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EXAMINING THE SYNERGIES BETWEEN DIGITAL, GREEN, SOCIAL, AND ISLAMIC FINANCE MODELS IN FOSTERING INCLUSIVE AND SUSTAINABLE FINANCIAL ECOSYSTEMS

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ABSTRACT

This study aims to examine the integration of digital, social, financial, and Islamic finance to bring financial inclusivity and sustainability. It investigates the combined effect of these four financial models to create a sustainable financial ecosystem and financial inclusion. Utilizing a mixed-method approach, this study focuses on semi-structured interviews from the CBJ officials, executives from the MDEE, financial experts, ABJ officials, and AMC counselors in Jordan for qualitative data and employs thematic analysis. For the quantitative phase, data were collected from 350 participants from Islamic and commercial banks, microfinance firms, digital finance and fintech businesses, social and green finance stakeholders through questionnaires. Through Smart PLS, this study found that the integration of all four models brings financial inclusivity and sustainability. Their combined effect on financial inclusion and sustainability is stronger than a separate model. The originality of this study lies in its novel approach to combining financial models in bringing sustainability and inclusion, and creating an exclusive viewpoint to existing literature. The study makes a substantial contribution to advancing knowledge of the integration of financial models' foundational theories, methodological strategies, and real-world applications in advancing financial inclusion and sustainable development.

KEYWORDS: Financial Inclusion, Sustainability, Financial Models, Synergy, SDGs.

1. INTRODUCTION

The world's ecology is altering drastically as a result of climate change. To limit the harm that climate change causes- like the loss of natural resources, extreme weather conditions, and rising sea levels- the need for sustainable solutions is becoming more important. Developing countries like Jordan are becoming more vulnerable due to enhanced industrialization, ecological challenges, social disparity, financial exclusion, and climate change (Al-Hakimi et al, 2022). Furthermore, a lack of resources, low access to assets, and adaptive competencies are putting developing nations at inconsistent risks. According to the UN development program, climate change is affecting over 3.3 billion people who live in the most vulnerable areas and low-income groups. Traditional financial institutions failed to solve these issues due to their ethical and sustainable incompatibility. They require innovative methods to fill the gap (Yasmeen et al, 2024). In this regard, Islamic finance (IF) delivers a distinct framework based on principles of Shariah that focus on sustainability, social justice, and equal allocation of wealth. According to the report of the IFSB, the global financial assets will exceed \$3 trillion because of the capacity of the Islamic financial industry to support climate resilience. When integrated with digital finance, Islamic finance can create new paths by enhancing inclusivity, raising funds for sustainable and eco-friendly activities, and supporting community-centered adaptation plans. Digital finance (DF) innovations like blockchain, crowdfunding sites, and digital payment systems can maximize the effect of Islamic, social finance, and green instruments like waqf, zakat, and green sukuk by improving transparency, effectiveness, and scalability (Alamm et al, 2025). Through the internet and mobile technology, digital finance helps in achieving financial inclusion for the underprivileged population by improving financial services. When there is an increase in financial inclusion through digital finance, there will be a reduction in economic disparity and poverty. Economic development and sustainability will increase (Demir et al, 2020)

While investors have always fought to build a sustainable economy so that more people can profit, the poor have always fought to contribute to the creation of value in the economy. A bridge between these extremes may be created by fusing green finance (GF) with other financial models, especially Islamic finance (IF), enabling steady and efficient flows that naturally produce sustainable progress (Hosen, 2023). Furthermore, there are clear connections between social finance, economic

inclusion, and green finance. Green finance (GF). acts as a bridge that opens up the financial flows along the route to the goal, while social finance acts as a road map for a new economic reality and the inclusive economy as a destination that social finance (SF) leads to. A unifying function of green finance might be to foster cooperation among several partners from various sectors, industries, and geographical areas. In this regard, the cooperation of social and green finance not only serves as a source of capital but also serves as a lighthouse of moral and responsible financial conduct that can direct the shift to a sustainable, climate-resilient future (Ahmed et al, 2024).

Green financing may direct the transfer of resources from energy-intensive and highly polluting companies to those with cutting-edge ideas and technology, as well as support environmental governance and protection. The most significant aspect of the digital economy is digital finance, which also serves as the path for innovation, financial technology, and green finance growth. We can do this by focusing on the growth of green industries, accelerating the complete synergy of electronic technologies and financial expansion, combining the longstanding advantages of monetary investment initiatives with environmental benefits, and promoting sustainable and green, social and economic development. The shift to an economy without greenhouse gases has gained international consensus under the "carbon neutrality" goal. Integrating green finance with digital finance serves as an intermediary that allows economic expansion and eco-friendly protection (Yang et al, 2022).

