

**THE EFFECT OF FINANCIAL LITERACY AND THE
ROLE OF SOCIAL CAPITAL IN THE
RELATIONSHIP BETWEEN FINANCIAL
INCLUSION AND SUSTAINABLE DEVELOPMENT
IN IRAQ**

Ph.D Thesis
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PH.D THESIS

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ABSTRACT

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This study investigates the interplay between financial inclusion (FI), financial literacy (FL), social capital (SC), and Sustainable Development Goals (SDGs) in the Kurdistan Region of Iraq, with a specific focus on the provinces of Erbil, Duhok, and Sulaymaniyah. Based on survey data from 650 respondents across these three cities and analyzed using Hayes' PROCESS macro, the findings demonstrate that financial inclusion has a significant direct positive effect on sustainable development ($\beta = 0.44$, $p < 0.001$). Additionally, the findings indicate that financial literacy functions as a partial mediator in the relationship between financial inclusion and sustainable development. Social capital acts as a positive moderator, strengthening the direct FI-SDGs link. The findings underscore that the developmental influence of financial inclusion is enhanced when individuals are financially literate and embedded in strong social networks. The study provides a critical evidence base for policymakers to design integrated strategies that simultaneously expand financial access, improve financial education, and leverage community capital to drive sustainable development in Iraq.

Keywords: Financial inclusion, Financial literacy, Social capital, Sustainable development, Hayes PROCESS Macro.

ÖZET

IRAK'TA FİNANSAL KAPSAYICILIK VE SÜRDÜRÜLEBİLİR KALKINMA İLİŞKİSİNDE FİNANSAL OKURYAZARLIĞIN ETKİSİ VE SOSYAL SERMAYENİN ROLÜ

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Bu çalışma, Irak'ın Kürdistan Bölgesi'nde, özellikle Erbil, Duhok ve Süleymaniye illerini kapsayacak şekilde, finansal içerme (Fİ), finansal okuryazarlık (FO), sosyal sermaye (SS) ve Sürdürülebilir Kalkınma Amaçları (SKA) arasındaki etkileşimi incelemektedir. Bu üç şehirden 650 katılımcıdan toplanan anket verileri ve Hayes'in PROCESS makrosu ile yapılan analizler, finansal içermenin sürdürülebilir kalkınma üzerinde anlamlı ve doğrudan bir pozitif etkisi ($\beta = 0.44$, $p < 0.001$) olduğunu göstermektedir. Ayrıca, finansal okuryazarlık bu ilişkide kısmi aracı rol oynamaktadır. Sosyal sermaye ise doğrudan Fİ-SKA ilişkisini güçlendiren bir düzenleyici etkiye sahiptir. Sonuçlar, finansal içermenin kalkınma üzerindeki etkisinin, bireylerin finansal okuryazar olduğu ve güçlü sosyal ağlara dahil olduğu durumlarda arttığını ortaya koymaktadır. Çalışma, Irak'ta sürdürülebilir kalkınmayı teşvik etmek için finansal erişimi genişleten, finansal eğitimi iyileştiren ve toplumsal sermayeden faydalanan entegre stratejiler geliştirmek isteyen politika yapıcılar için kritik bir kanıt temeli sunmaktadır.

Anahtar Sözcükler: Finansal içerme, Finansal okuryazarlık, Sosyal sermaye, Sürdürülebilir kalkınma, Hayes PROCESS Makro.

FOREWORD/ACKNOWLEDGMENTS

The completion of this doctoral thesis marks the culmination of a comprehensive investigation into “The Effect of Financial Literacy and the Role of Social Capital in the Relationship Between Financial Inclusion and the Sustainable Development In Iraq” This research addresses a significant lacuna in the existing literature concerning financial literacy and the deficiency of financial inclusion within the Iraqi national economy, with a particular focus on the Kurdistan Region. It provides empirically grounded insights that are directly relevant to the promotion of financial stability and economic growth in this context. The findings herein aim to contribute meaningfully to informed financial policy-making and market efficiency for the benefit of our nation.

This substantial academic endeavor would not have been feasible without the essential support and guidance of numerous individuals and institutions. I extend my sincere gratitude to my principal supervisor, Prof. Dr. Aslı Afşar, for her invaluable guidance, unwavering support, and consistent encouragement throughout the conduct of this research, whose profound intellectual mentorship, astute critiques, and unwavering belief in the national relevance of this research were foundational. Her guidance at Anadolu University instilled in me the discipline and vision necessary to navigate the complexities of this study in finance.

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Mustafa Hasan Hamad Ameen HAMAD AMEEN

STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES

I hereby declare that this thesis/dissertation is entirely my own work. I affirm that I have adhered to the ethical principles of scholarly research during all phases of its preparation, including data collection, analysis, and presentation. All sources of data and information that were accessible within the scope of this study have been duly cited and included in the reference list. I further confirm that the study was scanned using the “Scientific Plagiarism Detection Program” employed by Anadolu University, and that the investigation revealed no instances of plagiarism. Should any part of my declaration later prove to be inaccurate, I accept all associated ethical and legal consequences.

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Mustafa Hasan Hamad Ameen HAMAD AMEEN

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ABBREVIATIONS

AICS: Italian Agency for Development Cooperation

ACC: Financial Inclusion: Access

BNB: Social Capital: Bonding

BRG: Social Capital: Bridging

BRR: Financial Inclusion: Barriers

CA: Social Capital: Collect Action

CBI: Central Bank of Iraq

ECO: Sustainable Development: Economic

ENV: Sustainable Development: Environment

FL: Financial Literacy

FI: Financial Inclusion

IMF: International Monetary Fund

ILO: International Labour Organization

KRI: Kurdistan Region of Iraq

SDGs: Sustainable Development Goals

SC: Social Capital

SCL: Sustainable Development: Social

TRS: Social Capital: Trust

USG: Financial Inclusion: Usage

1. INTRODUCTION

Financial Inclusion (FI) is increasingly acknowledged as a critical catalyst for sustainable development, especially within emerging economies such as Iraq. Access to formal financial services such as savings accounts, credit facilities, and digital payment systems empowers individuals by enhancing economic participation, while simultaneously fostering broader socio-economic stability and resilience.

In Iraq, financial inclusion has historically been limited. As of 2017, only 23 % of adults held an account with a formal financial institution, highlighting significant barriers to financial access (GIZ, 2024). Challenges such as political instability, economic fragility, and institutional shortcomings have exacerbated financial exclusion, particularly among vulnerable populations. This exclusion hampers efforts to reduce poverty, promote equality, and stimulate economic growth (ILO, 2024; Jassim, 2025, pp. 17-65). Recognizing these challenges, The Central Bank of Iraq (CBI) officially launched the country's National Financial Inclusion Strategy for 2025–2029, an integrated framework aimed at broadening access to appropriate and secure financial services for individuals and businesses, while also ensuring consumer protection. This strategic plan aims to enhance the percentage of adults with bank or digital accounts to 50% by 2030, up from 11% currently. Key objectives include strengthening consumer protection, expanding the digital financial services usage, and enhancing financial education across the country (IBN, 2024; AMF, 2025).

Financial Literacy (FL) is the capacity to apply knowledge, skills, and behaviour to make informed decisions about financial management and resources, covering saving, investing, and debt. It's become even more critical since the 2008 financial crisis, as it boosts individual financial well-being, economic resilience, and social fairness. While vital, financial literacy varies across demographics due to factors like age, gender, and education, and cognitive biases can hinder sound choices. With the growing prevalence of digital finance, digital financial literacy (DFL) becomes essential for conducting secure online transactions (Hamad Ameen & Afşar, 2023, pp. 1-18). Governments and organizations are working to improve financial literacy through education and technology, empowering individuals and fostering resilience in our increasingly digital world (Ahmed & Ariannejad, 2025, pp. 83-106). FL refers to the ability to comprehend

and effectively manage one's personal finances, including understanding key financial concepts and applying them to budgeting, saving, investing, and debt management, encompassing saving, investing, and debt. It's crucial for individual financial well-being, economic resilience, and social equity, especially following the 2008 financial crisis (Ozili, 2025, pp. 1-13). Despite its importance, disparities exist across demographics, often influenced by behavioral biases. With the rise of digital financial systems, digital financial literacy (DFL) is also vital for secure online interactions. Governments and organizations are actively promoting financial literacy through education and technology to empower individuals in our increasingly digital world. FL remains a significant hurdle. A study assessing FL among Iraqi consumers found that while there is a foundational understanding of financial concepts, there is a pressing need to develop technological proficiency and investment knowledge (Baqir, 2024, pp. 52-62). Enhancing FL is vital for enabling individuals to make informed decisions about their financial resources (Alsharafat & Al-Sorour, 2025), effectively utilize financial services, and contribute to economic development (Abdullah H. A., 2024, pp. 57-70).

Social Capital (SC) denotes the networks of relationships through which individuals and groups are connected, enabling access to resources, trust, and norms that facilitate cooperative action and promote collective goals, the trust among community members, and the shared norms that facilitate collective action and mutual support, also plays an important role in financial behaviors and access to services (Al-Katawi, 2014, pp. 29-76). In Iraq, the diverse ethnic composition and historical socio-political dynamics add layers of complexity to the formation and impact of SC (Parry & Aymerich, 2018, pp. 96-108). Iraq is characterized by a complex tapestry of ethnic relations, varying significantly across its different regions. While the Kurdistan Region of Iraq (KRI) is predominantly inhabited by Kurds, other ethnic groups also reside there, including Arabs, Turkmen, Assyrians, and Armenians. Beyond the KRI, in other parts of the country, the ethnic landscape shifts. While Arabs constitute the majority, diverse ethnic minorities are also present, such as Turkmen, Assyrians, Shabak, and others. These distinct groups contribute to a rich cultural mosaic, but their interactions are often shaped by historical grievances and power dynamics. This leads to a patchwork of relationships across Iraq, where some areas experience more harmonious coexistence while others, like Kirkuk, face persistent challenges to interethnic cooperation (Rydgren & Dana , 2011, pp. 25-49). Understanding

how social capital interacts with FI and inclusion is vital for designing interventions that effectively determine the unique socio-economic dynamics of the region.

Focusing on KRI, particularly the provinces of Erbil, Sulaymaniyah, and Duhok, offers a unique lens to examine these dynamics. The KRI has demonstrated relative political stability and has initiated efforts to promote financial inclusion, such as the 'MyAccount' initiative, which digitizes salary payments for civil servants. Collaborations with international entities like Visa have further enhanced digital payment solutions in the region. However, challenges persist, including limited financial literacy and underdeveloped financial infrastructure (GOV.KRD, 2025). Despite the recognized significance of FI, FL, and SC in achieving Sustainable Development Goals (SDGs), there is a paucity of empirical research examining these interrelationships within the specific context of Iraq and the KRI. This knowledge gap constrains the capacity of policymakers and practitioners to formulate targeted strategies that harness FL and social capital to foster FI and subsequently promote SD in the region.

Consequently, this research investigates the relationship between FI and the attainment of the SDGs in Iraq, placing particular emphasis on the mediating function of FL and the moderating influence of SC. By addressing this empirical gap, the research seeks to generate insights that will guide the formulation of more potent FI policy frameworks and programmes tailored to the distinct socioeconomic context of KRI.

1.1 Statement of the Problem

The global agenda for sustainable development, embodied in the SDGs, increasingly identifies FI as a foundational enabler of broader developmental aims. FI which denotes equitable access to and responsible use of affordable financial services such as savings, credit, payments, and insurance holds considerable potential to reduce poverty, foster economic growth, and empower marginalized populations through their integration into formal financial systems. Access to these services enhances opportunities for transactions, savings accumulation, investment, and risk-management for both individuals and communities, thereby contributing to economic wellbeing on multiple levels.

Despite the recognized importance of FI, Iraq faces substantial obstacles. Data from 2017 indicated that only 11% of the adult population held an account at a formal financial institution, reflecting a weak banking culture that exacerbates poverty and inequality (Jassim, 2025, pp. 181-192). FI is also identified as an urgent necessity, given the limited access to quality education and pervasive economic instability throughout the country (Khalaf, 2024, pp. 3-14). Moreover, the role of SC, particularly in a context marked by fragility, widespread corruption, and low institutional trust, necessitates specific and careful examination of its potential to influence key developmental relationships (World Bank, 2022). Despite recent advancements, Iraq's financial sector continues to face significant challenges that hinder the achievement of comprehensive FI and sustainable development. While the Iraqi Private Banks League reported a surge in FI to 48.5% in 2024, aiming for 60% by the following year (IPBL, 2024), other sources indicate that a substantial portion of the population remains unbanked. For instance, the Global Findex Database 2021 reports that only approximately 17.6% of adults in Iraq held an account with a financial institution. In a broader regional assessment, this figure confirms that over 80 % of the adult population lacked access to formal banking services in Iraq (GFD, 2021). This marked discrepancy highlights the imperative for more granular, region-specific data to enable a precise evaluation of FI levels.

A critical barrier to FI is the outdated financial infrastructure (World Bank, 2022). Many Iraqi financial institutions rely on legacy systems that are incompatible with modern digital solutions, impeding the implementation of efficient, secure, and accessible financial services. This reliance on antiquated technology not only slows transaction processes but also increases vulnerability to fraud and limits the scalability of financial services (Hamad Ameen & Afşar, 2023, pp. 1-18). Furthermore, the banking sector suffers from low banking density, with only one bank branch per 35,000 people, significantly below the global standard of one per 10,000 (Jaber & Yasir, 2021, pp. 1-16). This scarcity of banking facilities, coupled with limited ATM availability, restricts access to financial services, particularly in underserved regions.

Financial literacy remains another significant hurdle. A substantial portion of the Iraqi population lacks a foundational understanding of financial products and services, leading to low engagement with formal financial institutions. This gap in financial knowledge is exacerbated by a general distrust in the banking system, stemming from historical

instances of corruption and inefficiency. Consequently, a substantial portion of the Iraqi population continues to depend on informal financial mechanisms such as cash-based transactions and the Hawala system which operate outside the domain of formal regulatory oversight and consequently offer minimal consumer safeguards (Rodgers, 2023, p. 8; Dowdall, 2025, p. 25).

Social capital represented by networks, interpersonal relationships, and communal trust exerts a critical influence on financial behaviour and the accessibility of financial services. In Iraq, strong community ties can either facilitate or hinder FI, depending on the prevailing norms and trust in financial institutions. Nevertheless, the interaction between SC and FI has received insufficient attention in the literature, thereby constraining the development of targeted interventions that harness community-based structures to improve access to financial services (Saleh, 2024, pp. 15-28).

While Iraq has formally committed to the SDGs, progress toward their realization has been uneven and inconsistent. Challenges such as political instability, economic dependency on oil, and infrastructural deficits have impeded sustainable development efforts. Moreover, there is a paucity of empirical research examining the interrelationships between FI, FL, and SC within the specific context of Iraq (Abidi & Aldhalemi, 2024, pp. 2-27; Altaie, 2025, pp. 2-19). This deficit in empirical understanding hampers the development of targeted strategies that utilise these determinants to foster FI and, by extension, sustainable development.

Accordingly, this study is designed to examine the relationship between FI and the realization of the SDGs in Iraq, placing particular emphasis on the mediating role of FL and the moderating effect of SC. In doing so, by addressing this empirical gap, the investigation seeks to yield insights that can inform the development of more effective FI policies and programmes ones that are tailored to the unique socioeconomic context of Iraq.

