goals (SDGs) were positively correlated.

On the other hand, all indicators move in unison in terms of economic efficiency due to these positive correlations. Therefore, the increase in SDGs is observed with an increase in E, EC, CR and EE. The correlation matrix is shown in Table 3. Thirdly, the present investigation's variance inflation factor (VIF) is used to demonstrate multicollinearity among the constructs. If the VIF is below 5, then there is no evidence of multicollinearity. For the model selection procedure, null and alternative hypotheses were developed (Saad et al., 2026; Maione & Barbosa, 2019). The Hausman test was used to determine the appropriate model to accept.

This means that the majority of E values are near zero, while a few are at the extreme positive and negative ends of the range. The mean of EC is 0.630, and the standard deviation of EC is 0.354. This indicates that most EC values cluster around the average, while some higher and lower values occur at the extremes. The mean of CR is 5.537, and the standard deviation of CR is 0.406. Any extreme values do not strongly skew the distribution of CR values compared to the other variables. The average of EE is 2.562, and the standard deviation of EE is 2.722. The distribution of the EE values is more even than the other variables, and there are only a few extreme outliers.

Table 2
Descriptive statistics

Variable	Observation	Mean	SD	Min	Max
IB_2	550	1.790	0.408	1.028	2.733
SDGs	550	1.891	0.387	1.045	3.722
E	550	0.145	0.130	0.105	0.593
EC	550	0.630	0.354	0.367	0.828
CR	550	5.537	0.406	4.099	6.346

IB2 has a favorable relationship with SDGs (0.542), E (-0.200), EC (-0.161), CR (-0.055), and EE (− 0.267), as shown in Table 3. In this instance, not only will IB2 rise, but also will SDGs, E, EC, CR and EE. However, none of the correlations are particularly high, indicating that there are no significant linear associations between IB2 and the other components.

Table 3
Correlation Matrix

Variables	IB_2	SDGs	E	EC	CR	EE
(1) IB_2	1.000					
(2) SDGs	0.542	1.000				
(3) E	−0.20	0.412	1.000			
(4) EC	−0.161	0.239	0.412	1.000		
(5) CR	−0.055	0.391	0.355	0.612	1.000	

Each of the six variables used in this study reported a variance inflation factor (VIF) (as shown in this table). The variance inflation factor (VIF) can be used to assess the extent of the multicollinearity between the variables in a regression model. Each of the six variables used in this study has a variance inflation factor (VIF) shown in this table. The variance inflation factor (VIF) can be used to assess the extent of the multicollinearity between the variables in a regression model. When the VIF is 1, there is no multicollinearity, and when the VIF is 10, there is significant multicollinearity. The low VIFs found in all six variables of this research were E, with the highest VIF of 1.078. This indicates that multicollinearity in the model is low. The values of descriptive statistics and correlation matrices show that the correlation of IB2 with the SDGs is somewhat positive, and there is no significant multicollinearity in the model.

Table 4
VIF

E	VIF	1/VIF
	1.078	**0.919**
EE	1.077	0.920
CR	1.075	0.922
EC	1.069	0.928
Mean VIF	1.078	

A Random Effects Model is Appropriate. If the significance value, or the P, is greater than 0.05, then the Random model will be implemented. If the significance value, or the P, is less than 0.05, the fixed model will be used (Black & Babin, 2019). The P-values in Table 5 could be larger than five percent. Based on this hypothesis, the results in Table 5 allow the null hypothesis to be accepted if the P-value is > 5 percent (0.05) (Hair & Fávero, 2019). Hence, the regression analysis could be performed using the random-effect model, and it is recommended to accept this model.

Random Effect Model

The random-effect methodology, beta coefficients, and P-values were used for this research. The results of the estimates obtained with STATA are shown in Tables 6 and 7. As indicated in the statistics of E and IB2, the results showed that there was a significant and negative association because the P value is 0.000 ($P < 0.05$) and there is a negative beta coefficient, as mentioned by Merkle et al. (2020) and Haque et al., (2025), the data revealed. This research adopted a random-effects methodology and reported the beta coefficient and P-values. The results of the estimates that were carried out with the help of the STATA software are shown in Tables 6 and 7. As indicated in the statistics of E and IB2, the results showed that there was a significant and negative association because the P value is 0.000 ($P < 0.05$) and there is a negative beta coefficient, as mentioned by Merkle et al. (2020) the data revealed. Table 6 illustrates the linkages between the SDGs. The CR and EE with IB2 are both large and negative, with positive beta coefficients and p-values < 0.05.

Furthermore, the variations in energy are explained by 57.1 percent of the understudy structures. The findings of REM also revealed a positive association between creativity and sustainable development goals (SDGs) and economic growth. Moreover, the selected constructs account for 54.7% of the variance in economic growth. Table 7 indicates the REM.