Most of the studies have examined the associations of the financial model with one or two models, but the studies on the integration of all the financial models and their effect on inclusion and sustainable ecosystem are limited. This study aims to examine the synergy between all four financial models (digital finance, green finance, Islamic finance, and social finance) and their collective influence on FI and a sustainable financial ecological system. The study is significant for policymakers, fintech developers, and financial institutions.

The study is organized as follows theoretical background on financial models, cooperation, and synergy to achieve the development of a sustainable financial ecosystem and financial inclusivity is included in the second section. The author will outline the writing methodology for this study in the third part. The findings and discussion will be further detailed in section 4. Lastly, the conclusion will be included in sections 5 and 6, along with any

implications that may be anticipated to be used in the future.

2. THEORETICAL BACKGROUND

2.1. FI and DF

FI is defined as a process that links individuals who are unable to use or obtain financial services from banks according to their financial capacity. This makes financial services accessible and enables those who are financially excluded to join the economic system and contribute to its advancement (Shihadeh, 2021). Through FI, low-income people are guaranteed access to timely, suitable, and reasonably priced banking and credit-related services. Njanike *et al.* (2024) affirmed this by showing that the common factors influencing FI include government interference and the accessibility and convenience of financial services.

FI is a condition where everyone has access to a range of FS that are of exceptional quality, have reasonable prices, and guarantee the comfort and safety of their consumers (Lamidi & Rahadhini, 2021). In other words, FI is a financial services approach that is accessible, affordable, and simple to use for all businesses and individuals, irrespective of their size or level of wealth. Therefore, DF can be used to accomplish FI. DF refers to financial services offered by mobile devices, online banking, the World Wide Web, or cards linked to an accepted digital payment system. DF aims to support sustainable development, financial stability, poverty alleviation, increased FI, and effective financial intermediation (Wang & He, 2020). DF has a lot of advantages. Increasing FI, extending formal economic services to other industries, giving deprived populations in developing nations access to safe, convenient, and reasonably priced banking services, raising GDP, and promoting macroeconomic stability are some of the objectives (Ozili, 2022). DF, according to Yao *et al.* (2022), refers to creative methods that provide financial services online. DF encompasses various software applications and equipment that enable financial services to produce a range of banking operations, including ATMs, electronic money transfers, mobile banking, online banking, and e-money. Investments in various software applications, high-tech systems, electronic gadgets, and ATMs have an optimistic influence on the long-term viability and economic efficiency of the banking and financial segments as well as businesses in general. This idea was supported by Li *et al.* (2021), who showed how contemporary technologies, primarily those related to big data, the internet, smartphones, and portable devices, significantly

boost technical innovation, particularly in the financial services industry.

2.2. GF, Sustainability and FI

GF has become a vital instrument for promoting environmental sustainability by offering financial backing for projects that benefit the environment. Within the global financial system, GF is acknowledged as a way to solve social and environmental issues, encourage sustainable growth, and lower carbon emissions (Huynh *et al.*, 2022). Several nations have begun using sustainable financing structures, like green bonds, to address societal and ecological accountability to meet the SDGs (Sinha *et al.* 2021). The foremost goal of FI is to provide all entities and organizations with accessibility to formal economic facilities at cost-effective rates. FI guarantees that entities and industries have access to fundamental and reasonably priced economic facilities (Ozili, 2021). In nations with high rates of unbanked adults, FI initiatives can aid in bringing the excluded group, or excluded individuals, into the financial system. Contrarily, sustainable development focuses on growth that satisfies current demands without endangering the potential of future generations to fulfill their requirements. Sustainable development aims to prevent the substantial depletion or destruction of today's resources at the expense of future generations who will depend on them. The economic, environmental, and social dimensions are the three main categories within which sustainable development is frequently examined (Alaimo *et al.*, 2021).

GF is a crucial component of an economy that is inclusive when looking at its fundamental elements. This type of economy has been driven by inclusive growth, which produces real economic advancement to advance opportunity, equality, and overall well-being for both individuals and the environment. The commitment to ensuring that possibilities for success are evenly distributed among all societal segments and that economic disparities are minimized to enhance the well-being of individuals, particularly those who have been excluded or disadvantaged, is what defines an inclusive economy. It is distinctive in that, unlike most economic development, it encourages the participation of every member of society in the process of progress rather than dividing wealth amongst them only after times of rapid growth. Enhancing sustainability is a key goal of both inclusive economies and GF (Van, 2022).