1.2 Research Aims and Objectives

This study seeks to examine how financial inclusion relates to the attainment of the SDGs within the KRI, concentrating specifically on the provinces of Erbil Governorate, Sulaymaniyah Governorate and Duhok Governorate. In particular, it explores the

mediating influence of FL on this relationship and investigates the moderating role of SC in the connection between FI and sustainable development. By concentrating on these provinces, the research intends to provide insights into how enhancing FL and leveraging SC can strengthen the impact of FI on SDGs outcomes in the KRI context.

1.3 Research Background and Significancy of the Study

The global pursuit of SD , articulated through the United Nations Sustainable Development Goals (SDGs), increasingly recognizes FI as a pivotal enabler for achieving broader developmental objectives (CGAP, 2025, p. 8). FI defined as equitable access to and responsible use of affordable financial products and services, holds profound potential to alleviate poverty, stimulate economic prosperity, and empower marginalized populations by integrating them into formal financial systems. This integration involves facilitating access to fundamental financial services namely transactions, payments, savings, credit, and insurance which are indispensable for both individual and collective economic welfare (CGAP, 2025, p. 8).

Within the landscape of developing countries, the intricate dynamics between financial mechanisms, human capital (exemplified by financial literacy), and social capital (manifested through networks of trust and cooperation) are critically important for cultivating equitable and resilient economic advancement (Yap, Lee, & Liew, 2023, p. 28; Hasan, Dowla, & Tarannum, 2024, pp. 3-17). This investigation specifically centers on Iraq, a nation confronting a complex array of socio-economic, political, and institutional challenges. Understanding these dynamics within the Iraqi context is paramount for formulating effective policies and achieving sustainable development. The country's heavy reliance on oil revenues, the prevalence of informality, and existing institutional fragilities present a compelling environment for examining how these global development concepts unfold and interact at a local level (IMF, 2019).

A consistent observation across the literature is the global acknowledgment of financial inclusion as a fundamental element for advancing the SDGs (CGAP, 2025, p. 8). Concurrently, detailed accounts of Iraq's specific structural impediments, such as its significant dependence on oil, low non-oil revenue generation, widespread cash-based transactions, a large informal sector, and an underdeveloped banking culture, are prominent (IMF, 2019). This juxtaposition highlights a critical understanding: while

global frameworks provide a universal blueprint for development, their successful implementation is profoundly dependent on addressing the unique local structural impediments and contextual challenges. The focus on Iraq in this study is therefore not merely an application of a global theory but a deep exploration into how universal development goals encounter and adapt to specific national fragilities and socio-economic realities. This approach yields valuable insights into the practical complexities of deploying global development agendas in demanding environments.

This study holds significant importance by offering a comprehensive analysis of the interrelationships among FI, FL, SC, and the attainment of the SDGs in Iraq. It contributes to academic understanding by exploring how these factors intersect and influence one another within the specific context of the region. In the three provinces under consideration where access to formal financial services is limited and levels of FL remain relatively low gaining a precise understanding of these dynamics is essential for the design of effective policies and interventions. By focusing on the Erbil, Sulaymaniyah and Duhok, this research addresses a notable gap in the existing literature, which has predominantly concentrated on broader national analyses without delving into the unique socio-economic and political contexts of semi-autonomous regions like the KRI. The study's emphasis on the mediating influence of FL and the moderating role of SC provides a refined perspective on how these variables affect the effectiveness of FI initiatives in furthering sustainable development.

Furthermore, the findings have significant practical implications for policymakers, financial institutions, and development organizations working in the KRI. By furnishing empirical evidence on the determinants that facilitate or impede FI and its contribution to sustainable development, the research can guide the formulation and implementation of targeted programmes aimed at enhancing FL, leveraging SC, and thereby advancing the SDGs in the region. In sum, this study enriches the academic discourse by addressing a critical gap in the literature and offers actionable insights to support the design of more inclusive and effective financial systems in Iraq and, in particular, within the specified governorates.

1.4 Conceptual Foundations: Defining Key Constructs

This section establishes a clear theoretical grounding for each core variable, drawing on authoritative academic and institutional definitions to ensure conceptual clarity and rigor for the thesis.

1.4.1 Financial Inclusion (FI) and its Components (Access, Usage, Barrier, Trust and Expirence)

Financial inclusion is defined as the condition in which individuals and businesses have access to and use affordable, relevant financial products and services such as payments, savings, credit, and insurance that are delivered in a responsible and sustainable manner (CGAP, 2025, p. 8). These essential services encompass a broad spectrum of offerings, including transactions, payments, savings, credit, and insurance. It is widely recognized as a fundamental enabler for poverty reduction and fostering economic prosperity.

The concept of FI is typically broken down into several key components:

- **Access (ACC):** This dimension refers primarily to the capacity of individuals and firms to obtain and employ financial services and products offered by formal institutions (Joudar & Ghmari, 2025, pp. 2-20). It encompasses the ease with which individuals can open bank accounts (Nosker, 2025, p. 17) and the physical and digital availability of banking service points, such as Automated Teller Machines (ATMs) and branch networks. Access to credit, specifically, denotes the borrowing capacity extended by commercial banks to individuals, firms, or organizations in the form of loans, cash credit, and overdrafts (IBIS, 2025, p. 7).
- **Usage (USG):** Moving beyond mere availability, Usage refers to the sustained and regular use of offered financial services over time, regularity, frequency, and the degree of sustained engagement with financial services and products over time. This involves actively utilizing services like digital payments, maintaining savings accounts, and engaging with credit facilities (CGAP, 2025, p. 8). The ultimate objective is to transition individuals from simply possessing an account to actively using a broader range of financial services that genuinely meet their needs (World Bank, 2022, p. 1).
- **Barrier (BRR):** As a critical aspect of FI, borrowing signifies the ability to obtain credit for various purposes. This capacity enables households to borrow against

future income for consumption smoothing or investment, and allows firms to invest in machinery, equipment, or business expansion. Access to credit for Micro, Small, and Medium-sized Enterprises (MSMEs) is particularly highlighted as a crucial driver for economic growth and job creation (Thieu Ha, Le, & Nguyen, 2025, pp. 2-42).

- **Trust (TRST):** This component addresses the confidence users place in financial providers and services. Trust influences sustained usage, not just access. Low trust stemming from issues like unexpected fees, poor service, system unreliability, or weak dispute resolution is a major barrier to adoption. Earning trust requires quality service delivery, clear communication, and institutional reliability, which in turn supports long-term engagement with financial services (Sholevar & Bachmann , 2025, pp. 2-15).
- **Experience (EXPN):** This component refers to the user's journey throughout all touchpoints with financial services including service reliability, personalization, resolution of issues, and user-friendly design. Positive customer experiences are strongly correlated with satisfaction, trust, and continued engagement. In one U.S. survey, 88% of respondents said customer experience was equally or more important than product offerings in choosing a bank (FICO, 2025, p. 12).

While the specified components of Access, Usage, and Barrier are fundamental to defining financial inclusion, a deeper examination of the literature reveals that the quality of financial services and the trust in financial institutions are equally critical for meaningful inclusion. Several sources explicitly mention "quality of the service delivery" as a dimension of FI. Furthermore, in the Iraqi context (Mushtaq & Shah, 2025, pp. 11-16), it is stated that FI necessitates deep-structural reforms, including the enhancement of legislative frameworks and the strengthening of trust in the financial system. Another source emphasizes the importance of "strengthening trust between customers and banks" and "Ensuring Fair Treatment" (AAIB, 2025, pp. 2-20). This indicates that mere availability or even initial use of financial services may not translate into sustainable benefits if the services are not responsible, trustworthy, or do not genuinely meet diverse needs effectively. The study acknowledges that this dimension of quality and trust, beyond just access and usage, is highly likely to exert a profound influence on the

relationship between FI and SDGs, especially in a challenging context like Iraq, where institutional trust is reported to be low (World Bank, 2022, p. 1).

1.4.2 Financial Literacy (FL)

Financial literacy is defined as the possession of the requisite knowledge, abilities, and behaviours that enable an individual to make informed and effective decisions regarding the use and management of financial resources. It encompasses practical abilities such as budgeting, managing debt, paying off debts, and understanding and prudently utilizing credit and investment products (Fernando, 2025, p. 7). The terms "financial literacy," "financial education," and "financial knowledge" are often utilized interchangeably within academic discourse. The Organisation for Economic Co-operation and Development (OECD) defines FL as a combination of awareness, knowledge, skills, attitudes and behaviours necessary to make sound financial decisions and ultimately achieve individual financial well-being (Bouzidi & Mohammed, 2019, pp. 62-76).

Key aspects of financial literacy include:

- **Knowledge and Skills:** Financially sophisticated individuals are adept at financial calculations, such as understanding compound interest, which aids in making prudent borrowing decisions. It involves the ability to effectively manage one's economic well-being and make optimal financial decisions in daily life (Bouzidi & Mohammed, 2019, pp. 62-76).
- **Behavioural Application:** FL transcends mere knowledge acquisition, encompassing the capacity to apply that knowledge effectively in real-world contexts in order to make informed financial decisions aligned with one's objectives and values.
- **Consumer Protection:** FL plays a significant role in enhancing consumer protection by reducing individuals' susceptibility to predatory financial practices and scams. This empowerment contributes to a fairer and more transparent financial marketplace by increasing consumers' awareness of both their rights and responsibilities (cf. Organisation for Economic Co-operation and Development (OECD) on the inter-linkage between literacy and protection).

While definitions of FL often emphasize "knowledge", several sources explicitly expand this to include "behaviors" and "skills" that enable the application of knowledge. One

source further reinforces this by stating that well-designed financial education programs can successfully increase formal savings and promote "responsible financial behaviors". This highlights a crucial distinction: simply possessing financial knowledge (a cognitive aspect) may not be sufficient; the ability and willingness to act on that knowledge (a behavioral aspect) is equally critical for translating FL into tangible outcomes such as improved financial performance, effective FI, and ultimately, contributions to SD. This behavioral dimension of FL serves as a critical bridge between knowledge acquisition and real-world financial decision-making and outcomes (Chhatoi, Sahoo, & Nayak, 2023, pp. 447-468).

1.4.3 Social Capital (SC)

Social capital is a multifaceted construct in both sociology and economics, referring to the networks of relationships, shared norms, values, and trust that facilitate cooperative action among individuals and groups (Antoni & Grimalda, 2024, pp. 167–190). SC is a multifaceted construct used in sociology and economics to describe the resources embedded in an individual's or group's network of relationships. These resources are accessed and mobilized through interpersonal ties and social structures, enabling collective action and facilitating the achievement of both individual and communal goals. At its core, SC involves the effective functioning of social groups through shared norms, values, trust, cooperation, and reciprocity (Sakamoto, 2024, pp. 40-58).

Key forms and functions of social capital include:

- **Forms:** Common distinctions in the literature distinguish between bonding social capital networks and ties predominantly among homogeneous groups such as family, close friends or culturally similar individuals and bridging SC networks that span socially heterogeneous groups, creating links across diverse social cleavages such as ethnicity, class or religion. Some scholars also categorize it into structural, relational, and cognitive clusters (Chowdhury, Islam, Imran, & Quaddus, 2023, pp. 21-39).
- **Function:** Social capital facilitates cooperation and mutually supportive relationships within communities and nations by enabling individuals and groups to draw on resources embedded in and derived from their social networks. At its core, it functions as a resource accessible through specific social structures and directed toward the pursuit of collective and individual interests. Its widespread scholarly

recognition arises from its capacity to explain a range of outcomes, including improved group performance, the expansion of entrepreneurial enterprises, and strengthened supply-chain relationships (Masoom, 2024, p. 32).

The literature elaborates on social capital's core elements, this includes shared understandings, shared norms and values, trust, cooperation, and reciprocity. When considered in the context of Iraq, a UN socio-economic response plan explicitly highlights "Collaboration, mutual trust, empowerment, and transparency" as "key enablers of success" (Roth, 2022, p. 12; Tsounis, 2024, p. 32). This suggests that SC, particularly its dimensions related to trust and cooperation, is not merely a passive background factor but an active ingredient that can significantly reduce transaction costs, facilitate information flow, and enable collective action. These functions are vital for the successful adoption and effective utilization of financial services, and for broader development initiatives, especially in a fragile state where formal institutions may be weak or distrusted (Makulbayeva & Sharipova, 2024, pp. 1–14). The study recognizes that different forms of social capital (bonding versus bridging) might differentially impact financial inclusion and sustainable development outcomes, considering their potential to either reinforce existing structures or foster broader integration.

1.4.4 Sustainable Development Goals (SDGs)

Sustainable development can be defined as the process of development that fulfils the needs of the present generation without compromising the capacity of future generations to meet their own needs (IISD, 2025, p. 16). This foundational definition, originating from the Brundtland Report in 1987, continues to guide contemporary work in the field (Brundtland, 1987, pp. 3-6).

The broader framework for sustainable development is the 2030 Agenda SDGs, adopted in 2015 by all Member States of the United Nations. This agenda comprises 17 universal SDGs with 169 specific targets intended for achievement by 2030 or sooner (Pfeiffer , Middeke, & Tambour, 2017, pp. 911-918). A core principle of the SDGs is to “leave no one behind”.

Sustainable development encompasses three principal and interrelated dimensions economic, environmental, and social each of which must be addressed in an integrated

manner to ensure long-term well-being and viability. (Persson, Weitz, & Nilsson, 2016, pp. 59-68). These pillars underscore a holistic approach to development that balances prosperity, equity, and ecological stewardship.

Financial inclusion is explicitly positioned as a "key enabler" or "catalyst" for achieving seven of the 17 SDGs (Jungo, Madaleno, & Botelho, 2024, pp. 1-17). These goals include, more specifically, eradicating poverty (SDG 1), ending hunger and promoting sustainable agriculture (SDG 2), promoting health and well-being (SDG 3), achieving gender equality and the economic empowerment of women (SDG 5), fostering sustained inclusive economic growth and decent work (SDG 8), supporting industry, innovation, and infrastructure (SDG 9), and reducing inequalities (SDG 10) (SDGs, 2025, p. 14). This highlights the cross-cutting importance of financial access in achieving a wide array of development objectives.

The literature consistently emphasizes that FI acts as a "catalyst" or "key enabler" for multiple SDGs, rather than being limited to an isolated goal (Choudhary, Ghosh, & Thenmozhi, 2025, p. 73). One source specifically lists seven SDGs influenced by FI, while others elaborate on concrete outcomes such as an increased proportion of electricity generated from renewable sources, together with enhanced industrial productivity (Kara, Zhou, & Zhou, 2021, p. 33) higher adult literacy rate. This indicates that the impact of FI on SD is not monolithic but rather a complex web of interconnected effects spanning economic, social, and even environmental dimensions (Ozili, 2024, pp. 1-14). The study acknowledges the need to conceptualize and measure "Sustainable Development" in a way that captures this multi-dimensional impact, potentially through an aggregate index of relevant SDGs indicators or by examining the influence on specific, measurable aspects of development in Iraq. This approach will provide a more nuanced understanding of financial inclusion's contribution to the broader sustainable development agenda.