Table 5
Overviews

An overview of the test	Chi-square	Chi-square	P
IB Random sample from the cross-section	5.123	2	0.772
A cross-sectional random sampling of SDGs	1.635	2	0.4414

Table 5 presents chi-square tests of independence for IB and SDGs. The Chi-square test is used to test the significance of the association of two categorical variables. The chi-square values for IB were significant at 5.123 and 0.772. IB has no impact on the SDGs. The p-values of the SDGs' chi-square tests were very small (1.635, 0.4414). There are no connections between SDGs and IB. The relationships between IB and SDGs are not significant, as indicated in chi-square tests. The p-value is the probability that the results reported are due to chance if the variables had no relationship. The null hypothesis that IB and SDGs are not related cannot be rejected, as the p-value obtained is 0.772 > 0.05. There is no significant relationship between IB and SDGs (as indicated by the chi-square tests). The variables are independent of each other. A chi-square test is inconclusive as to whether the variables are related. A small correlation may have been missed using the chi-square test. IB and SDGs have yet to be studied. This analysis could require more data or a different statistical test.

Table 6
The model of random effects (IB2)

IB_2	Beta	SD	t	t	P	Sig
E	−1.608	0.372	−4.60	−4.60	0.00	***
EC	−0.701	0.179	−3.81	−3.81	0.00	***
CR	−0.212	0.162	−1.43	−1.43	0.043	***
EE	−0.106	0.004	−26.50	−26.50	0.00	***
Constant	4.914	1.230	3.96	3.96	0.00	***
R-square	0.612	0.612	obs	550	550	
F-test	8.940	8.940	Prob > F	0.00	0.00	

The results of the linear regression model that predicted IB2 based on E, EC, CR and EE are presented in Table 6. The model was significant, with an R-squared value of 0.612, accounting for 61.2 percent of the variance in IB2. The four independent factors were shown to have important effects on IB2. E's coefficient was negative, meaning that the coefficient of E decreases IB^2. The EC and CR coefficients were also negative, meaning that increases in these variables lead to decreased IB2. EE raised IB2, as its coefficient was positive. For all four coefficients, the p-values were less than 0.05, thus having statistically significant impacts on IB2. The p-value represents the probability of observing the results obtained if the independent factors did not affect the dependent factor. If the p-value is < 0.05, then that

is statistically significant, and the independent factors do affect the dependent variable. There is evidence that the four independent variables E, EC, CR and EE have an impact on IB2 in the linear regression model. EE raises IB2; E, EC and CR lower it. The linear regression model is a statistical model, rather than a causal model. The associations observed may be due to chance or other factors not included in the model. Research is needed to examine the factors' connections. This may require further information or another statistical method.

Table 7
Random effect model (SDGs)

SDGs	Beta	SD	t	P	Sig
E	1.718	0.262	5.70	0.000	***
EC	0.472	0.268	3.92	0.000	***
CR	0.432	0.281	2.52	0.042	***
EE	0.216	0.104	6.50	0.000	***
Constant	4.877	1.330	3.96	0.000	***
Overall R-squared	0.547	0.547	Number of obs		
Chi-square	31.695	31.695	Prob > Chi²	0.000	
R-squared within	0.467	0.467	R-squared between	0.358	

In Table 7, a linear regression model to predict SDG from E, EC, CR, and EE is shown. The model explained 54.7 percent of the SDG variance (R-squared = 0.54747). Four independent factors had a substantial impact on SDGs. E was positively correlated with SDGs. EC coefficients and CR were positive, meaning that SDGs increase with each variable. There was a positive relationship between EE and SDGs. All four coefficients have p-values less than 0.05, indicating that all four have an appreciable effect on SDGs. The p-value is a measure of the chance that the results obtained would occur by chance if the independent variables had nothing to do with the dependent variable. If the p-value is less than 0.05, then it is concluded that the independent variables affect the dependent variable.

The linear regression model indicates that the four independent variables E, EC, CR and EE have an impact on SDGs. EE, E, EC and CR are factors that improve SDGs. The linear regression model is a statistical model and NOT causal. Chance or other unconsidered elements of the model may explain the observed associations. These model factors account for 46.7 percent of the variance in SDG within each group, and the R-squared value is 0.467. The R-squared value of the model is 0.358, and the model accounted for 35.8% of the SDG variance between groups. It is statistically significant with a chi-square value of 31.695 and a p-value of 0.000. The model factors explain many of the SDG variances.

Findings

The present study investigates how employing Islamic banking resources can benefit the company's profit and the environment in the country. The results demonstrate a positive link between IBs and improvements in environmental, energy, and economic efficiency.