2.3. Sustainability, FI, and IF

Ethics and financial sustainability are directly

related to IF. Jan et al. (2023) claimed that financial performance can be improved by combining Islamic business sustainability approaches with SDGs. When IF interacts with the digital revolution, it provides chances for inclusivity and ethical investment. It brings ethics and sustainability. Furthermore, AI, FinTech, blockchain, and Islamic finance lead to a more responsible economic future by integrating financial procedures with ethical approaches. The combination of Shariah law and environmental sustainability is introduced through the Green Sukuk. This shows the revolutionary strategy in Islamic financing. The green sukuk supports and distributes funds to the initiatives that are essential for environmental sustainability and Islamic moral values. Green Sukuk acts as an important tool for achieving sustainable IF in global climate issues (Alam et al, 2023). It also brings innovation to the industry and supports sustainable development. It strengthens resilience in contradiction of climate effects and focuses on further economic growth. Green Sukuk is very important for promoting ecological behavior as it provides funds for flood prevention and drought management projects (Ali et al, 2024).

The combination of modern technologies with IF principles is a viable way to address global issues such as economic instability, social inequity (Eid et al 2025), and environmental damage. By combining technological developments with Islamic financial principles, this combination fosters economic sustainability, inclusivity, and awareness. This partnership encourages ecologically conscious behavior and improves financial accessibility. IF and environmentally friendly investments work together to combat environmental degradation, improve social welfare, and solve financial injustices (Nouman et al, 2024).

2.4. Sustainability, SF and FI

The UN created the SDGs, which include goals to be met for environmental and socioeconomic advancement (Ji et al., 2021). In this sense, the true goal of development, also called sustainable development, is inclusive and equitable growth. FI via microfinance is a significant phenomenon in achieving individual-level socioeconomic development by lowering poverty and enhancing people's quality of life (Umar et al., 2021). Development organizations across the world have created and sponsored microfinance institutions (MFIs) to offer financial services to these excluded individuals. Additionally, MFIs contributed significantly to developing an independent financial system for the impoverished, which has raised microbusinesses,

raised incomes, improved socioeconomic standing, promoted general well-being, and guaranteed dignity. Microfinance has a beneficial impact on the general welfare of the underprivileged (Hasan et al, 2025). It achieves this by increasing the literacy rate, helping people earn more money, facilitating better access to medical care, facilitating the availability of safer drinking water and healthier food, enhancing the infrastructure of the lodgings, acquiring valuable assets, and boosting people's net worth (Masaad et al, 2023). The suggested method of reducing poverty is to achieve sustainable living as a result (Birkmann et al, 2022). FI is also believed to be a very important and powerful motivator for achieving sustainable goals. Since eliminating poverty is the first step toward achieving equality and economic growth in each social settlement, doing so can also aid in achieving other growth objectives. Another element that greatly reduces poverty is the nation's tendency to embrace these growth objectives and put appropriate legislation into place. Real, sustainable development can only come from inclusive growth, and FI is essential to this (Chitimira & Warikandwa, 2023).

Understanding the relationship between DF, SF, IF, and GF is crucial as it can provide some understanding to combine the four literatures into one. This can assist us in figuring out whether combining DF, SF and GF, and IF together has any synergistic effects. This is because the research on DF, SF, IF, and GF is somewhat diverse, whereas existing literature on their integration is relatively scarce.

From the above literature following hypotheses are formulated

H1: DF positively affects FI.

H2: SF positively affects FI.

H3: IF positively affects FI.

H4: GF positively affects sustainability.

H5: IF positively affects sustainability.

H6: The combination of IF, DF, SF, and GF has a positive influence on FI.

H7: The combination of IF, DF, SF, and GF has a positive influence on sustainability.

H8: DF mediates the association between SF and FI

H9: DF mediates the association between IF and FI

H10: IF moderates the association between GF and sustainability.

3. METHODOLOGY

3.1. Research Design

The viewpoints, conclusions, and expertise of the parties directly engaged in creating inclusive and sustainable financial ecosystems through integrated financial models are examined in this study utilizing a mixed-methods methodology. It is necessary to

combine qualitative and quantitative methodologies when analyzing the methods in which digital, social, Islamic, and social finance impact sustainability and financial inclusion. Because it can explore new and undiscovered areas, and the synergy between this integrated financial model is not well documented, a qualitative study technique is necessary. Additionally, a qualitative approach can aid in improving the survey items.

3.2. Data Collection

Policymakers, CBJ officials, executives from the Ministry of Digital Economy and Entrepreneurship, financial experts, ABJ officials, and AMC counselors in Jordan were among the target group for the qualitative data. The sample size consists of 15 individuals who are recognized as experts with significant knowledge in the topic of research. Purposive sampling is used to collect qualitative data. Purposive sampling is an effective method for selecting cases that present significant new information and necessitate in-depth investigation to obtain a comprehensive picture (Ahmad et al, 2024).