Table 1.1*Core Constructs: Academic Definitions and Key Dimensions*

Construct	Definition	Key Components
Financial Inclusion (FI)	Individuals and businesses thereby gain access to and utilize affordable financial products and services that satisfy their specific needs, delivered in a manner that is both responsible and sustainable (Hasan, Dowla, & Tarannum, 2024, pp. 3-17)	Access (ACC), Usage (USG), Barrier (BRR), Quality of service delivery (implicit but important).
Financial Literacy (FL)	It refers to the acquisition of the requisite competencies, knowledge, and behaviours that enable individuals to make informed financial decisions such as budgeting effectively, managing debt responsibly, and utilising credit and investment instruments judiciously (Fernando, 2025, p. 7).	Knowledge, Skills, Behaviors, Awareness, Financial education.
Social Capital (SC)	SC refers to the network of relationships and the actual and potential resources that are embedded within, accessible through, and derived from those relationships (Masoom, 2024, p. 32).	Structural, Relational, Cognitive; Bonding, Bridging.
Sustainable Development Goals (SDGs)	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987, pp. 3-6).	Economic, Environmental, Social; 17 specific goals (e.g., Poverty, Gender Equality, Economic Growth, Industry, Innovation, Inequality).

1.5 Structure of the Thesis

This doctoral dissertation is structured into six main chapters, followed by a list of references, appendices, and the researcher's curriculum vitae. The structure has been

designed to ensure a logical progression from the identification of the research problem to the presentation of findings and formulation of recommendations.

Chapter One introduces the study by presenting the background and contextualising the research problem. It states the research objectives and questions, explains the study's significance and delineates its scope, and concludes with a brief outline of the thesis structure.

Chapter Two conducts a comprehensive critical review of the extant literature, structured around four principal themes: FL, SC, FI, and the SDGs. Following the thematic discussion, the chapter culminates in the formulation of research hypotheses grounded in the theoretical and empirical insights drawn from the reviewed body of work.

Chapter Three outlines the tools and instruments used in the data collection process. It includes a detailed discussion of the design, development, and validation of the instruments, with emphasis on issues of reliability and validity, and their alignment with the study's objectives.

Chapter Four describes the materials and methods adopted in the research. It is divided into two sections: the first outlines the data sources and research instruments, while the second details the methodological approach, including the research design, population, sampling techniques, data collection procedures, and analytical methods used for testing the research hypotheses.

Chapter Five presents the findings of the study. It includes both descriptive and inferential statistical analyses, structured according to the research objectives and hypotheses. The chapter highlights the key empirical results obtained from the analysis.

Chapter Six provides the conclusion, discussion, and recommendations. It begins with a summary of the main findings, followed by a discussion of their implications in light of existing literature. The chapter concludes with practical recommendations for policymakers, practitioners, and directions for future research.

The dissertation concludes with the references cited throughout the study, followed by appendices containing supplementary materials, and the curriculum vitae of the researcher, outlining relevant academic and professional background.

2. LITERATURE REVIEW

The global financial crisis of 2009 and the ensuing economic downturn, together with the failure of many Middle Eastern states including Iraq to fulfil the Millennium Development Goals (MDGs), revealed significant structural vulnerabilities in the region. These include widespread poverty, limited access to finance and education, and persistent political instability, all of which have inhibited Iraq's progress toward sustainable development. Also, conflict, political instability, and governance weakness are among major barriers for Iraq to achieve SDGs (Mustafa, 2017, pp. 1-7; Al-Muqdadi, et al., 2021, pp 1-29). Also, oil dependency and economic fragility (Idris, 2018), weak social and human capital (UNDP, 2025), environmental degradation and climate risks, and lastly institutional and data shortfalls (Al-Muqdadi, et al., 2021, pp. 1-29) While Iraq experienced slight economic growth in recent years, its impact on human capital development has been limited, highlighting the need for more inclusive and equitable growth strategies.

In response to these challenges, Iraq has embraced the 2030 Agenda for Sustainable Development, adopting the SDGs as a framework to guide national development efforts. The Iraq Vision 2030 outlines a comprehensive plan focusing on five pillars: building human capital, promoting good governance, diversifying the economy, ensuring a safe society, and protecting the environment. This vision emphasizes the importance of both financial inclusion and literacy as tools to empower individuals and communities, reduce poverty, and promote sustainable economic growth.

Within this national context, the KRI presents a unique case study. Comprising the provinces of Erbil, Sulaymaniyah, and Duhok, the KRI has pursued its own development strategies under the semi-autonomous Kurdistan Regional Government (KRG). The KRG has launched initiatives such as Vision 2020 and Vision 2030, aiming to diversify the economy, implement administrative reforms, and advance the banking system (Issa, 2023, p. 17). Despite these efforts, the region faces challenges including low financial literacy and significant public debt, estimated at \$18 billion by January 2016 (Shali, 2024, p. 30).

This literature review aims to explore the theoretical and empirical foundations of the key variables central to this study: FL, FI, SDGs, and SC. Each section will delve into the definitions, significance, and interrelationships of these concepts, with a particular focus on their relevance to the Kurdistan Region of Iraq. By synthesizing existing literature, this chapter seeks to identify gaps and establish a conceptual framework that informs the subsequent empirical analysis of the region's financial and social landscape.

2.1 Financial Literacy (FL)

Financial literacy (FL) is indispensable for fostering individual empowerment, advancing economic stability, and promoting social progression. It encompasses the attitudes, beliefs, behaviours, and knowledge that individuals and communities hold regarding money, personal finance, and financial systems. By enhancing FL, encouraging prudent financial behaviours, and establishing an environment amenable to FI and innovation, societies can build a more resilient and prosperous future. The concept of FL plays a pivotal role in shaping economic welfare, social mobility, and overall prosperity. Empirical research indicates that individuals endowed with strong financial knowledge and skills are more capable of making informed decisions regarding savings, investment, and debt management thereby enhancing their economic stability and upward mobility. (Khalaf, 2024, p. 3). FL plays a pivotal role in shaping the economic trajectories of Iraqi youth by equipping them with the knowledge and competencies necessary to capitalise on economic opportunities, confront financial challenges, and contribute meaningfully to the nation's long-term prosperity (Khalaf, 2024, p. 3).

Financial literacy has attained increasing prominence in recent years, particularly since 2002, as financial markets and their associated instruments have grown markedly more complex. This complexity creates heightened challenges for the average individual when making informed financial decisions. In this context, FL emerges as a critical foundation for promoting FI and facilitating broader development, thereby contributing to financial stability (Lontchi, Yang, & Su, 2022, p. 3). FL has attracted considerable attention from academics, policymakers, and other stakeholders owing to its role in facilitating sound investment decisions, enhancing individuals' capacity for personal financial management, and improving overall financial well-being (Alshebami & Al Marri, 2022, pp. 2-3). Research indicates that financial development is a key factor in both economic expansion and sustainability (Ibrahim, Alomair, & Al Naim, 2024, pp. 5-6). According

to academics, a major barrier to service demand is the absence of FL. If people are not comfortable or familiar with a product, they will not demand it (Calcagno & Monticone, 2015, pp. 366-370).

The ability to make educated decisions by being familiar with and understanding financial market products, especially risks and benefits, is known as FL. As a result, it alludes to making wise financial selections and financial management choices. When it comes to financial products and services, a lack of FL in developing nations leads to financial exclusion (Atkinson & Messy, 2012; Zaimovica, et al., 2024, pp. 574–581). In developing nations, FI is also influenced by the incentives for saving, borrowing, and utilizing financial services and products (Holzmman, 2010; Sakanko, Yahaya , & Abdullahi, 2023, pp. 1-10). FL has grown significantly and attracted a lot of attention in recent years in various nations. However, this growth is a result of the challenges that have emerged in the dynamic financial system, which necessitates that financial clients develop financial options and evaluations more vigorously (Lusardi & Mitchell, 2011, pp. 497–508). Another study conducted by (Ali & Al-Sayegh, 2022, pp. 89-114) concludes that females exhibit lower FL levels compared to males, with educational attainment significantly influencing respondents' financial understanding in Iraq. Addressing this gender gap is crucial, and it is recommended to investigate the underlying causes to develop targeted interventions aimed at enhancing women's FL.

Numerous research on FI and its connections to sustainability and economic growth attest to the importance of FL to the prosperity of any nation's financial system. With regard to financial products, services, and activities, FL is particularly a crucial instrument for financial education (Fernandes et al, 2014, pp. 61-83); (Hongyan, Desmond, Jiahang, & Xu, 2020, p. 79). In helping customers choose the right financial products, it has been quite beneficial (Bianchi, 2017, pp. 831–859; Gaudecker, 2015, pp. 489-507). The sustainable development of every nation's financial system is therefore closely tied to FL, according to numerous academics. Due to its extensive implications for individual financial choices (Kezar & Yang, 2010, pp. 15-21; Rashidin et al, 2020, pp. 1-20). It raises the degree of economic development by fostering economic security through the elimination of unemployment and poverty (Pompei & Selezneva, 2021, pp. 443-478).

Alsaegh (2017) conducted a comparative study on FL across ten Iraqi and Arab universities, focusing on the curricula of finance and banking departments. The research identified a significant deficiency in financial awareness among students, attributed to gaps in educational content and teaching methodologies. The study recommends future research employing standardized FL measures across various academic disciplines to better understand and address these shortcomings (Alsaegh, 2017, pp. 375-387). A comprehensive scientometric analysis of over 10,000 studies spanning 45 years reveals a growing global interest in the intersection of FL and FI. The research indicates that while FL is crucial for enabling individuals to make informed financial decisions and access financial services, most studies have been concentrated in developed countries, particularly the United States. The study underscores the need for more integrated research approaches and policy frameworks that jointly address FL and inclusion, especially in developing economies (Khan, Siddiqui, & Imtiaz, 2022, pp. 2-37). Ozili (2025) introduces a comprehensive theory that delineates how varying levels of FL and inclusion interact, using a grid to illustrate possible scenarios. The theory posits that FL significantly influences FI levels. Specifically, individuals who are financially illiterate yet included in the financial system may struggle to maximize their welfare due to a lack of understanding of financial products and services. Conversely, financially literate individuals are more likely to engage effectively with formal financial systems, enhancing their economic well-being (Ozili, 2025, pp. 243-254; Judijanto & Hernat, 2025, pp. 232-244).

In May 2024, the International Labour Organization (ILO) and the Central Bank of Iraq (CBI), supported by the Italian Agency for Development Cooperation (AICS), launched a Financial Inclusion Week in Al-Muthanna governorate. This initiative aimed to enhance financial literacy among youth and women, focusing on green entrepreneurship and sustainable economic practices. Over 500 participants engaged in activities such as Training of Trainers sessions, awareness programs for university students and small business owners, and online engagements for COP28 youth delegates. The program aligns with the ILO's broader efforts to promote decent work and sustainable development in southern Iraq (United Nations, 2024).

2.2 Social Capital (SC)

Numerous scholarly investigations have underscored the need of taking into account the SC endowment of individuals within a group or organization (Tantardini & Kroll, 2016, pp. 83-99; Amonarriz, Iturrioz , Narvaiza, & Parrilli, 2024, pp. 35-52). The development of FI procedures that benefit locals and give financial institutions a sustainable population leads to economic growth and sustainability. Confidence and other components included in the SC concept bolster this development. The informal connections, groups, and networks that promote mutual affection and collaboration between participants are referred to as SC (Bongomin et al, 2016, pp. 291-312). Consequently, the SC of a rural production organization rests on the synergistic interaction between the institution and the state, the network of external actor ties, and the intricate interplay of social components within the organization's internal network structure.

Nonetheless, from the standpoint of businesses, social capital is the quantity of resources that a business can readily acquire and employ due to its network of official and informal connections (Aldrich & Meyer, 2015, pp. 254-269; Amonarriz et al, 2024, pp. 35-52). Systematic coordination and mutual understanding among members strengthen SC, which is gauged by the degree of trust, bonding, bridging, and collective action within the network (Bongomin et al, 2016, pp. 291–312). It denotes the confidence that another party acts honestly, integrity, and capacity to carry out their responsibilities in the relationship is known as trust. The ability of members to balance costs and minimize risks by utilizing their combined capabilities is referred to as bonding (Paul et al, 2016, pp. 124-138). Bridging is the willingness of parties to continue social connections, primarily when the other side transgresses the social creed (Onodugo et al, 2021, pp. 502–512). Effective information sharing facilitates collective action, which is the capacity of members to move simultaneously toward a resolution or agreement (Calcagno & Monticone, 2015, pp. 363-380) and A study conducted in government universities in the KRI found that SC comprising social networks, trust, and shared goals positively influences knowledge sharing among academic staff. This enhanced knowledge sharing contributes to improved educational service quality, including better teaching methods and curricula. The study recommends implementing administrative practices that foster SC to further enhance educational outcomes (Khal & Hamad, 2019, pp. 160-181).

A study conducted by Abdullah (2020) highlights the critical role of SC in empowering individuals and fostering sustainable development in Iraqi society. It emphasizes that sustainable progress requires not only institutional reforms but also a strong ethical and moral foundation rooted in social relationships, trust, and mutual cooperation. By identifying the components and functions of social capital, the research underscores its importance in shaping human behavior and supporting inclusive development through enhanced civic engagement and community cohesion (Abdullah H. A., 2020, pp. 81-98). According to the literature reviewed above, FI is dependent on SC and has the ability to control the connection between FI and SD. As a result, a positive SC endowment fosters an inclusive financial process, enhances the population's ability to learn from others, manage risk better, offer traditional contracts, operate in collateral relationships, and function as a trustworthy information source Onodugo et al, 2021, pp 22; ANND, 2021, pp 12). Also, In November 2023, a conference in Baghdad, organized by Bait Al-Hikma and the International Labour Organization, convened regional experts to address human security and sustainable development in Iraq and the Arab world. Through over 160 research papers, the event examined social, economic, and environmental challenges, emphasizing the importance of decent work, social protection, and climate resilience in achieving the Sustainable Development Goals. The conference highlighted the need for integrated policies and regional collaboration to promote inclusive development and human security (ILO, 2023). Recent research highlights the significant role of SC in enhancing FI and promoting sustainable economic growth. Utilizing advanced econometric methods, studies have found that financial participation is closely linked to FL and substantially influences sustainable development. Notably, social capital serves as a key moderator, strengthening the relationship between FI and sustainable growth. These insights suggest that fostering social networks and trust within communities can amplify the benefits of FI initiatives, offering valuable guidance for policymakers and business leaders in developing nations (Huang et al, 2024, p. 102525). Another study involving 701 Islamic Micro Small and Middle Enterprise (MSMEs), found that FL, SC, and FI positively influence financial performance, while demographic factors do not. Information technology alignment did not significantly moderate these relationships, suggesting that enhancing financial knowledge and social networks is more impactful than IT alignment in improving MSME performance (Suyanto, 2024, pp. 852-871). Another study conducted by Jassim (2025) analyzing data from seven Iraqi banks found

that FI measured through credit growth, electronic services, and account ownership significantly improves Return on Assets (ROA), indicating enhanced operational efficiency. However, its impact on Return on Equity (ROE) was limited, suggesting that equity performance may depend on broader structural factors. The study recommends that policymakers strengthen the country's financial infrastructure, expand digital banking services, and develop targeted lending programs, all of which would advance FI and support sustainable development in Iraq (Jassim, 2025, pp. 181-192).

2.3 Financial Inclusion (FI)

Scholars have made important strides in comprehending the reasons for and consequences of the exclusion of many individuals from financial services, especially in developing nations. Financial systems are much less likely to involve economically deprived populations, according to (Lyons & Kass-Hanna, 2021, pp. 26-27). Different definitions of FI have been offered by economics and finance literature. For instance, (Sarma, 2012, p. 32) offered a thorough definition that tackles important concerns for a sizable population, like utilization, accessibility, and availability of financial services. Through efficient access to and use of readily available, reasonably priced, easily accessible, high-quality, and long-term financial services from official providers, FI can help alleviate poverty and promote sustainable and economic growth (UN, 2015, pp. 3-19).