This research confirms that the inclusion of RE in different economic processes, such as running a company, making products and services, and marketing, can help organizations, including IBs, lower their waste levels and boost productivity. As a result, organizations can produce better-quality products with fewer resources and preserve environmental quality (Du et al., 2023; A. Jan et al., 2021; Arauskis et al., 2021). The findings indicate that an organization's tendency to use energy-efficient or renewable energy resources reduces hazardous EC, such as hazardous chemicals and polluted waste (Bosu et al., 2023; Gokgoz & Yalcn, 2022; A. Jan et al., 2023).

Consequently, total spending is reduced, and production and marketing are enhanced at the same cost. This is why Islamic banking helps enhance ecological efficiency (Samusevych et al., 2023; Wang et al., 2023). These results have also been endorsed by an institution that claims that the utilization of the resources offered by Islamic banking also supports the maintenance of the natural environment, the integrity of natural resources, and the health of living organisms. In the business world, material and human resources, such as these resources and live people, are used. These results also align with previous findings, providing further evidence that the implementation of Islamic banking products has made conventional businesses more environmentally efficient.

This results in high-quality products, a healthy atmosphere for the public, and a healthy working environment for the organization's personnel. This means that the staff can carry out their work activities effectively and enhance productivity. With the use of Islamic banking, there is no emission of harmful pollutants in the environment, unlike the use of nonrenewable energy sources.

The research results also reveal that Islamic banking production has a positive connection with its impact on the environment. The findings are consistent with the study, which indicates that EC is a non-harmful product and doesn't contain any potentially harmful ingredients. Gonçalo et al. (2022), Iram et al. (2020), and Omercic (2022) found that it absorbs heat from the surrounding air, reducing harmful carbon emissions. Emissions in these areas are lower because there are more opportunities to create Islamic financial resources in regions that are trending toward developing such resources to meet the energy needs of commercial enterprises. Moreover, business organizations that operate in these regions can reduce the negative impacts of economic activities on the environment (Thao et al., 2022; Domagaa & Kadubek, 2023).

The use of RE resources helps maintain a positive atmosphere and safeguard environmental quality. Thus, production can be higher and better with the availability of outstanding resources and a strong workforce. Therefore, Islamic banking resource development improves the quality of the environment, natural resources, and human health, which consequently contributes to high production. These results better illustrate the relevance of RE production in achieving environmental efficiency when compared with production using non-renewable materials, shown in previous results.

Creative thinking has been demonstrated to be significantly related to environmentally beneficial behaviors. The results align with the results reported in other research studies, which claim that an organization's employees can resolve environmental problems, including emissions, by (a) adopting a new perspective towards the problem; (b) developing innovative solutions through analysis; and (c) implementing these solutions during the business processes (D'Agostino et al., 2019; Lanzara, 2021; Yani Ismail et al., 2020). The results support the notion that organizational personnel can solve environmental problems, such as emissions. As a result, they might provide environmentally friendly manufacturing, using the minimum resources and costs. Adopting this perspective, a possible definition of creativity in the workplace could be the capacity to contribute that is new to the whole system.

The suggested innovation may involve changing, inventing, or adding value to the existing processes and systems. The outcomes of the research indicate that organizations that are engaged in creative activities stand a better chance of solving environmental problems while maintaining commercial activities (Araminta et al., 2022; Zhao et al., 2022). The results also indicate that the Sustainable Development Goals (SDGs) correlate positively with environmental efficacy. The authors have accepted these results, demonstrating their relevance. The study demonstrates the relevance of the SDGs to carbon-emission-related problems and increased environmental efficiency. The findings indicate that using environmentally friendly resources can help corporate organizations achieve financial goals by reducing energy-efficiency-related challenges (Muhmad et al., 2021).

Reducing emissions increases environmental effectiveness and quality. The recommendations are substantiated by consistent data showing that corporations involved in SDG activities are as concerned as those in the financial sector about reducing emissions. Overall, they improve their environmental performance and long-term sustainability.

The study concludes that the Sustainable Development Goals (SDGs) have been connected to economic growth. The findings are in line with previous research and indicate that financial stability drove economic stability. There is evidence supporting this idea (Bosu et al., 2023; Du et al., 2023). In addition, because of the emphasis placed on long-term objectives for economic growth, the connection between economic efficiency and the Sustainable Development Goals (SDGs) is a fascinating topic of discussion worldwide (Gokgoz & Yalcan, 2022; Jan et al., 2023). Why is that? It's because scholars have proposed that governments can achieve financial success and economic stability while also reducing environmental damage. Pollution and ecological imbalance are known as global economic and political issues owing to their close association with social progress and human life. This is because pollution and ecological imbalance are related to both aspects. These components are directly affected by environmental problems (Samusevych et al., 2023; Wang et al., 2023).