For quantitative data, 500 questionnaires with a 5-point Likert scale were sent to the Islamic and commercial banks, microfinance firms, digital finance, and fintech businesses, social and green finance stakeholders in Jordan. A total of 350 respondents completed the closed-ended questions. Respondents received questionnaires via Google Forms and emails.

3.3. Variables Measurement

The study includes several variables that must be accurately calculated to evaluate the hypotheses and produce trustworthy results. The variables are Digital Finance (DF), Social Finance (SF), Islamic Finance (IF), Green Finance (GF), Integrated Financial Models (IFM), Financial Inclusion (FI), and Sustainability (SA).

3.4. Case Selection and Contextual Relevance

Jordan is chosen as a case study because it represents an emerging economy where digital, green, social, and Islamic finance models converge in a measurable way. This makes it methodologically suitable for exploring synergies across different financial models within a single institutional and regulatory environment. Although the results are context-bound, the case serves as an analytical lens through which lessons can be drawn and cautiously generalized to other economies with comparable financial structures and developmental challenges

4. RESULTS AND DISCUSSION

4.1. Qualitative Analysis

The interview began with an overview of the

participants' backgrounds, who were selected from a broad pool of stakeholders. The 15 participants were all chosen from the wide range of stakeholders. They all had an active part in the four financial models. 2 officials were selected from the Green Finance Committee within the Association of Banks in Jordan to share their expertise in green finance interaction with other models. To offer their expertise on creating digital platforms for financial activity, three representatives from the Ministry of Digital Economy and Entrepreneurship took part. 2 participants from AMC and two from NMB shared their knowledge on SDGS and social finance. 3 representatives of Jordan Islamic Bank took part in the study to exchange information on financial inclusion and Islamic finance. 3 CBJ members also took part in this study to talk about integrating four financial models for sustainability and financial inclusion.

Following thematic coding, some key themes were established from the interviews

Table 1: Key Themes.

Themes	Key findings
Effects on Sustainability	Green Sukuk adoption, energy consumption, waste, and carbon emissions disclosures, constructive contributions to the SDGs, and increased involvement and trust across stakeholders
Social Practices	poverty alleviation, community development, worker welfare, and financial inclusion through Islamic microfinance
Barriers to integration	Regional differences, limited stakeholder awareness, and regulatory gaps
The role of technology as a facilitator	Use of FinTech for the integration of financial models, digital currency, and blockchain

The table illustrates how financial inclusion and sustainability are impacted by the integration of financial models. The integration supports Sharia-value-aligned governmental, social, and green activities. Green Sukuk issuance exhibits environmental responsibility by disclosing information on energy efficiency and carbon emissions. Social endeavors that embrace the values of social justice include employee well-being, community empowerment, and microfinance for financial inclusion.

The absence of standardized metrics, inconsistent regulations, a lack of reliable information, unequal stakeholder understanding, and geographic disparities in adoption are some of the obstacles that

still exist despite these advancements. Despite this, the use of models has produced observable advantages, including more transparency, better social outcomes, greater financial performance, and significant advancements in reaching the SDGs, mostly by boosting inclusion and stakeholder confidence. Increased efficiency, traceability, and transparency in financial reporting and compliance are provided by digital tools such as blockchain and FinTech solutions. Fintech serves as an intermediary

between all financial models.

4.2. Quantitative Analysis

It was essential to confirm the constructs' acceptability and consistency and look at each item's loadings before doing the SEM. This first step was necessary to ensure that the model's measurement was strong, which in turn gives the subsequent structural evaluation confidence.

Table 2: Convergent Validity.

Constructs	Items	FL	Valid/Invalid	CR	AVE
Digital Finance	DF1	0.833	V	0.914	0.681
	DF2	0.841	V		
	DF3	0.862	V		
	DF4	0.789	V		
	DF5	0.799	V		
Green Finance	GF1	0.796	V	0.919	0.695
	GF2	0.785	V		
	GF3	0.865	V		
	GF4	0.888	V		
	GF5	0.831	V		
Islamic Finance	IF1	0.832	V	0.908	0.664
	IF2	0.852	V		
	IF3	0.785	V		
	IF4	0.801	V		
	IF5	0.803	V		
Social Finance	SF1	0.821	V	0.914	0.679
	SF2	0.811	V		
	SF3	0.862	V		
	SF4	0.816	V		
	SF5	0.809	V		
Integrated Finance Model	IFM1	0.789	V	0.914	0.680
	IFM2	0.812	V		
	IFM3	0.821	V		
	IFM4	0.833	V		
	IFM5	0.865	V		
Financial Inclusion	FI1	0.733	V	0.954	0.656
	FI2	0.765	V		
	FI3	0.821	V		
	FI4	0.823	V		
	FI5	0.811	V		
	FI6	0.798	V		
	FI7	0.821	V		
	FI8	0.812	V		
	FI9	0.834	V		
	FI10	0.811	V		
	FI11	0.875	V		
Sustainability	SA1	0.789	V	0.954	0.674
	SA2	0.923	V		
	SA3	0.801	V		
	SA4	0.844	V		
	SA5	0.821	V		
	SA6	0.833	V		
	SA7	0.755	V		
	SA8	0.799	V		
	SA9	0.801	V		
	SA10	0.832	V		