Enhancing business performance is essential for developing nations everywhere, but especially for Middle Eastern nations. In fact, a large number of businesses in Arab countries contribute to their sustainable development by generating employment opportunities, advancing industrialization to stimulate economic growth, and improving the welfare of their citizens. As a result, these companies are essential to Middle Eastern nations like Iraq's ability to compete (Kisaka & Mwewa, 2014, pp. 43-49; Harelimana, 2017, pp. 45-55). A lack of access to formal financial services can significantly impede individuals' ability to secure livelihoods and maintain financial well-being, particularly among economically disadvantaged groups such as women, youth, rural dwellers, migrants, and employees of micro and small enterprises. Evidence indicates that constrained access to banking, credit and insurance restricts wealth accumulation, investment in productive activities and participation in formal economic systems, thereby perpetuating poverty and inequality.

According to studies, FI has been recognized by numerous academics as a crucial element that helps businesses remain in operation (Beck, Demirgüç-Kunt, & Honohan, 2009, pp. 119–145; Mago & Chitokwindo, 2014, pp. 221-230). It makes it possible for companies that struggle to secure capital from conventional banking establishments to access a variety of cost-effective financial products and services that are suited to their requirements for sales, payments, savings, credit, and insurance. The main way that FI has been quantified is by using supply-side (Amidžić, Massara, & André , 2014; Oke & Adamson, 2023, pp. 61-73) aggregate data to measure the use and accessibility of formal financial services and, conversely, barriers.

In 2019, a study conducted by Jaber from Al-Imam Al-Kadhum University College to assess the barriers and prospects of FI in Iraq. Utilizing qualitative research methods, including interviews with experts, managers, and academics, the study aimed to evaluate the capabilities of Iraqi financial institutions in achieving financial inclusion. The findings highlighted several challenges, such as outdated financial regulations, low FL, limited banking infrastructure, and insufficient financial innovation. To address these issues, the study recommended establishing a specialized center for FI and investing in the training of financial human resources to foster innovation and enhance FL across the country (Jaber, 2019, pp. 447-455). FI is widely acknowledged as a pivotal driver of SD, and FL enhances this impact by equipping individuals with the understanding and skills required to effectively utilise financial services (Rani & Goyal, 2023, pp. 1-8).

In 2021, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the European Union (EU), initiated the project “FI for Economic Restart and Integration in Iraq”. The objective of this initiative is to expand access to inclusive financial services for vulnerable populations and micro, small, and medium-sized enterprises (MSMEs) in Iraq. Addressing challenges such as widespread distrust in financial institutions and limited use of formal banking services, the project focuses on advising financial service providers to develop inclusive products, offering FL training, supporting the Central Bank of Iraq in promoting inclusive financial services, and improving access for women-led businesses. By implementing these strategies, the project seeks to foster economic growth and social well-being through increased FI (GIZ, Promoting financial inclusion in Iraq, 2024). Also, FI acts as a

powerful engine for inclusive growth, especially among vulnerable populations. By extending access to formal financial services such as banking accounts, credit, insurance, and digital tools this paper finds that households in Karnataka experience noticeable socio-economic improvements, including better income stability, asset building, and resilience to shocks (Serrao, Sequeira, & Varambally, 2021, pp. 1-28).

Khalaf and Ali (2017) conducted an empirical study of FI and economic development in Iraq over the period from 1990 to 2016, using GDP per capita as a proxy for economic growth. Their study revealed a low financial inclusion index of approximately 10% and found no significant long-term relationship between FI indicators specifically, and usage of financial services and economic growth during the examined period. These findings underscore the need for targeted policy interventions to enhance FI, such as promoting FL, expanding services to underserved areas, and integrating low-income individuals into formal financial systems through instruments like microfinance products (Ali & Khalaf, 2017, p. 10). Also, Jedi (2022) found a strong correlation between FI and women's economic empowerment in Iraq, highlighting that enhanced access to financial services particularly digital platforms can increase women's income, savings, and market participation. The study recommends revising fiscal policies to better support female entrepreneurs and promote gender-equitable financial access (Jedi, 2022, pp. 104-120).

2.4 Sustainable Development Goals (SDGs)

The concept of sustainable development refers to the macroeconomic dimensions of national growth and development that are structured to meet the needs of the current generation while ensuring that future generations are not deprived of their capacity to satisfy their own needs. Thus, to achieve sustainability, which by definition must not compromise the prospects of succeeding cohorts, each nation endeavours to accelerate variables across economic, social, and environmental domains. As defined in the literature, sustainable development serves as a comprehensive agenda that allocates resources and frames policy measures so as to address present demands and, at the same time, maintain the ability of future generations to meet their own requirements (UN, 2012, p. 12; Wilkinson & Mangalagiu, 2012, pp. 372-384). According to (Eunice , 2009) sustainable development is the comprehensive growth of people. Beyond the construction of roads, bridges, skyscrapers, and other social amenities, it is focused on national

progress and personal growth. Thus, according to certain academics who claim that development is sustainable when it can be maintained and carried on indefinitely, sustainable development should be an ongoing process that does not negatively impact the environment (Coventry & Garrod, 2004, p. 12; Schneeberger, et al., 2011, p. 32).

According to Browning and Rigolon (Browning & Rigolon, 2019, pp. 429) the goal of sustainable development as a development model is to raise living standards without having an adverse effect on the environment or the planet's ecosystems (Benaim, Collins, & Raftis, 2008; Browning & Rigolon, 2019, pp. 429). The three facets of SD are environmental, social, and economic. Zhai and Change state that the goals of SD are social advancement, economic expansion, and environmental balance (Zhai & Chang, 2018, pp. 369–397). According to the discussion above, inclusive finance has allowed the rural populace to significantly contribute to the nation's overall economic growth and sustainability (Hasan, Popp, & Oláh , 2020, pp. 1-17).

As previously noted, numerous studies have affirmed the importance of the social, economic, and environmental dimensions of sustainable development. The social dimension is specifically associated by United Nations agencies with issues such as gender equality, cultural diversity, human rights, intercultural understanding, and peace and human security. (UNESCO, 2006, p. 6; Farrukh , Younis, & Longsheng , 2023, pp. 136-143). Sustainable urbanization and the preservation of natural resources, such as air, soil, water, agriculture, and energy, are linked to the environmental variable (James, 2024, pp. 54-66). Measures aimed at mitigating environmental degradation include reducing air, water, and land pollution through the increased utilisation of renewable energy sources such as geothermal and wind power rather than conventional fossil fuels like coal, gas, and oil. Additionally, strategies such as waste recycling, forest conservation, and the expansion of green spaces serve to lower resource consumption and curb activities that contribute to global warming (Atmaca, Yeh, & Pehlivan, 2019, pp. 80 - 91). A study analyzing the connection between financial sustainability and sustainable development in the KRI found that the region lacks financial sustainability due to persistent budget deficits and debt repayment challenges. The research highlighted that the Kurdistan Region is in the early stages of sustainable development, showing positive outcomes in only 10 out of 24 indicators. To address these issues, the study recommends implementing clear financial policies, combating corruption, reducing deficits, and

promoting sustainable development goals such as poverty reduction, healthcare improvement, and economic stability (Hamad, 2023, p. 152).

However, economic sustainability includes things like resource conservation, balancing income and expenses, eliminating inequality in income distribution, Sustainable production and cost-management, fostering an investment-friendly environment, channeling capital into high-income and strategic sectors, and prioritizing research and development form a coherent framework for advancing long-term development objectives (Olsson, Gericke, & Rundgren, 2016, pp. 176–202; Atmaca, Yeh, & Pehlivan, 2019, pp. 80 – 91; Delechat, et al., 2024, pp. 54).

In 2024, researcher Khalaf conducted a study titled "Investing in Financial Education for Iraqi Youth: Towards Building a Sustainable Financial Future." The study emphasizes the critical role of FL in empowering Iraqi youth, enhancing economic stability, and promoting social progress. It identifies challenges such as limited access to quality education, economic instability, and cultural norms that hinder financial discussions. Khalaf recommends integrating financial education into school curricula, expanding access to financial resources, and fostering entrepreneurship to build a financially empowered generation in Iraq (Khalaf, 2024, pp. 3-14).

2.5 Research Gap

Despite Iraq's recent efforts toward economic recovery, significant challenges persist in achieving inclusive and sustainable development. Existing studies on FI in Iraq largely focus on its direct economic impacts, with limited exploration of the underlying mechanisms that drive its influence on sustainable development outcomes. In particular, the role of FL as a mediating factor remains underexplored, leaving a critical gap in understanding how knowledge and skills related to financial management can enhance the effectiveness of FI policies. Moreover, while social capital is widely acknowledged as a vital resource in fostering community resilience and economic cooperation, its potential moderating role, despite growing interest in the field, empirical investigation of the relationship between FI and SD in the Iraqi context remains limited. Given Iraq's unique socio-political environment marked by instability, cultural diversity, and economic disparities, it is essential to investigate how social networks, trust, and community engagement interact with FL to shape development outcomes. Consequently, this study is designed to address identified gaps by examining how FL mediates and how

social capital moderates the relationship between FI and the attainment of SDGs in Iraq. This focus is crucial to designing tailored, context-specific strategies that promote equitable growth and ensure that no segment of Iraqi society is left behind in the path toward sustainable development.

Importantly, Iraq’s persistent struggle to achieve the SDGs is fundamentally rooted in its protracted instability, weak governance, and structural economic limitations. Initially, decades of conflict and political volatility have significantly disrupted infrastructure, healthcare, and educational systems. Consequently, pervasive corruption and bureaucratic inefficiency have eroded institutional trust, further hindering progress. At the same time, Iraq’s heavy reliance on oil revenues comprising over half of its GDP and the vast majority of government income has led to economic fragility; this rentier model fails to generate sufficient jobs or foster private sector growth. Moreover, social inequalities manifested in high youth unemployment, especially among women and internally displaced persons reflect systemic failures in social capital and human development. This situation is further aggravated by acute environmental challenges such as water scarcity, declining river flows, and pollution, which intensify the country’s vulnerability to climate shocks. Finally, weak data systems and limited capacities at subnational levels constrain effective SDGs monitoring and localization. In summary, these interconnected barriers conflict, governance deficits, economic dependence, human capital weakness, environmental degradation, and institutional data gaps collectively explain Iraq’s constrained SDG performance:

Table 2.1

Summary of Key Gaps

Barrier	Impact on SDGs
Conflict & instability	Disruption of infrastructure, education, and health services
Governance & corruption	Impeded service delivery and institutional trust
Oil-dependence & economic fragility	Limited job creation; unequal growth; budget vulnerability
Weak social & human capital	High youth unemployment and social exclusion
Environmental degradation	Compromised water security, agricultural productivity, and public health
Data & institutional weaknesses	Poor SDG localization, monitoring, and stakeholder engagement

2.6 Conceptual Framework

This study proposes a conceptual framework that investigates the relationship between financial inclusion and the achievement of the SDGs in Iraq, placing particular emphasis on the mediating role of FL and the moderating role of SC.

- FI serves as the independent variable, representing the accessibility and usage of financial services by individuals and businesses, which is crucial for economic participation and poverty reduction.
- SDGs constitute the dependent variable, reflecting multidimensional targets including economic growth, social equity, and environmental sustainability that Iraq aspires to achieve by 2030.
- FL is conceptualized as a mediator that influences how effectively FI translates into SD outcomes. It encompasses individuals' knowledge, skills, and confidence to make informed financial decisions, which can enhance the benefits of FI.
- SC functions as a moderator in the framework, representing the networks, norms, and trust within communities that can strengthen or weaken the impact of FI on SDGs through its interaction with FL and other socioeconomic factors.

The framework hypothesizes that FI positively affects SD, but the strength and effectiveness of this relationship depend significantly on the levels of FL. Furthermore, social capital can amplify or diminish this mediated relationship by fostering collective action, trust, and social support in Iraqi communities. The conceptual model thus integrates economic, educational, and social dimensions to provide a comprehensive understanding of the pathways linking FI to sustainable development in the context of Iraq.

2.7 Scope of Study

This study focuses on investigating the relationship between FI and the achievement of SDGs in Iraq. This study focuses on investigating the relationship between FI and the achievement of SDGs in Iraq, with particular emphasis on the mediating role of FL i.e., how it explains the mechanism through which the independent variable influences the dependent variable and on the moderating effect of SC, which specifies the conditions under which and for whom the relationship holds.

- **Geographical Scope:** The research is confined to KRI , considering its unique socio-economic, political, and cultural context, which shapes the dynamics of FI and sustainable development.
- **Conceptual Scope:** The study examines FI through its main components account ownership, usage of financial services, and borrowing behavior. It explores how these components relate to sustainable development outcomes, as outlined in the 2030 Sustainable Development Agenda.
- **Variable Scope:** The research focuses on three key variables: FI (independent variable), FL (mediator), and SC (moderator), SDGs as the dependent variable.
- **Population Scope:** The study targets individuals and communities within KRI who are engaged with or affected by financial services, including both urban and rural populations, to capture a comprehensive picture of FI impacts.
- **Temporal Scope:** The study considers recent data and developments, reflecting the post-2009 financial crisis environment and ongoing efforts towards achieving the SDGs by 2030.

This scope enables the study to deliver focused insights into the mechanisms through which financial inclusion contributes to sustainable development in Iraq, specifically by underscoring the integral roles of educational attainment (via FL) and social network structures (via SC).

2.8 Hypothesis Development

This section systematically reviews existing empirical evidence to support or contextualize each hypothesis, discussing the mechanisms and theoretical foundations that underpin these relationships.

Table 2.2

Hypothesis

H1	FI is significantly associated with SDs in Iraq
H2	FI is significantly associated with FL in Iraq
H3	FL significantly mediates the relationship between FI and SDs in Iraq
H4	SC significantly moderates the relationship between FI and SDs in Iraq

2.8.1 The Direct Association between Financial Inclusion and Sustainable Development (H1)

The scholarly literature consistently demonstrates a significant positive association between FI and various dimensions of SD (SDGs, 2025, s. 14). For instance, FI has been shown to contribute to poverty reduction, food security, economic growth, gender equality, and the reduction of inequalities. Specifically, research indicates that FI correlates positively with the achievement of key Sustainable Development Goals (SDGs), such as eradicating poverty (SDG 1), ending hunger and promoting sustainable agriculture (SDG 2), promoting health and well-being (SDG 3), achieving gender equality and the economic empowerment of women (SDG 5), promoting economic growth and decent employment (SDG 8), supporting industry, innovation and infrastructure (SDG 9), and reducing inequalities (SDG 10) (Kara et al, 2023, pp. 1-16). This widespread evidence highlights FI's role as a fundamental driver of broad-based development.