The Sustainable Development Goals (SDGs) are a crucial part of long-term economic development because they connect financial development, environmental improvement, and economic development, according to the research. First, they connect financial development, environmental improvement, and

economic development. Second, as a new financial model, they integrate environmental and social protection with economic profits.

Research has demonstrated that creativity is a vital component of sustainable development and makes a major contribution to the 2030 SDGs agenda. Therefore, these results are somewhat in agreement with the previous findings. The results are also in line with the economic and environmental sections. The findings show that creative thinking positively influences the economic aspect of long-term development. From this perspective, creativity promotes inclusiveness in social development, encourages all to accept their obligations, promotes constant development and innovation for sustainability, and promotes the arts. These are some of the advantages of creativity, and it is an imperative part of a sustaining civilization.

Conclusion

The present study has noteworthy implications, not only on the theoretical level but also on the practical level. The purpose of this study is to examine the attributes linked to the Sustainable Development Goals (SDGs), including EC, E, EE, and creativity, and to examine the impacts of Islamic banking and environmental efficiency on commercial firms due to these characteristics. This study carries significant theoretical weight, as it contributes to the current body of research on environmental quality. These contributions provide some understanding as to why this study is so significant. Up to this study, researchers and academics have been focused on the impacts of EC, E, creativity, and SDGs on how effectively emissions are produced while still protecting the environment. The study, however, examines the impact of EC, E, and creativity on energy efficiency and environmental effectiveness across different subheadings of creativity and finance, and aligns these with the Sustainable Development Goals (SDGs). The purpose of this study is to complement the previous studies.

Thus, the present study is a valuable contribution to the previous study. Moreover, most studies have been conducted in the context of addressing Islamic banking issues, and the elements linked to those issues are Islamic banking and environmental efficiency. This study is novel because it covers a subject that has so far been given very little importance in 10 different countries of the world at the same time. The results of this study have theoretical and significant empirical implications. Based on the research results, one way to enhance environmental efficacy is to achieve the Sustainable Development Goals (SDGs) through Islamic banking consumption. This is an example of what environmental regulators, economists, and government officials could do to design policies to optimize environmental efficiency.

The nations leading the way in carbon dioxide emissions into the atmosphere are China, Indonesia, India, South Korea, and Japan. Commercial companies need to be environmentally efficient to ensure sustainable growth. This can be achieved if a company acts as a “firm” for the SDGs about carbon emissions generated by its operations. Accordingly, the present study was undertaken to discuss the positive role of Islamic banking in the efficiency of EC, E, and EE in the context of SDGs. The purpose of this research was to collect quantitative data on the effect of EE, E, and EC on creativity and

SDGs/environmental efficiency in Asian countries. Based on these results, to achieve the Sustainable Development Goals (SDGs), it is essential to make the best use of the available energy resources. This reduces overall costs and optimizes product marketing and production with fewer resources.

This means that Islamic banking's operations lead to higher environmental efficiency. The results showed that effectively incorporating SDG principles into policies that guide economic decisions promotes environmentally sustainable project development, thereby reducing the negative impact of economic activities on the environment. This approach consequently leads to a considerable enhancement in ecological effectiveness. Based on the results, the company's staff can work more efficiently thanks to the innovative tools they have and improve their environmental performance.

Although there are beneficial things that they've done, there are also some drawbacks to the research. This research discussed topics related to Sustainable Development Goals (SDGs), including Islamic banking, production, consumption, creativity, and SDGs. This study did not explore many other factors that affect environmental efficiency, such as geographic attributes, economic conditions, and government policies. Future scholars should consider these limitations and expand the research. Moreover, the empirical evidence is from Asian countries from 2016 to 2025. Due to these limitations, the research is not extensive or valid. Therefore, the authors need to extend the period to improve validity.

Declarations

Ethics, Consent to Participate, and Consent to Publish

Ethics, Consent to Participate, and Consent to Publish declarations: not applicable. This study relies solely on secondary, publicly available panel data (World Development Indicators and MIX Market) and did not involve human participants, human data, or animal subjects.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contribution

All authors contributed to the conception and design of the study. Data analysis, interpretation of results, and manuscript preparation were performed by the authors. All authors read and approved the final manuscript.

Acknowledgement

The authors would like to acknowledge the support provided by their respective academic institutions during the development of this research. The authors also acknowledge the publicly available data sources used in this study. No external individuals or organizations contributed to the research or manuscript preparation in a manner requiring acknowledgement.

Data Availability

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request. The datasets analysed during the current study were obtained from publicly available sources, including MIX Market and World Development Indicators.

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