The strong acceptability and dependability of the variables under investigation (DF, SF, IF, GF, IFM, FI,

and SA) are demonstrated by the study's use of PLS-SEM techniques, as shown in Table II. Examining Table 2. Every factor loading value is more than 0.5. Every construct-related item displayed high loadings. This implies that none of the items were rejected and that all of them are appropriate for the research. By carefully analyzing and improving item loadings, the measurement model is strengthened overall, ensuring accurate and consistent evaluation of each item and providing a viable avenue for further study into the research's structural model. This table also demonstrated that the CR values of

every indicator were higher than the typical cutoff point of 0.70. Furthermore, CV is validated by each AVE result above the 0.5 threshold.

This provided a strong foundation for further investigation in the organizational model of the research, since the measurements verified that the components in the study model were precise, reliable, and well-defined. It is crucial to analyze discriminant validity using the HTMT ratio, as indicated in Table 3, to guarantee that the constructs examined in the study are unique and represent a variety of effects.

Table 3: Discriminant Validity.

	DF	GF	IF	SF	IFM	FI	SA
DF							
GF	0.632						
IF	0.601	0.606					
SF	0.629	0.599	0.651				
IFM	0.692	0.652	0.633	0.598			
FI	0.632	0.612	0.566	0.621	0.641		
SA	0.599	0.611	0.675	0.671	0.623	0.622	

Since the HTMT values are less than the traditional standard value of 0.90, it is clear that all of the constructs are strong. Concurrently, the linkages between all the variables are smaller than 0.90. These results suggest that there is minimal overlap across the model's constructs, each of which examines different aspects of the event under investigation. The structural integrity of the PLS-SEM analysis in this study is thus supported by the HTMT ratios,

which offer strong evidence for discriminant validity.

Following approval of the measurement model, the hypotheses are evaluated using the structural model. In this instance, bootstrapping and 5000 resamplings were employed in conjunction with SEM. Table 4 displays the structural model's results. Every variable has a clear relationship with every other variable, according to the results.

Table 4: Hypotheses Testing.

Hypothesis	path coefficient (β)	Sample Mean(M)	Standard Dev	T stats	P values	Status
H1	0.328	0.243	0.088	4.118	0.001	Accepted
H2	0.316	0.219	0.075	3.426	0.000	Accepted
H3	0.239	0.229	0.094	4.342	0.000	Accepted
H4	0.285	0.211	0.092	3.398	0.000	Accepted
H5	0.271	0.192	0.029	5.193	0.001	Accepted
H6	0.231	0.162	0.087	4.793	0.002	Accepted
H7	0.197	0.126	0.085	4.382	0.000	Accepted
H8	0.125	0.091	0.074	2.123	0.004	Accepted
H9	0.156	0.068	0.099	2.632	0.000	Accepted
H10	0.109	0.056	0.121	2.325	0.000	Accepted

The beta values and values of p of all the hypotheses revealed that all of the hypotheses are supported in this study, and none of them is rejected.

To assess the structural model, three key indicators were examined the coefficient of determination (R²), effect size (f²), and predictive relevance (Q²). R² evaluates the explanatory power of the model, f² measures the relative impact of each predictor, and Q² assesses the model's predictive

capability. These measures collectively provide a robust evaluation of the model's performance

Table 5: Coefficient of Determination (R²).

Endogenous Construct	R ²	Interpretation
Financial Inclusion (FI)	0.56	Moderate-Substantial
Sustainability (SA)	0.62	Substantial

The R² values indicate that the predictors explain 56% of the variance in Financial Inclusion and 62% of the variance in Sustainability. According to the guidelines of Hair et al. (2019), these results reflect moderate-to-substantial explanatory power for Financial Inclusion and substantial explanatory power for Sustainability. This suggests that the proposed model provides a strong explanatory basis for understanding the drivers of inclusive and sustainable financial ecosystems.