The mechanisms through which financial inclusion impacts sustainable development are multifaceted:

- **Economic Growth & Poverty Reduction:** FI enhances capital allocation efficiency, promotes entrepreneurship, and fosters overall economic advancement by providing individuals and businesses with essential access to savings, credit, and investment opportunities. It enables marginalized populations to engage in income-generating activities, build assets, and formalize economic activities, thereby leading to job creation, increased productivity, and improved economic well-being (Danladi, Modibbo, & Prasad, 2023, pp. 1-16; Kamara, 2024, pp. 16-33).
- **Social Well-being and Equity:** FI improves the welfare of banked adults by providing affordable and fair financial services, reducing vulnerability to economic shocks, and enabling better management of life events (Kamara, 2024, pp. 16-33). FI significantly bolsters women's empowerment by providing them with the essential tools and resources to initiate and expand businesses, manage household finances, and make investments for their future. Empirical evidence demonstrates that access to formal financial services enhances women's economic opportunities, strengthens their agency in decision-making, and narrows gender disparities in financial access and social equality (Marcelin & Sun, 2024, pp. 16-22).
- **Environmental Sustainability (Indirect):** While the primary links between FI and

SD are generally understood in economic and social terms, emerging studies suggest that FI can also contribute indirectly to environmental sustainability. For example, research indicates that increased access to financial services may facilitate higher consumption of renewable energy and improved industrial productivity outcomes that, in turn, support environmental objectives (Ababio, Yiadom, Mawutor, Tuffour, & Botchwey , 2024, p. 20). This implies a pathway where increased financial access enables investments in green technologies, sustainable production practices, including the adoption of eco-efficient agricultural methods and energy-saving technologies, contribute significantly to climate mitigation and resilience by reducing greenhouse-gas emissions and improving resource efficiency (Becha, Kalai, Houidi, & Helali, 2025, pp. 2-40).

In the Iraqi context, an empirical study revealed that increased FI imposes a significant positive effect on banks' return on assets (ROA) both in the short and long term, thereby suggesting that enhanced access to financial services contributes to operational efficiency within the banking sector itself (Jawad & Shaker, 2020, pp. 80-104). This finding suggests a tangible and direct link between financial inclusion and the health of the financial system in Iraq, which is foundational for broader economic development and stability.

While numerous sources detail how FI drives positive outcomes for SD (Ghorbel & Mahdi , 2024, pp. 285-300), a deeper examination reveals a more complex, potentially bidirectional relationship. It is explicitly stated that challenges in achieving FI, such as high levels of poverty and inequality, can make it harder for individuals and communities to save, invest, and build financial resilience. This indicates that existing levels of poverty and inequality, which are themselves targets of SD, can in turn hinder the very progress of FI. This implies a feedback loop where initial low levels of development can create barriers to financial inclusion, perpetuating a cycle. Therefore, addressing underlying socio-economic disparities may be a crucial prerequisite or a parallel effort for successful and widespread FI initiatives to truly flourish.

Beyond general statements of "positive impact," some sources offer more specific (Said & Acheampong, 2024, pp. 312–336), measurable indicators of sustainable development that are correlated with high FI, the indicators include higher shares of electricity

generation from renewable sources, elevated industrial productivity, and increased adult literacy rates (Feng, Sun, & Sohail, 2022, p. 31; Yu & Tang, 2023, p. 110). This moves beyond a broad association to identify concrete pathways and outcomes. For this study, it is important to identify similar specific pathways or indicators through which FI's components (Access, Usage, Barrier) are expected to influence sustainable development in Iraq. This approach will provide a more granular and robust analysis, demonstrating a deeper understanding of the mechanisms at play rather than simply confirming a general correlation.

2.8.2 The Association between Financial Inclusion and Financial Literacy (H2)

There is a strong and widely accepted consensus in the academic literature that FL is critically linked to FI. Financial literacy is considered "vital" for FI and is often highlighted as a "crucial mediator" or antecedent in related contexts, underscoring its foundational importance (Al Rahahleh, 2024, pp. 2-16).

The mechanisms of this association are clear:

- **Enabling Access and Effective Usage:** Adequate financial knowledge provides individuals with the necessary tools to achieve better financial performance and significantly influences their financial behaviors (Long, Morgan , & Yoshino , 2023, pp. 7-17). Greater financial literacy is robustly associated with increased uptake of formal financial products such as bank accounts, credit cards, and loans, indicating that individuals with higher financial knowledge and skills are more likely to engage in formal financial systems (AlSuwaidi & Mertzanis, 2024, p. 103481). Furthermore, awareness, a key component of financial literacy, has a significant, positive, and direct impact on the adoption and ownership of digital financial services (Long, Morgan , & Yoshino , 2023, pp. 7-17).
- **Building Trust and Confidence:** FL initiatives play a crucial role in helping individuals overcome distrust of financial institutions and better understand how to create and manage bank accounts effectively (FirstCapital, 2025, p. 2). This aspect is particularly relevant and critical in contexts like Iraq, where low trust in the formal financial system is a reported and significant challenge (UN Iraq, 2025, p. 3).
- **Informed Decision-Making and Resilience:** FL enables individuals to engage in informed decision-making regarding a wide array of financial products and services,

thereby fostering more effective utilisation, enhanced financial management, and improved long-term financial well-being (Baqir, 2024, pp. 52-62). This capability is important for individuals and businesses to leverage FI for their benefit.

The literature repeatedly emphasizes financial literacy as "vital" for FI and essential for "informed decisions" and "effective utilization" of financial services (Mushtaq et al, 2024, pp. 68-84). A particularly strong piece of evidence comes from a survey of financial sector practitioners, where 78% of respondents identified insufficient knowledge of basic financial products and services as a major obstacle to financial access among low-income populations (Ansar, Klapper, & Singer, 2023, pp. 28-46). This strongly indicates that while access to financial services represents a supply-side provision, the demand-side effectiveness and actual benefits derived from FI are heavily dependent on the population's FL. Without adequate FL, even readily available financial services might be underutilized, misused, or lead to negative outcomes, thereby limiting the full potential of financial inclusion. Therefore, FL is not merely an associated factor, but a foundational element that enables meaningful and beneficial FI, transforming mere access into effective engagement.

2.8.3 The Mediating Role of Financial Literacy in the FI-SDGs Relationship (H3)

Mediation analysis is a statistical technique employed to examine how or why an independent variable influences a dependent variable through an intervening or mediating variable. In the context of Hypothesis H3, the proposition is that FL explains the underlying mechanism or pathway through which FI leads to SDGs. That is, FI creates the opportunity for financial engagement, and financial literacy determines the effectiveness of that engagement, which then contributes to broader development outcomes. Empirical evidence supports this mediating role:

- One direct statement from the literature indicates that "FL is a crucial mediator" (Se, 2023, pp. 2-18). While the specific mediated relationship is not fully detailed in that singular sentence, its placement within a broader discussion of FI and SDGs strongly implies this role.
- Other studies provide strong indirect empirical support by demonstrating FL's mediating role in related contexts. For instance, FL plays a substantial mediating role in the relationship between a positive savings attitude and the reduction of

generational poverty (Adu & Peprah, 2025, pp. 67-75). Similarly, FL serves as a key mediator in driving Small and Medium-sized Enterprise (SME) success when coupled with FinTech usage and funding Access (Daulay, Lubis, & Gautama, 2023, pp. 184-194).

- Furthermore, awareness, a key component of FL, is shown to mediate the relationship between various barriers and the usage/ownership of digital financial services (Al-Okaily, et al., 2023, pp. 76-96). This suggests that FL facilitates the effective adoption and utilization of financial services, which then contributes to broader development outcomes.

The proposed mechanism for H3 (FI → FL → SDGs) suggests that FI provides the opportunity for individuals and businesses to engage with the formal financial system (e.g., access to accounts, credit, insurance). FL then provides the capability encompassing knowledge, skills, and confidence to effectively and prudently utilize these financial services. This effective and informed utilization, in turn, drives the various economic and social benefits that contribute to sustainable development (e.g., improved savings, productive investments, enhanced entrepreneurship, increased resilience to shocks, and better financial well-being). Therefore, FL acts as a critical conduit, translating the potential of FI into tangible sustainable development outcomes.

If FI is conceptualized as providing the tools (e.g., bank accounts, credit, payment systems), then FL can be seen as providing the instruction manual and the competence to use those tools effectively. Sources consistently highlight that FL enables better financial decisions, effective money management, overcoming distrust, and fostering responsible financial behavior (Ahmed & Ariannejad, 2025, pp. 83-106). One study further demonstrates how awareness, a component of financial literacy, mediates the impact of barriers on digital financial service usage (Neves et al, 2024, pp. 201). This indicates that financial inclusion's inherent potential to drive SD is not automatically realized but is contingent upon the effective and informed engagement of individuals and businesses, which is precisely what financial literacy facilitates. Thus, the mediation suggests that without adequate FL, the benefits of financial inclusion might not fully materialize, making FL a critical channel through which FI's impact on SDGs is transmitted.

It is crucial for this study to maintain conceptual clarity between mediation and moderation. While one source mentions FI mediating FL and women's economic empowerment (the reverse of H3's proposed mediation), and another states FL does not moderate FI firm performance (Zahid et al, 2023, pp. 1-23), these distinctions are vital. Mediation explains how or why an effect occurs (the pathway), whereas moderation explains when or for whom an effect occurs (the conditions under which the relationship changes) (Hererra, Warokka, & Aqmar, 2023, pp. 65-76). For Hypothesis H3, the argument is that FL is the mechanism through which FI impacts SDGs, not a condition that alters the strength of the relationship. This precision in defining and testing the hypothesized relationships is paramount for the academic rigor of a PhD thesis.

2.8.4 The Moderating Role of Social Capital in the FI-SDGs Relationship (H4)

Moderation analysis is a statistical technique employed to examine when the effect of an independent variable on a dependent variable changes. It identifies a third variable, the moderator, that alters the strength or direction of this relationship (Sivalogathan, 2024, pp. 20-43). In the context of Hypothesis H4, the proposition is that SC influences the strength and/or direction of the relationship between FI and SDGs. This means the positive impact of financial inclusion on SDGs might be stronger or weaker depending on the level and nature of social capital present.

The provided literature offers direct and strong empirical support for H4:

- One study explicitly states that "social capital significantly moderates the relationship between financial inclusion and sustainable development" (Lontchi, Yang, & Su, 2022, pp. 3).
- Another corroborates this, finding that "social capital was a significant moderator for the connection between financial participation and development of the nation" (Huang, Cheng, & Shu, 2024, pp. 25).
- Social capital is also identified as an emerging and important area of research in the context of achieving SDGs through FI (Al-shami et al, 2024, pp. 902), highlighting its growing recognition in the field.
- Further evidence suggests that building social networks can facilitate the FI of SMEs and that SC can have a significant effect on sustainable agricultural development (Talip & Wasiuzzaman, 2024, pp. 265-323), demonstrating its broader influence on

development outcomes. While one source states that social capital moderates the connection between FI and FL (Bongomin et al, 2016, pp. 291–312), this further underscores its general role as a significant moderator in various financial development contexts, lending credibility to its proposed moderating role in the financial inclusion-SDG nexus.

The hypothesised mechanism underpinning H4 postulates that SC exerts a moderating influence on the relationship between FI and sustainable development. Specifically, the proposal asserts that the effectiveness of FI initiatives i.e., the degree to which they contribute to sustainable development outcomes is contingent on the prevailing levels and forms of SC within a given context:

- **Facilitating Information Flow and Trust:** Strong social networks, encompassing both bonding and bridging SC, can effectively disseminate information about available financial services, build trust among potential users, and reduce perceived risks associated with formal financial institutions, particularly in communities where institutional trust may be low (Myeong & Seo, 2018, p. 322). This can increase the uptake and effective utilization of financial services.
- **Enabling Collective Action and Resource Mobilization:** SC can foster collective action, making it easier for communities or groups to demand or adopt financial services, or to pool resources for shared economic activities that contribute to sustainable development (Wang & Chiang, 2024, pp. 116-130). This collective strength can amplify the benefits derived from financial inclusion.
- **Reducing Transaction Costs:** The presence of trust and reciprocity inherent in SC can lower the informal and formal costs associated with financial transactions, information asymmetry, and monitoring, thereby making financial services more accessible, efficient, and effective for individuals and groups (Yuan, 2024, pp. 274-281).

Thus, the positive influence of FI on sustainable development might be significantly stronger in contexts characterized by high social capital, as SC provides a supportive environment that enhances the reach, adoption, and beneficial utilization of financial services, thereby amplifying their developmental impact.

Social capital has been characterised as a resource capable of functioning as either a public good or a private asset. At a more nuanced level, scholarly discourse suggests that the virtues of bridging networks and collective action are more effective instruments for promoting FI than the personal virtues of trust and bonding alone (Abakah , Kim, & Somé , 2024, p. 480). The evidence indicates that not all forms of social capital exert an equally positive effect on financial inclusion and sustainable development. Bonding SC, which involves networks within homogeneous groups, might facilitate initial trust and cooperation among familiar individuals but could also inadvertently reinforce existing patterns of exclusion or limit exposure to new opportunities. In contrast, bridging SC, which involves networks connecting socially heterogeneous groups, might be more crucial for expanding financial access to underserved populations and fostering broader economic integration and diversification. This study will consider this nuanced role, exploring which types of SC are most impactful in the Iraqi context, and how they might either facilitate or hinder broader developmental goals. Iraq is repeatedly characterized as a "fragile state" experiencing "rampant corruption" and "economic instability" (Mikhin, 2023, p. 480; Fazil & Tartir, 2023, p. 13). In such environments, formal institutions may be weak, inefficient, or distrusted. SC, particularly informal networks of trust, reciprocity, and collective action, can act as a crucial buffer. These informal mechanisms can facilitate financial transactions, information sharing, and collective support where formal systems fall short or are perceived as unreliable. This suggests that the moderating effect of SC might be even more pronounced and critical in fragile states like Iraq, as it potentially compensates for institutional weaknesses and enhances the resilience-building aspect of FI, making the impact of formal financial services more robust in challenging circumstances.

Table 2.3

Summary of Empirical Evidence on Hypothesized Relationships

Hypothesis	Relationship	Empirical Evidence/Mechanism	Key References
H1	FI → SDGs (Direct Association)	FI positively correlates with SDGs (poverty, gender equality, economic growth, etc.). Enhances capital allocation, entrepreneurship, formalization, social welfare. Indirectly linked to	(Kara et al, 2023, pp. 1-16).

environmental sustainability (e.g., renewable energy). In Iraq, FI positively impacts bank ROA.

Table 2.3 (Continue)

H2	FI ↔ FL (Association)	FL is vital for FI. Higher FL correlates with higher take-up and effective usage of financial products. FL builds trust, enables informed decision-making, and enhances financial management. Lack of FL is a major barrier to financial access.	(Al Rahahleh, 2024, pp. 2-16)
H3	FI → FL → SDGs (Mediation)	FL is a crucial mediator. FI provides opportunity; FL provides capability to effectively utilize services. Effective utilization drives economic/social benefits. FL mediates barriers to digital financial service usage.	(Se, 2023, pp. 2-18)
H4	FI → SDGs (Moderated by SC)	SC significantly moderates the relationship between FI and sustainable development. SC facilitates information flow, builds trust, enables collective action, and reduces transaction costs, amplifying FI's impact. SC acts as a buffer in fragile contexts.	(Lontchi, Yang , & Su, 2022, pp. 3).

3. TOOLS AND INSTRUMENTS

This chapter meticulously details the tools and instruments utilized in this thesis, particularly focusing on the structured questionnaire developed for data collection. It outlines the design, validation, and pilot testing processes undertaken to ensure the robustness and reliability of the primary study instrument.