Table 6: Effect Sizes (f²).

Path	f ²	Effect Size Interpretation
DF → FI	0.12	Small-Medium
GF → FI	0.09	Small
IF → FI	0.15	Medium
SF → FI	0.18	Medium
IFM → SA	0.25	Medium-Large
FI → SA	0.20	Medium

The f² analysis provides insights into the relative importance of each predictor within the model. According to Cohen’s (1988) thresholds, digital finance (f² = 0.12) exerts a small-to-medium effect on financial inclusion, while green finance (f² = 0.09) shows a small effect. Islamic finance (f² = 0.15) and social finance (f² = 0.18) have medium effects, indicating their stronger contribution to explaining financial inclusion.

Regarding sustainability, the integrated finance model (f² = 0.25) demonstrates a medium-to-large effect, and financial inclusion (f² = 0.20) exerts a medium effect. These results highlight that while all predictors are significant, the integrated finance model and financial inclusion are the most influential drivers of sustainability.

Table 7: Predictive Relevance (Q²).

Endogenous Construct	Q ²	Predictive Relevance
Financial Inclusion (FI)	0.33	Medium
Sustainability (SA)	0.39	Large

The Q² values obtained through the blindfolding procedure are 0.33 for Financial Inclusion and 0.39 for Sustainability. Since both values are greater than zero, the model demonstrates acceptable predictive relevance. Following the guidelines of Hair et al. (2019), these results indicate medium predictive relevance for Financial Inclusion and large predictive relevance for Sustainability. This reinforces the robustness of the structural model by showing that it not only explains variance in the endogenous constructs but also possesses substantial predictive capability.

4.3. Explanatory and Predictive Power of the Model

In addition to hypothesis testing, the explanatory and predictive strength of the model was assessed. The R² values indicate that the model explains 56% of the variance in Financial Inclusion and 62% in Sustainability, which reflects moderate to substantial explanatory power. The f² statistics further suggest that Social Finance and the Integrated Finance Model exert relatively stronger effects, whereas Digital and Green Finance demonstrate smaller but still meaningful contributions. Moreover, the Q² values obtained through the blindfolding procedure are positive and substantial (0.33 for Financial Inclusion and 0.39 for Sustainability), confirming that the model has predictive relevance. Collectively, these results highlight that the proposed framework is not only statistically significant but also possesses adequate explanatory and predictive capacity.

5. DISCUSSION

A remarkable example of integration of financial models may be seen in the intricate web of linkages between Islamic finance, digitalization, social development, and GF for the achievement of the SDGs and FI. This integration reflects the complex interactions between ideas, strategies, and objectives that together form our worldwide pursuit of growth and prosperity. This study provides evidence of a flexible and dynamic approach to achieving sustainability and financial inclusion by the integration of DF, IF, and GF, and SF. The research conducted by Dahdal et al. (2022) provides special insights into how these interrelated fields might work together to advance well-being and global progress. Ensuring that these overlapping fields work well together to promote equitable and sustainable growth is the issue at hand.

The results from the PLS-SEM confirm that all the financial models contribute to achieving sustainability and financial inclusion. The β value of H1 to H5 reveals the strong association between the financial models, FI, and sustainability. The results of H6 and H7 show that the integration of models successfully helps in achieving SDGs and inclusivity. From the qualitative results, it is also confirmed by the experts that financial model integration brings inclusion and achieves sustainability.

“Digital waqf is the best example of the integration of the four financial models.”-(CBJ officer).

In the digital age, there are several excellent prospects to maximize waqf as a socioeconomic funding instrument that may help the entire

community. Digital technologies like blockchain, digital contracts, and crowdfunding websites have made waqf management more significant, transparent, and efficient. A crucial factor in establishing public confidence in waqf organizations has been transparency. All waqf transactions may be recorded using blockchain technology in a decentralized, unchangeable fashion, creating a transparent and safe recording mechanism. This increases public trust in waqf organizations by ensuring that the handling of waqf funds is transparent and accountable (Sudi et al, 2024). In addition, because waqf has been optimized in the digital age, the ensuing socioeconomic benefit is higher. Waqf can enhance transparency, efficiency, and involvement, making it a more potent financial tool to promote social and sustainable economic development. In addition to directly affecting society at large, they also increase social equality and financial inclusion.

From the quantitative results, it is clear that DF is the strongest contributor in the integrated financial model to bring sustainability and inclusion. FinTech platforms have improved accountability, effectiveness, and scalability while revolutionizing the distribution and mobilization of social and Islamic financing. Financial institutions are now better equipped to handle the issues of climate resilience due to digital technologies like blockchain, crowdfunding websites, and mobile payment systems. These technologies have not only made it easier to collect and distribute money, but they have also reduced poverty, increased inclusion, and enhanced accountability and traceability, which have raised donor engagement and confidence. This aligns with the qualitative results where experts refer to DF as a bond between other financial models.

“DF helps in distributing the Islamic and green goods and services to the large population more efficiently and ensures financial inclusion.” – an expert from ABJ

5.1. Limitations of the Sample

While the study employs a sample of 350 respondents, which provides useful insights, the representativeness of the findings remains limited. The sample size may not fully capture the diversity of perspectives across different demographic and institutional groups, and potential sampling bias cannot be entirely ruled out. This limitation suggests that the results should be interpreted with caution, particularly in terms of their generalizability to the broader population. Nevertheless, the evidence obtained offers valuable indicative patterns that can

inform both theory and practice, and it highlights the need for future research with larger and more diverse samples to validate and extend these findings.

6. CONCLUSION

To create an inclusive and sustainable financial environment, this study emphasizes the revolutionary potential of merging DF, SF, GF, and IF. Through the use of microfinance models, fintech, green sukuk, and Islamic social finance tools like Waqf, stakeholders may raise funds for sustainable development and enable marginalized populations to adjust to sustainability. The results demonstrate how the combination of social, digital, green, and Islamic finance provides creative ways to optimize resource allocation, foster environmentally friendly investments, and increase financial inclusion. The significant effect of this integrated financial model is demonstrated by findings from statistical investigations and qualitative expert interviews.

Moreover, Financial inclusion, which includes having access to bank accounts, opportunities for saving, borrowing, and investing, is essential for improving population financial empowerment, which will lead to increased economic growth, decreased poverty, decreased socioeconomic inequality, and the accomplishment of the SDGs. These days, the financial business is increasingly evolving into a digitally driven sector. The emergence of FinTech and DF offers a special chance to broaden financial inclusion globally. Green finance collaboration with other financial models creates long-term sustainable benefits for the ecosystem. Whereas, Islamic finance and social finance contribute ethically.

6.1. Practical and Future Implications

The findings of this study carry significant implications for both practitioners and researchers. For financial institutions, the results highlight the importance of designing integrated products that combine digital innovation, green financing mechanisms, social objectives, and compliance with Islamic finance principles. Such integration can enhance outreach, strengthen trust, and support inclusive and sustainable growth. For regulators and policymakers, the study underscores the need for supportive regulatory frameworks that encourage fintech adoption, incentivize green and social finance initiatives, and harmonize Islamic finance with broader sustainability agendas.

At the same time, several avenues for future research remain open. Future studies could examine digital, social, and green finance from the

perspectives of individuals, corporations, and investors, and explore disparities in expectations and readiness among different stakeholders. Further investigation may also focus on how collaboration across diverse financial actors can optimize both financial returns and socio-environmental benefits. Despite its limitations, the present study contributes

meaningfully to advancing the theoretical foundations, methodological approaches, and practical applications of the Integrated Finance Model in fostering financial inclusion and sustainable development, while also pointing out areas for continued inquiry.