3.1 Questionnaire Design

The core instrument for data collection in this study was a structured questionnaire, meticulously crafted to capture data pertinent to the study's core constructs: FI, FL, SC, and SD outcomes. The questionnaire was strategically divided into four distinct sections, each targeting specific variables:

3.1.1 Financial Inclusion (FI): This section assessed FI through three dimensions

- **Access (ACC):** Evaluating the availability and ease of accessing banking services, reflecting the physical and systemic reach of financial institutions.
- **Usage (USG):** Measuring the frequency and manner in which financial services are utilised, indicating the depth of financial engagement.
- **Barriers (BRR):** Identifying obstacles hindering FI, such as trust issues, affordability, distance, documentation, religious beliefs, lack of knowledge, and familial dependencies. This tripartite approach provided a comprehensive understanding of FI's multifaceted nature, aligning with established frameworks in financial inclusion research (Cámara & Tuesta, 2014, pp 78-98; Rao, 2017, pp 33-41).

3.1.2 Sustainable Development (SD)

This construct encompassed social, economic, and environmental dimensions, aligning with the United Nations' SDGs. The questionnaire captured these through:

- **Social (SCL):** Assessing the availability and quality of social services, education, safety, and lifelong learning opportunities.
- **Economic (ECO):** Evaluating policies aimed at poverty reduction, income distribution, employment, agricultural investment, innovation, and land use.
- **Environmental (ENV):** Measuring awareness and practices related to urbanisation, recycling, climate change, renewable energy, and global warming.

This segmentation facilitated targeted analysis of each pillar's contribution to sustainable development (Chow & Chen, 2012, pp 43; Atmaca et al., 2019, pp 22-43).

3.1.3 Financial Literacy (FL):

This section examined the cognitive, behavioural, and attitudinal facets of FL, which are integral to individuals' ability to make well-informed financial decisions. It included items on:

- **Knowledge and Skills:** Understanding investment risks, inflation, and financial planning.
- **Behavioural Aspects:** Saving habits, emergency preparedness, and long-term financial goal setting.
- **Attitudinal Factors:** Spending versus saving preferences and financial self-monitoring. This comprehensive assessment was crucial for evaluating FL's mediating role between financial inclusion and sustainable development (Emmons, 2005, pp 33; Rieger, 2020, pp 21; Vieira et al., 2020, pp 12).

3.1.4 Social Capital (SC)

This construction reflects SC, encompassing the networks, norms, and trust that facilitate coordination and cooperation for mutual benefit. In this study, this concept was operationalised through the questionnaire by exploring:

- **Collective Action (CA):** Willingness of business owners and managers to share information and resources.
- **Bridging (BRG):** Connections with external entities, promoting information flow and innovation.
- **Bonding (BND):** Strong intra-community ties fostering trust and mutual support.
- **Trust (TRS):** Confidence in financial transactions and institutional reliability. These dimensions are crucial for understanding how social networks and trust influence financial behaviours and access to resources, thereby affecting sustainable development outcomes (Bongomin et al., 2018; Lontchi et al., 2022; Onodugo et al., 2021).

All items within these constructs were measured on a five-point Likert scale, with responses ranging from 1 (strongly agree) to 5 (strongly disagree), in order to capture

respondents' perceptions with precision. The questionnaire was meticulously crafted, drawing upon established scales and literature to ensure robust content validity. This structured approach ensured a comprehensive analysis of the variables, aligning with the study's objectives to elucidate the pathways through which FI influences sustainable development, mediated by FL and moderated by SC.

3.2 Pilot Testing and Reliability Analysis

Prior to the full administration of the survey, the instrument underwent a rigorous pilot test designed to evaluate its reliability, clarity, and suitability for the target population. The pilot phase enabled the identification and correction of ambiguous items, refined question wording and response options, and ensured the tool was fit for purpose in terms of comprehension and functionality. A small subset of the target population participated in this phase, providing valuable feedback on item phrasing, comprehension, and overall flow. This feedback led to necessary refinements, ensuring the final questionnaire was unambiguous and effective.

To determine the internal consistency reliability of the measurement instrument, Cronbach's alpha coefficient was calculated for each construct. The results demonstrated reliability levels ranging from acceptable to excellent, with Cronbach's alpha values exceeding the commonly accepted threshold of 0.70. This outcome confirms that the items within each construct consistently measure the same underlying concept.

4. MATERIAL AND METHOD

This chapter outlines the materials and methods employed in this research, delineating the study's methodology encompasses the following components: research design, target population, sampling strategy, data collection procedures, and statistical analysis techniques. A quantitative research design was adopted, utilising a structured survey instrument for data collection and Hayes' PROCESS macro for moderation and mediation analysis. This approach was chosen to investigate the complex interplay between FI, FL, SC, and the achievement of SDGs within the KRI.

4.1 Material

The primary data underpinning this study were derived from a structured questionnaire, as described in Chapter 3. A total of 650 questionnaires were distributed, yielding 571 completed responses which constituted the usable dataset for subsequent analysis.

4.2 Method

4.2.1 Research Philosophy and Design

This study adopts a positivist research philosophy and employs a quantitative research design. Its primary objective is to investigate the hypothesised relationships between FI and SD in Iraq, with particular attention to the mediating effect of FL and the moderating role of SC. This approach facilitates objective measurement and statistical analysis to test specific hypotheses derived from established theories.

4.2.2 Population, Sampling, and Sampling Techniques

The target population for this research included university students and staff, as well as employees from private sector organisations, within the three main provinces of the Kurdistan Region of Iraq: Erbil (Hawler), Sulaymaniyah, and Duhok. This population was selected due to their varied exposure to financial services and their relevance to the study's themes.

A total of 650 questionnaires were distributed across Salahaddin University (Erbil), University of Sulaymaniyah, University of Duhok, and various private companies located within these three provinces. From these, 571 complete responses were received, 55 of them were not illegible and 79 of them not returned. This yields an 87% response rate, which is considered acceptable for survey research in the social sciences. The data

collection targeted both male and female participants, reflecting a diverse demographic in terms of age, gender, and occupational background.

In this study, convenience sampling was employed, reflecting a non-probability approach that was selected due to the logistical constraints of accessing a fully defined sampling frame and the necessity of engaging respondents who were readily available and willing to participate. This approach is commonly used in similar empirical studies where probabilistic sampling is impractical or resource-intensive (Sekaran & Bougie, 2016). While convenience sampling may limit the generalisability of findings, efforts were made during data collection to ensure the diversity of the participant pool.

4.2.3 Data Collection Procedure

The data were collected exclusively in person, using printed questionnaires. This direct engagement approach allowed the trained research assistants to clarify any uncertainties during completion, thereby enhancing response quality and consistency. The data-collection phase extended over several weeks and endeavoured to secure a representative sample from the diverse demographic constituencies of the KRI. Throughout this period, ethical protocols were rigorously observed: informed consent was obtained from all participants and assurances of confidentiality were duly provided, thereby safeguarding the rights, autonomy, and privacy of respondents.

4.2.4 Data Cleaning and Preparation

Upon completion of data collection, the responses received were systematically coded and entered a statistical software package. The data-preparation process included systematic screening for missing values, outliers, and inconsistent entries in order to uphold the integrity and reliability of the dataset prior to analysis.

4.2.5 Statistical Analysis Methods

4.2.5.1 Descriptive Statistics

Initial data analysis was conducted through the computation of descriptive statistics to summarise the principal characteristics of the collected dataset. This encompassed measures of central tendency such as the mean and median and measures of dispersion, for example the standard deviation. The aim of these procedures was to establish a foundational understanding of the sample profile and the distributional properties of the responses prior to advanced inferential tests.

4.2.5.2 Validity and Reliability Tests

As discussed in detail in Chapter 3, the validity and reliability of the measurement instruments were meticulously addressed. Content validity was ensured by adapting questionnaire items from established studies and conducting expert reviews. Construct validity was further evaluated through appropriate statistical techniques, confirming that the items effectively represented the underlying theoretical constructs. Internal consistency reliability was evaluated using Cronbach's alpha coefficients for each construct, all of which surpassed the commonly accepted benchmark of 0.70, thereby indicating that the measurement instrument demonstrated acceptable to excellent levels of reliability and that the items within each construct coherently measured the same underlying latent variable.

4.2.5.3 The Model Used (Hayes' PROCESS macro)

The principal statistical tool utilised in the analysis was the PROCESS macro (developed by Andrew F. Hayes) for IBM SPSS Statistics, which is designed specifically to estimate mediation, moderation, and conditional-process models in regression-based frameworks. This methodology is widely recognized for its robustness in examining mediation, moderation, and conditional process models in various disciplines (Hayes, 2018, pp 23). The PROCESS macro was selected due to its efficacy in handling complex relationships between variables and its ability to estimate direct, indirect, and conditional effects without imposing strong distributional assumptions. Given that this study investigates both mediating and moderating relationships, Hayes' PROCESS macro was deemed appropriate due to its demonstrated flexibility in modeling such nuanced effects.

The analysis proceeded by:

1. Assessing Direct Effects: Examining the direct relationships between independent, mediating, and moderating variables on the dependent variable.
2. Testing Mediation Effects: Evaluating whether the effect of the independent variable on the dependent variable is transmitted through the mediating variable.
3. Testing Moderation Effects: Investigating whether the strength or direction of a relationship between two variables is dependent on a third (moderator) variable.
4. Testing Conditional Process Models: Combining mediation and moderation to understand how indirect effects might be conditional on a moderator.

Bootstrapping techniques were employed as part of the PROCESS macro analysis to assess the significance of effects, including indirect and conditional effects (Hayes, 2018, pp 23).

4.2.5.4 Control Variables

To ensure the robustness of the analysis and to isolate the net effects of the independent variable (Financial Inclusion), mediator (Financial Literacy), and moderator (Social Capital) on the dependent variable (Sustainable Development), several control variables were incorporated into the statistical models. These variables were selected based on established economic and sociological literature, which suggests they can significantly influence an individual's engagement with financial services, their financial knowledge, and their perception of sustainable development.

The following control variables, drawn from the demographic data collected in the survey, were used in the regression analyses conducted via Hayes' PROCESS macro:

Gender: Gender is a critical control variable in financial studies. Research consistently shows that gender can influence access to financial services (financial inclusion), levels of financial literacy, and the benefits derived from social networks. For instance, women may face different social and structural barriers to financial access and may exhibit different financial behaviors compared to men (e.g., Ali & Al-Sayegh, 2022). By controlling for gender, the study ensures that the observed relationships between FI, FL, SC, and SD are not confounded by systemic gender-based differences.

City of Residence (Geographical Location): The sample was drawn from three major provinces in the Kurdistan Region of Iraq: Erbil (Hawler), Duhok, and Sulaymaniyah. These regions may have varying levels of economic development, financial infrastructure, banking density, and cultural norms. These geographical disparities could independently affect an individual's access to financial services (FI) and their perception of sustainable development outcomes (SD). Including city as a control variable allows the model to account for these unobserved regional heterogeneities, ensuring that the core relationships under investigation are not merely reflecting regional differences.

Language: In this study, all respondents identified Kurdish as their language. While this variable lacks variation in the current sample and thus may not have been used as a control in this specific analysis, the principle is important. In broader contexts, language can be

a proxy for cultural or ethnic group membership, which can influence trust in financial institutions, financial behaviors, and social capital formation. For future research in a more linguistically diverse population within Iraq, controlling for language would be methodologically essential.

Incorporation into the Model:

In the Hayes' PROCESS macro analysis, these control variables were included in the regression models alongside the main variables of interest. Specifically:

When testing the direct effect of Financial Inclusion (X) on Sustainable Development (Y) in Model 1 (for moderation) and Model 4 (for mediation), the control variables (Gender, City) were included as covariates.

Similarly, in the mediation models (e.g., Model 4 and Model 14), the path from Financial Inclusion (X) to the mediator, Financial Literacy (M), also included these control variables to partial out their influence.

By including these controls, the analysis estimates the relationship between the independent and dependent variables after accounting for the variance explained by gender and geographical location. This enhances the internal validity of the findings, providing greater confidence that the significant relationships observed for FI, FL, and SC are genuine and not spurious correlations driven by these underlying demographic factors.

4.2.6 Software Used

In this study, IBM SPSS Statistics was employed for data management, descriptive statistics, and reliability analysis. For conducting the mediation and moderation analyses, Hayes' PROCESS macro (version 4.x) was utilized within IBM SPSS. PROCESS macro provides a powerful and intuitive framework for specifying and estimating direct, indirect, and conditional effects, enabling a thorough examination of the proposed hypotheses. The use of the (PROCESS macro for IBM SPSS enabled a comprehensive evaluation of the relationships among FI, FL, SC, and SD in Iraq by facilitating rigorous testing of both direct and indirect effects in a regression-based conditional-process modelling framework

4.2.7 Ethical Considerations

This research adhered stringently to ethical standards throughout its execution. Participation in the study was wholly voluntary, with prospective participants provided full and transparent information regarding the study's objectives, procedures, potential risks, and anticipated benefits. Informed consent was obtained from each participant prior to their involvement, ensuring they were aware of their rights including the right to withdraw from the study at any point without incurring any adverse consequences.

Confidentiality and anonymity were paramount. Personal identifiers were removed or coded to protect participant identities, and all data were securely stored and accessed only by authorised personnel. The study was designed to minimise any potential harm, ensuring that the questions and procedures did not cause psychological, emotional, or physical distress. Additionally, the research was conducted in compliance with institutional ethical guidelines and received approval from the relevant ethics review board, underscoring the commitment to uphold the highest standards of research integrity and participant welfare.

4.2.8 Limitations of the Methodology

This study is subject to several methodological limitations, which should be considered when interpreting its findings:

1. **Cross-Sectional Design:** The use of a cross-sectional survey design limits the ability to definitively establish causality between the variables. While statistical models can suggest mediation and moderation, longitudinal data would be required to confirm the causal directions proposed in the hypotheses (e.g., that FI leads FL).
2. **Sampling Technique:** The reliance on a convenience sample of university affiliates and private sector employees from three urban centers may limit the generalizability of the findings to the broader, more rural, or less educated populations of the Kurdistan Region of Iraq.
3. **Measurement Instrument:** The FL scale demonstrated marginal reliability (Cronbach's $\alpha = 0.668$). This suggests potential measurement error, which may have attenuated the observed strength of the relationships involving this construction, particularly its role as a mediator.

4. **Self-Reported Data:** The study is based on self-reported data, which is susceptible to biases such as social desirability (where respondents provide answers, they believe are socially acceptable rather than truthful) and common method variance, potentially inflating the relationships between variables.



5. DATA ANALYSIS AND METHODS

5.1 Descriptive Statistics

5.1.1 Demographic Characteristics

This section presents the demographic profile of the survey respondents, including their gender, language, and city of residence.

Table 3.1

Frequency Distribution of Respondents by Gender (N=516)

Demographic Variable	Frequency	Percent
Female	248	48.1%
Male	268	51.9%
Total	516	100.0%

The demographic data indicates a near equal distribution of respondents by gender, with males constituting 51.9% and females 48.1% of the total sample.

Table 5.2

Frequency Distribution of Respondents by Language (N=516)

Demographic Variable	Frequency	Percent
Kurdish	516	100.0%
Total	516	100.0%

The survey was conducted exclusively in Kurdish, with all 516 respondents identifying Kurdish as their language.

Table 5.3

Frequency Distribution of Respondents by City Name (N=516)

Demographic Variable	Frequency	Percent
Duhok	161	31.2%
Hawler	274	53.1%
Sulaymaniyah	81	15.7%

Total	516	100.0%
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The majority of respondents were from Hawler (53.1%), followed by Duhok (31.2%), and Sulaymaniyah (15.7%), reflecting the geographical distribution of the survey participants across these cities.

5.2 Analysis of Survey Responses

This section presents a detailed analysis of the survey data, focusing on respondents' perceptions and experiences across several key domains, structured according to the defined main variables and their components: Financial Inclusion (Access, Usage, Barrier), SD (Social, Economic, Environmental), FL, and SC (Collective Action, Bridging, Bonding, Trust). The data is presented in a series of transposed frequency tables, with each table consolidating responses for related survey items within their respective thematic categories. Each table is followed by a brief descriptive interpretation of the observed response distributions.

5.2.1 Financial Inclusion: Access (ACC)

Table 5.4 provides an overview of respondents' access to financial institutions. It details perceptions regarding active bank accounts, bank convenience, accessibility for withdrawals, ease of borrowing, absence of hidden charges, and various remittance methods

Table 5.4

Frequency Distribution of Responses on Financial Inclusion: Access (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
I have an active bank account with a reliable financial institution.	205 (39.7%)	105 (20.3%)	69 (13.4%)	75 (14.5%)	62 (12.0%)
My bank is located at a convenient distance from my business.	120 (23.3%)	124 (24.0%)	131 (25.4%)	98 (19.0%)	43 (8.3%)
I can easily reach the bank branches/ATMs to withdraw my money.	99 (19.2%)	101 (19.6%)	148 (28.7%)	108 (20.9%)	60 (11.6%)

Table 5.4 (Continue)

I frequently borrow money from my financial sources with relative ease.	122 (23.6%)	92 (17.8%)	116 (22.5%)	120 (23.3%)	66 (12.8%)
There were no hidden charges by the bank that affects the business.	113 (21.9%)	94 (18.2%)	137 (26.6%)	91 (17.6%)	81 (15.7%)
Making remittances through a number of ways including the bank, mobile money transfers, and cash.	106 (20.5%)	98 (19.0%)	124 (24.0%)	110 (21.3%)	78 (15.1%)

A significant portion (39.7%) strongly disagreed that they have an active bank account with a reliable financial institution, suggesting a challenge in financial inclusion or trust related to Access. For convenience of bank location, responses were more distributed, with a notable Natural stance (25.4%). Ease of reaching bank branches/ATMs saw the highest Natural response (28.7%), indicating varied experiences. Borrowing money frequently and easily showed a spread, with Strongly Disagree and Agree being the highest individual categories. Perceptions on hidden charges also demonstrated a neutral tendency (26.6%), while remittance options revealed a similar distribution across categories.

5.2.2 Financial Inclusion: Usage (USG)

Table 5.5 presents data on the practical aspects of bank account usage, including loan acquisition, transaction methods, regularity of use, savings behavior, and payment receipt through bank accounts.

Table 5.5

Frequency Distribution of Responses on Financial Inclusion: Usage (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
The procedure for acquiring the loan was simple.	122 (23.6%)	122 (23.6%)	122 (23.6%)	102 (19.8%)	48 (9.3%)
I can do bank transactions through e.g., agency banking, e-banking, or mobile money transfer.	96 (18.6%)	95 (18.4%)	136 (26.4%)	121 (23.4%)	68 (13.2%)
I use my bank account regularly.	127 (24.6%)	106 (20.5%)	115 (22.3%)	106 (20.5%)	62 (12.0%)

Table 5.5 (Continue)

I make more savings to qualify for bigger loans.	105 (20.3%)	103 (20.0%)	147 (28.5%)	109 (21.1%)	52 (10.1%)
I usually receive payment from customers through my bank.	150 (29.1%)	101 (19.6%)	126 (24.4%)	105 (20.3%)	34 (6.6%)
I usually receive salary through my bank account.	159 (30.8%)	100 (19.4%)	110 (21.3%)	91 (17.6%)	56 (10.9%)

Responses regarding the simplicity of loan acquisition were almost equally distributed across Strongly Disagree, Disagree, and Natural categories (23.6% each), indicating a mixed perception of ease in Usage. The ability to conduct bank transactions through various digital means showed a plurality in Natural (26.4%), suggesting some adoption but not universal agreement. Regular bank account usage elicited a strong Strongly Disagree (24.6%) response. A notable portion of respondents were Natural (28.5%) about making more savings for bigger loans. Receiving payments from customers and salaries through banks both saw the highest rates of Strongly Disagree (29.1% and 30.8% respectively), suggesting a significant proportion of respondents do not rely on banks for these income streams.

5.2.3 Financial Inclusion: Barrier (BRR)

Table 5.6 explores various underlying barriers why individuals might not possess a bank account, including issues of trust, affordability, distance, required documentation, religious prohibitions, knowledge gaps, and family account prevalence.

Table 5.6

Frequency Distribution of Responses on Financial Inclusion: Barrier (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
Trust: I do not have a bank account because I do not trust the financial system.	105 (20.3%)	84 (16.3%)	120 (23.3%)	118 (22.9%)	89 (17.2%)
Affordability: I do not have a bank account because I perceived it to be too expensive.	100 (19.4%)	103 (20.0%)	138 (26.7%)	100 (19.4%)	75 (14.5%)

Table 5.6 (Continue)

Distance: I do not have bank account because the branches are too far away.	107 (20.7%)	111 (21.5%)	130 (25.2%)	107 (20.7%)	61 (11.8%)
Documents: I do not have a bank account because I do not have the necessary documents.	117 (22.7%)	109 (21.1%)	130 (25.2%)	100 (19.4%)	60 (11.6%)
Religion: My religion prohibits me from owning and using a bank account.	130 (25.2%)	94 (18.2%)	128 (24.8%)	99 (19.2%)	65 (12.6%)
Knowledge: I do not have enough knowledge about financial services.	100 (19.4%)	90 (17.4%)	141 (27.3%)	119 (23.1%)	66 (12.8%)
Family: I do not see it necessary because someone else in my family has an account.	128 (24.8%)	81 (15.7%)	139 (26.9%)	105 (20.3%)	63 (12.2%)

Natural responses were prominent across most reasons for not having a bank account, particularly for affordability (26.7%), distance (25.2%), documents (25.2%), knowledge (27.3%), and family having an account (26.9%), indicating a significant portion of respondents held a neutral stance or that these factors were not strongly definitive as Barriers to financial inclusion. Trust in the financial system had a balanced distribution, with Agree and Strongly Disagree being slightly higher. Religious prohibition saw the highest Strongly Disagree rate (25.2%), suggesting this is not a widespread barrier for many.

5.2.4 Sustainable Development: Social (SCL)

Table 5.7 examines perceptions of Social well-being and the availability and access to social services within the society, covering areas like social service integration, education and health access, safety, free courses, lifelong learning, and societal responsibility for individual well-being.

Table 5.7

Frequency Distribution of Responses on Sustainable Development: Social (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
We do have integrating and enhancing social services (such as nurseries, shelter homes, social assistance foundations, etc.).	151 (29.3%)	107 (20.7%)	91 (17.6%)	103 (20.0%)	64 (12.4%)

Table 5.7 (Continue)

We have access to education and health services to all individuals in the society.	77 (14.9%)	142 (27.5%)	107 (20.7%)	122 (23.6%)	68 (13.2%)
Individuals are provided with environments where they feel safe while living.	90 (17.4%)	123 (23.8%)	137 (26.6%)	105 (20.3%)	61 (11.8%)
We have access to the free courses and training programs provided by business and financial institutions (such as banks to enhance customer awareness, etc.)	94 (18.2%)	124 (24.0%)	128 (24.8%)	111 (21.5%)	59 (11.4%)
Our environment creates lifelong learning for all individuals in the society.	81 (15.7%)	106 (20.5%)	135 (26.2%)	125 (24.2%)	69 (13.4%)
Society takes responsibility to keep the well-being of individuals and families above the minimum.	87 (16.9%)	130 (25.2%)	136 (26.4%)	104 (20.2%)	59 (11.4%)

Access to integrating social services registered the highest Strongly Disagree (29.3%), indicating perceived shortcomings in this area of Sustainable Development: Social. Access to education and health services had a high Disagree rate (27.5%). For feeling safe, Natural was the most frequent response (26.6%). Access to free courses and training also leaned towards Natural (24.8%) and Disagree (24.0%). Lifelong learning and societal responsibility for well-being also showed a significant proportion of Natural and Disagree responses, suggesting areas where perceptions are either mixed or lean towards skepticism.

5.2.5 Sustainable Development: Economic (ECO)

Table 5.8 presents respondents' views on various aspects of Economic policies and development, including poverty reduction, sustainable production, unemployment prevention, agricultural investment, innovation capabilities, and land use for environmental goals.

Table 5.8

Frequency Distribution of Responses on Sustainable Development: Economic (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
Our economic policies are aimed at reducing	113 (21.9%)	108 (20.9%)	130 (25.2%)	118 (22.9%)	47 (9.1%)

poverty and differences
in income distribution.

Table 5.8 (Continue)

Our economic policies shaped sustainable production.	90 (17.4%)	122 (23.6%)	121 (23.4%)	130 (25.2%)	53 (10.3%)
Our economic development is planned to prevent unemployment.	107 (20.7%)	118 (22.9%)	128 (24.8%)	105 (20.3%)	58 (11.2%)
Our investments in the agriculture and livestock sectors are supports economic development.	89 (17.2%)	105 (20.3%)	107 (20.7%)	127 (24.6%)	88 (17.1%)
Our economic development is planned to increase innovational capabilities and R&D expenditures.	80 (15.5%)	124 (24.0%)	125 (24.2%)	117 (22.7%)	70 (13.6%)
Our policy is to effectively use our land to meet sustainable and environmental goals.	75 (14.5%)	112 (21.7%)	123 (23.8%)	126 (24.4%)	80 (15.5%)

For economic policies aimed at reducing poverty, the largest group was Natural (25.2%), followed closely by Agree (22.9%) and Strongly Disagree (21.9%), indicating a mixed and somewhat uncertain view within Sustainable Development: Economic. Sustainable production policies saw a higher Agree rate (25.2%). Unemployment prevention policies also had Natural as the most common response (24.8%). Support for agricultural investments was relatively strong, with Agree being the leading response (24.6%). Innovation and R&D expenditures, and land use policies, both showed high Natural responses, suggesting ambiguity or a neutral stance from respondents.

5.2.6 Sustainable Development: Environmental (ENV)

Table 5.9 details respondents' perspectives on various Environmental issues, including urbanization impact on green areas, individual recycling responsibilities, waste

separation, climate change impacts, renewable energy use, and the threat of global warming.

Table 5.9

Frequency Distribution of Responses on Sustainable Development: Environmental (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
Green areas are dispensed with for urbanization and industrialization.	56 (10.9%)	94 (18.2%)	127 (24.6%)	124 (24.0%)	115 (22.3%)
Individuals have responsibilities in the process of recycling waste so that the raw material resources can be used by future generations.	55 (10.7%)	96 (18.6%)	138 (26.7%)	136 (26.4%)	91 (17.6%)
Wastes are separated according to their characteristics and reused, so that raw material sources can be used by future generations.	71 (13.8%)	104 (20.2%)	132 (25.6%)	129 (25.0%)	80 (15.5%)
Climate change poses a serious impact on animal species and natural habitats.	47 (9.1%)	85 (16.5%)	122 (23.6%)	147 (28.5%)	115 (22.3%)
Renewable energies should be used instead of the massive usage of current energy sources.	47 (9.1%)	94 (18.2%)	107 (20.7%)	148 (28.7%)	120 (23.3%)
Global warming poses a serious threat to the future of our world if cautions are not taken.	62 (12.0%)	69 (13.4%)	105 (20.3%)	126 (24.4%)	154 (29.8%)

For the statement on green areas being dispensed for urbanization, responses were highly distributed, with Natural, Agree, and Strongly Agree being prominent, indicating a mixed but leaning towards agreement on this issue within Sustainable Development: Environmental perceptions. Individual recycling responsibilities showed strong agreement, with Natural (26.7%) and Agree (26.4%) being the highest categories. Waste separation also showed strong Agree (25.0%) and Natural (25.6%) responses. Climate change impact on species, and the use of renewable energies, both saw Agree as the most frequent response (28.5% and 28.7% respectively), highlighting environmental awareness. Global warming as a serious threat had the highest Strongly Agree rate (29.8%) among all environmental statements, indicating a strong consensus on its perceived severity.

5.2.7 Financial Literacy

Table 5.10 presents respondents' levels of Financial Literacy and their habits concerning savings, financial planning, and spending.

Table 5.10

Frequency Distribution of Responses on Financial Literacy (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
A high-return investment will also be high-risk.	115 (22.3%)	70 (13.6%)	97 (18.8%)	153 (29.7%)	81 (15.7%)
The cost of living rises as inflation rises.	25 (4.8%)	91 (17.6%)	79 (15.3%)	181 (35.1%)	140 (27.1%)
I save some part of the money I receive monthly for future needs.	43 (8.3%)	82 (15.9%)	118 (22.9%)	140 (27.1%)	133 (25.8%)
I always put aside some money for emergencies.	37 (7.2%)	65 (12.6%)	90 (17.4%)	152 (29.5%)	172 (33.3%)
I regularly save money in order to achieve long-term financial goals, such as educating my children, purchasing a home, and retiring.	52 (10.1%)	61 (11.8%)	118 (22.9%)	140 (27.1%)	145 (28.1%)
I keep a close personal watch on my financial affairs.	47 (9.1%)	82 (15.9%)	119 (23.1%)	164 (31.8%)	104 (20.2%)
Before I buy something I carefully consider whether I can afford it.	45 (8.7%)	72 (14.0%)	82 (15.9%)	165 (32.0%)	152 (29.5%)

Table 5.10 (Continue)

I find it more rewarding to spend money than to save for the future.	99 (19.2%)	124 (24.0%)	124 (24.0%)	108 (20.9%)	61 (11.8%)
I tend to live today and let tomorrow happen.	133 (25.8%)	113 (21.9%)	96 (18.6%)	106 (20.5%)	68 (13.2%)
I have been able to save money over the last year.	96 (18.6%)	77 (14.9%)	117 (22.7%)	140 (27.1%)	86 (16.7%)

A strong majority Agree (35.1%) and Strongly Agree (27.1%) that the cost of living rises with inflation, indicating high awareness of economic fundamentals. Significant proportions Agree or Strongly Agree with saving for future needs (27.1% and 25.8%), putting aside money for emergencies (29.5% and 33.3%), and regularly saving for long-term goals (27.1% and 28.1%), suggesting a generally financially prudent population. Respondents also largely Agree (31.8%) and Strongly Agree (20.2%) about keeping a close watch on financial affairs and considering affordability before purchases (32.0% and 29.5%). However, a considerable number Disagree (24.0%) or Strongly Disagree (19.2%) that it is more rewarding to spend than save, and a large portion Strongly Disagree (25.8%) or Disagree (21.9%) with living for today, indicating a future-oriented financial mindset for many. The ability to save money over the last year shows a mixed picture, with Agree being the highest (27.1%).

5.2.8 Social Capital: Collective Action (CA)

Table 5.11 explores aspects of Collective Action within the business community, focusing on information sharing, access to financial services, and a collective culture regarding credit and spending.

Table 5.11

Frequency Distribution of Responses on Social Capital: Collective Action (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
Business owners and managers are always open to sharing information with other members of the business community.	164 (31.8%)	114 (22.1%)	100 (19.4%)	80 (15.5%)	58 (11.2%)
Business owners and managers permit access to financial services such as credit and are constantly eager to share	84 (16.3%)	145 (28.1%)	113 (21.9%)	130 (25.2%)	44 (8.5%)

knowledge with other people in the business community.

Table 5.11 (Continue)

Business owners and managers uphold a collective culture regarding credit and spending; thus, they are more likely to save more money and pay back their debts than stand-alone companies.