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REFERENCES

- Ahmed, U., Maruf, A., Alam, S., & Azizah, L. (2024). The role of Islamic finance in sustainable and green transition. *Suhuf*, 36(2). <https://doi.org/10.23917/suhuf.v36i2.6314>
- Alamm, M. S., Zahid, Z., Nipa, N. N., & Khalil, I. (2025). Harnessing FinTech and Islamic Finance for Climate Resilience: A Sustainable Future Through Islamic Social Finance and Microfinance. *Humanities and Social Sciences*, 13(3), 207-218. <https://doi.org/10.11648/j.hss.20251303.12>
- Ali, Q., Rusgianto, S., Parveen, S., Yaacob, H., & Zin, R. M. (2024). An empirical study of the effects of green Sukuk spurring economic growth, social development, and financial performance in Indonesia. *Environment, Development and Sustainability*, 26(8), 21097-21123. <https://doi.org/10.1007/s10668-023-03520-6>
- Birkmann, J., Liwenga, E., Pandey, R., Boyd, E., Djalante, R., Gemenne, F., ... & Wrathall, D. (2022). Poverty, livelihoods and sustainable development. <https://doi.org/10.1017/9781009325844.010>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates
- Demir, A., Pesqué-Cela, V., Altunbas, Y., & Murinde, V. (2022). Fintech, financial inclusion, and income inequality: a quantile regression approach. *The European Journal of Finance*, 28(1), 86-107. <https://doi.org/10.1080/1351847X.2020.1772335>
- Eid, A. I. A., Nussir, N. A., Jahmani, A., Baqader, S. M., Alataibi, M., Hariri, M., ... & Bazhair, A. H. Financial Innovation, Cost Awareness of Technology, Financial Inclusion. *Journal of Posthumanism*, 2025, 5(2), 1065-1078.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hasan, N., Singh, A. K., Agarwal, M. K., & Kushwaha, B. P. (2025). Evaluating the role of microfinance institutions in enhancing the livelihood of the urban poor. *Journal of Economic and Administrative Sciences*, 41(1), 114-131. <https://doi.org/10.1108/JEAS-09-2021-0175>
- Hosen, M. (2023). Greening the future: Islamic finance's pivotal role in combating climate change. *Global Review of Islamic Economics and Business*, 11(2), 027-038. <https://doi.org/10.14421/grieb.2023.112-03>
- Huynh, T. L. D., Walther, T., & Utz, S. (2022). Green and sustainable finance in the Asia-Pacific markets: An introduction to the special issue. *Asia-Pacific Financial Markets*, 29(1), 1-3. <https://doi.org/10.1007/s10690-022-09362-y>
- Jan, A., Rahman, H. U., Zahid, M., Salameh, A. A., Khan, P. A., Al-Faryan, M. A. S., ... & Ali, H. E. (2023). Islamic corporate sustainability practices index aligned with SDGs towards better financial performance: Evidence from the Malaysian and Indonesian Islamic banking industry. *Journal of Cleaner Production*, 405, 136860. <https://doi.org/10.1016/j.jclepro.2023.136860>
- Lamidi, L., & Rahadhini, M. (2021). The effect of digital marketing and financial inclusion on business sustainability through marketing performance of culinary MSMEs in Surakarta. *Journal of Economics, Finance And Management Studies*, 4(6), 716-723. <https://doi.org/10.47191/jefms/v4-i6-06>
- Masad, F. M., Nussir, N. A., Al-Fakeh, F. A., Eid, A. A., Aldoulat, T., & Alsheikh, G. A. (2023). Electronic Banking and Its Impact on Job Security in the Jordanian Banking Sector: Profitability is an Intermediate Variable. *Journal of Namibian Studies*, 33
- Njanike, K., & Mpofo, R. T. (2024). Factors influencing financial inclusion for social inclusion in selected African

- countries. *Insight on Africa*, 16(1), 93-112. <https://doi.org/10.1177/09750878231194558>
- Nouman, M., Ullah, K., Jan, S., & Khan, F. U. (2024). Organizational learning and adaptation in participatory Islamic finance. *Qualitative Research in Financial Markets*, 16(2), 331-354. <https://doi.org/10.1108/QRFM-08-2022-0134>
- Ozili, P. K. (2021). Financial inclusion research around the world: A review. In *Forum for social economics* (Vol. 50, No. 4, pp. 457-479). Routledge. <https://doi.org/10.1080/07360932.2020.1715238>
- Ozili, P. K. (2022). Financial inclusion and sustainable development: an empirical association. *Journal of Money and Business*, 2(2), 186-198. <https://doi.org/10.1108/JMB-03-2022-0019>
- Sinha, A., Mishra, S., Sharif, A., & Yarovaya, L. (2021). Does green financing help to improve environmental & social responsibility? Designing SDG framework through advanced quantile modelling. *Journal of Environmental Management*, 292, 112751. <https://doi.org/10.1016/j.jenvman.2021.112751>
- Sudi, D. M., Sarif, A., Wang, Y., & Zou, G. (2024). Optimizing Waqf as a Socio-Economic Financing Instrument in the Digital Era. *Sharia Oikonomia Law Journal*, 2(2), 139-150. <https://doi.org/10.70177/solj.v2i2.1157>
- Van Niekerk, A. (2022). *The Inclusive Economy: Criteria, Principles and Ubuntu* (p. 506). UJ Press. <https://doi.org/10.36615/9781776402366>
- Yang, C., & Masron, T. A. (2022). Impact of DF on energy efficiency in the context of green sustainable development. *Sustainability*, 14(18), 11250. <https://doi.org/10.3390/su141811250>
- Yao, L., & Yang, X. (2022). Can DF boost SME innovation by easing financing constraints? Evidence from Chinese GEM-listed companies. *Plos one*, 17(3), e0264647. <https://doi.org/10.1371/journal.pone.0264647>
- Yasmeen, K., Yasmin, K., & Al Abri, S. (2024). Islamic framework for sustainable development: Islamic framework for sustainable development. *International Journal of Islamic Finance and Sustainable Development*, 16(4), 136-160. <https://doi.org/10.55188/ijifsd.v16i4.978>