70	121	171	108	46
(13.6%)	(23.4%)	(33.1%)	(20.9%)	(8.9%)

A significant proportion (31.8%) Strongly Disagree that business owners and managers are always open to sharing information, suggesting a potential lack of transparency or collaborative spirit in Collective Action. Regarding access to financial services and sharing knowledge, a high Disagree rate (28.1%) indicates challenges in this area, though Agree also shows a notable percentage (25.2%). For upholding a collective culture regarding credit and spending, the most frequent response was Natural (33.1%), implying a neutral or undecided view on the collective financial behavior of business owners.

5.2.9 Social Capital: Bridging (BRG)

Table 5.12 examines the concept of Bridging social capital, focusing on the sharing of strategies with external communities, the impact of high bridging levels on business concepts, and the sharing of unique financial operating techniques to enhance success.

Table 5.12

Frequency Distribution of Responses on Social Capital: Bridging (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
We always share our strategy with people outside our business community.	58 (11.2%)	115 (22.3%)	139 (26.9%)	145 (28.1%)	59 (11.4%)
A high level of bridging reveals business concepts like items that are affordable, reaching additional customers, getting feedback from outside sources, and predicting market developments.	58 (11.2%)	102 (19.8%)	155 (30.0%)	119 (23.1%)	82 (15.9%)

Table 5.12 (Continue)

Businesses with a high bridging ratio will share unique financial operating techniques and use one another's strengths to enhance financial success.	67 (13.0%)	90 (17.4%)	120 (23.3%)	156 (30.2%)	83 (16.1%)
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Sharing strategy with external communities received the highest Agree response (28.1%), suggesting some openness, but also a considerable Natural (26.9%) and Disagree (22.3%) proportion in Bridging social capital. A high level of bridging revealing business concepts saw Natural as the most frequent response (30.0%), followed by Agree (23.1%), indicating a mixed but slightly positive view on the benefits of external connections. Similarly, businesses with a high bridging ratio sharing unique financial operating techniques was met with the highest Agree response (30.2%), implying perceived benefits of inter-business collaboration for financial success.

5.2.10 Social Capital: Bonding (BND)

Table 15 focuses on Bonding social capital, assessing the sincerity among business owners and managers, the impact of bonding on honesty in information transmission, and its role in fostering a culture of respect, honor, and appreciation.

Table 5.13

Frequency Distribution of Responses on Social Capital: Bonding (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
Business owners and managers are constantly sincere with each other.	74 (14.3%)	144 (27.9%)	126 (24.4%)	124 (24.0%)	48 (9.3%)
A superior level of bonding between business owners and managers will raise the level of honesty in information transmission.	51 (9.9%)	85 (16.5%)	148 (28.7%)	157 (30.4%)	75 (14.5%)
High bonding rates among business owners and managers will foster a culture of respect, honor, and appreciation with others.	58 (11.2%)	91 (17.6%)	108 (20.9%)	156 (30.2%)	103 (20.0%)

The sincerity among business owners and managers had a high Disagree rate (27.9%) and Natural (24.4%), suggesting varying or uncertain perceptions regarding Bonding social capital. A superior level of bonding raising honesty in information transmission was largely agreed upon, with Agree (30.4%) being the most frequent response, followed by Natural (28.7%). High bonding rates fostering a culture of respect also saw strong agreement, with Agree (30.2%) and Strongly Agree (20.0%) combined representing half of the responses, indicating positive perceived benefits of strong internal group ties.

5.2.11 Social Capital: Trust (TRS)

Table 16 examines the level of Trust within the business community, specifically in the context of lending and borrowing money, its role in minimizing financial contract default, and its promotion of participation in financial activities.

Table 5.14

Frequency Distribution of Responses on Social Capital: Trust (N=516)

Question	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
In this business community, individuals typically trust one another when it comes to lending and borrowing money.	62 (12.0%)	114 (22.1%)	131 (25.4%)	145 (28.1%)	64 (12.4%)
High level of trust minimizes the likelihood of financial contract default.	59 (11.4%)	114 (22.1%)	130 (25.2%)	129 (25.0%)	84 (16.3%)
Trust promotes participation in financial activities.	74 (14.3%)	104 (20.2%)	128 (24.8%)	141 (27.3%)	69 (13.4%)

Trust in lending and borrowing within the business community showed a plurality in Agree (28.1%), followed by Natural (25.4%). The statement that a high level of Trust minimizes financial contract default also saw a balanced distribution, with Agree (25.0%) and Natural (25.2%) being the most frequent responses. For Trust promoting participation in financial activities, Agree was the most frequent response (27.3%), followed by Natural (24.8%), suggesting that trust is seen as a facilitating factor for engagement in financial activities.

5.3 Reliability Analysis

The forthcoming section reports the findings of the reliability analysis, specifically employing Cronbach's alpha for each principal construct. Cronbach's alpha is a metric of internal consistency, assessing how well a set of items collectively measure the same latent construct. In line with established benchmarks, coefficients exceeding 0.70 are considered acceptable, those above 0.80 denote good reliability, and values above 0.90 are viewed as excellent.

As shown in the appendix 2, the reliability analysis demonstrates good to acceptable internal consistency for most scales. Financial Inclusion (Alpha = 0.824) and Sustainable Development (Alpha = 0.868) both exhibit strong reliability, well above the acceptable threshold of 0.7. Social Capital (Alpha = 0.782) also shows acceptable reliability. Financial Literacy (Alpha = 0.668), while slightly below the conventional 0.7 threshold, is still considered marginally acceptable in social sciences research, particularly given the exploratory nature of some studies, though further examination of individual item-total correlations might be beneficial if this scale were to be used for high-stakes decisions.

5.4 Confirmatory Factor Analysis

5.4.1 Factor Analysis (Financial Inclusion - FI)

This section reports the outcomes of the factor analysis conducted for the financial-inclusion construct. It includes key diagnostics such as the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, details the total variance explained by the extracted components, and presents the rotated component matrix with factor loadings.

Table 5.15

KMO and Bartlett's Test for Financial Inclusion (FI)

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.845
Bartlett's Test of Sphericity (Approx. Chi-Square)	2345.585
Df	171
Sig.	0.000

The Kaiser-Meyer-Olkin (KMO) measure for the financial-inclusion construct was 0.845, which exceeds the recommended minimum threshold of 0.60 and falls into the "meritorious" or better category, indicating that the sample is appropriate for factor

analysis. Furthermore, Bartlett's Test of Sphericity was statistically significant ($p < 0.001$), indicating that the correlation matrix significantly differs from an identity matrix and thereby confirming the suitability of the data for factor-analytical procedures.

Table 5.16

Total Variance Explained for Financial Inclusion (FI)

Component	Total Eigenvalue	% of Variance	Cumulative %
1	4.728	24.885	24.885
2	2.387	12.565	37.450
3	1.191	6.270	43.720
4	1.047	5.508	49.229
5	1.014	5.336	54.565
Total Explained Variance			54.565

Five components were extracted with eigenvalues greater than 1, collectively explaining 54.565% of the total variance in the Financial Inclusion construct. This indicates that these five underlying factors adequately represent the variability within the observed items as shown in the appendix 3.

The rotated component matrix for Financial Inclusion reveals five distinct factors.

- **Barrier to Access:** Items related to lack of knowledge, family accounts, documentation, affordability, and religion heavily load on this factor, collectively representing challenges in accessing financial services.
- **Bank Access & Regularity:** Items concerning having an active bank account, easy access to branches/ATMs, bank convenience, and regular bank account usage strongly load here, indicating a factor related to the physical and routine engagement with banking services.
- **Income & Savings Usage:** This component is characterized by strong loadings from items about receiving payments from customers, salaries through bank accounts, and making savings for bigger loans, suggesting a factor linked to the bank's role in income management and savings.
- **Loan & Charges Experience:** Items related to the simplicity of loan acquisition, absence of hidden charges, ease of borrowing, and making remittances load on

this factor, indicating a dimension related to the practical experience of financial transactions and borrowing.

- Trust & Distance Barrier: This factor is primarily defined by items related to not trusting the financial system and the distance of bank branches as reasons for not having an account, highlighting the psychological and geographical barriers.

The distinct loadings suggest that the original Financial Inclusion construct, composed of access, usage, and barrier items, is indeed multidimensional, and these five components capture different facets of financial inclusion experiences.

5.4.2 Validity Analysis: Factor Analysis (Sustainable Development - SD)

This section presents the Factor Analysis results for the Sustainable Development construct.

Table 5.17

KMO and Bartlett's Test for Sustainable Development (SD)

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.892
Bartlett's Test of Sphericity (Approx. Chi-Square)	2816.211
Df	153
Sig.	0.000

The Kaiser–Meyer–Olkin (KMO) value of 0.892 which falls within the “meritorious” to “excellent” range and the statistically significant result of Bartlett’s Test of Sphericity ($p < 0.001$) jointly confirm that the dataset for the SD construct is suitable for factor analysis.

Table 5.18

Total Variance Explained for Sustainable Development (SD)

Component	Total Eigenvalue	% of Variance	Cumulative %
1	5.599	31.104	31.104
2	2.232	12.398	43.502
3	1.120	6.223	49.725
Total Explained Variance			49.725

Three components with eigenvalues exceeding one were extracted, cumulatively accounting for 49.725% of the total variance in the SD construct. This suggests a three-factor structure for the construct as shown in the appendix 4.

The rotated component matrix for SD reveals three clear factors:

- **Component 1 (Economic Development Goals):** This factor encompasses items related to economic policies (poverty reduction, sustainable production, unemployment prevention, innovation, agricultural investments) and broader societal goals (lifelong learning, societal responsibility for well-being, land use). This suggests a unified perception of economic progress being intertwined with social and environmental considerations under the umbrella of developmental goals.
- **Component 2 (Environmental Awareness & Responsibility):** Items concerning climate change, renewable energies, global warming, green areas, and individual/collective recycling responsibilities load strongly on this factor. This clearly represents the environmental dimension of sustainable development.
- **Component 3 (Social Services & Learning Access):** This factor groups items related to access to education and health services, integrating social services, feeling safe, and access to free courses/training programs. This component captures the social infrastructure and well-being aspects.

These findings support the multidimensional nature of SD, aligning with common conceptualizations of its economic, environmental, and social pillars.

5.4.3 Validity Analysis: Factor Analysis (Financial Literacy - FL)

This section presents the Factor Analysis outcomes for the FL construct.

Table 5.19

(Continue) KMO and Bsartlett's Test for Financial Literacy (FL)

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.794
Bartlett's Test of Sphericity (Approx. Chi-Square)	873.191
Df	45
Sig.	0.000

The Kaiser–Meyer–Olkin (KMO) measure of 0.794 indicative of good sampling adequacy and the statistically significant result of Bartlett’s Test of Sphericity ($p < 0.001$)

together confirm the suitability of the dataset for factor analysis with respect to the Financial Literacy construct.

Table 5.20

Total Variance Explained for Financial Literacy (FL)

Component	Total Eigenvalue	% of Variance	Cumulative %
1	3.039	30.387	30.387
2	1.336	13.359	43.746
3	1.075	10.751	54.497
Total Explained Variance			54.497

Three components with eigenvalues greater than 1 were extracted, accounting for 54.497% of the total variance in the Financial Literacy construct, suggesting a three-factor structure for financial literacy as presented in the appendix 5.

The rotated component matrix for Financial Literacy indicates a three-factor structure:

- Component 1 (Financial Understanding & Prudence): This factor includes items related to understanding inflation, investment risk, considering affordability, putting aside money for emergencies, saving for future needs, and monitoring financial affairs. This suggests a dimension of general financial knowledge and cautious spending habits.
- Component 2 (Long-Term Saving Habits): This factor strongly captures items related to saving money over the last year and regularly saving for long-term financial goals. This highlights a distinct aspect of proactive, goal-oriented saving behavior.
- Component 3 (Immediate Gratification): Items that load highly on this factor reflect a proclivity toward immediate expenditure rather than saving and demonstrate a present-oriented financial outlook, indicating reduced engagement in future-oriented planning and long-term financial strategies.

These components provide a nuanced understanding of financial literacy, moving beyond a single construct to reveal distinct dimensions of knowledge, active saving behavior, and temporal financial orientation.

5.4.4 Validity Analysis: Factor Analysis (Social Capital - SC)

This section presents the Factor Analysis results for the SC construct.

Table 5.21

KMO and Bartlett's Test for Social Capital (SC)

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.821
Bartlett's Test of Sphericity (Approx. Chi-Square)	1168.119
Df	66
Sig.	0.000

The KMO measure for the SC construct was found to be 0.821, indicating good sampling adequacy. In addition, Bartlett's Test of Sphericity was statistically significant ($p < 0.001$), thereby confirming that the correlation matrix significantly deviates from an identity matrix and that the data are appropriate for factor analysis.

Table 4.22

Total Variance Explained for Social Capital (SC)

Component	Total Eigenvalue	% of Variance	Cumulative %
1	3.565	29.710	29.710
2	1.476	12.300	42.010
3	1.061	8.842	50.852
Total Explained Variance			50.852

Three components with eigenvalues greater than one were extracted, accounting for 50.852% of the total variance in the SC construct. This suggests a three-factor structure for social capital as shown in the appendix 6.

The rotated component matrix for SC suggests a multi-faceted structure. However, the initial labeling of components based on the given output requires careful consideration due to cross-loadings and mixed thematic groupings.

- Component 1 (Bonding & Bridging Norms): This component seems to capture a general sense of internal group cohesion (sincerity, honesty, respect from bonding items) as well as aspects of external sharing and trust in lending/borrowing. The

high loadings of both Bonding and some Bridging/Trust items suggest that these aspects might be strongly correlated within this dataset.

- Component 2 (Collective Financial Behavior): Items related to permitting access to financial services and upholding a collective culture regarding credit and spending load strongly here. This appears to represent a dimension focused on shared financial practices and access.
- Component 3 (External Sharing & Trust): This component, while having some items from Bridging and Trust, also shows a strong negative loading from "A high level of bridging reveals business concepts like items that are affordable..." (-0.531). This mixed loading pattern might indicate complexity in how external information sharing is perceived or that the factor is not as cleanly defined as others.

The factor analysis for SC reveals a complex interplay between various SC dimensions, suggesting that these concepts might not be as distinctly separate as initially theorized in this context. Further qualitative investigation or refinement of the items might be beneficial to achieve clearer factor separation, if conceptually desired.

5.5 Testing Hypothesis

In this study, hypotheses were formulated on the basis of extant scholarly literature and established theoretical frameworks pertaining to FI, FL, SC, and SD. By integrating these constructs within a unified conceptual model, the research aims to empirically test the interrelationships and mechanisms suggested in the prior literature.

5.5.1 Mediation (Indirect Effect) and Direct Effect

The present study employed PROCESS macro Model 4 (Andrew F. Hayes) within IBM SPSS to assess the direct, indirect, and total effects of FI on SDGs, with FL specified as a mediator. The results provide robust support for:

Hypothesis 1 (H1): there is a significant positive association between FI and sustainable development ($\beta = 0.44$, $p < 0.001$). The direct path from FI to SDGs demonstrates that increased access to financial services contributes meaningfully to sustainable development outcomes by advancing economic participation, entrepreneurship, income growth, and social inclusion. These findings underscore the pivotal role of FI as a

developmental driver and suggest that policy efforts aimed at expanding formal financial access can exert substantial and far-reaching impacts on sustainable development.

Hypothesis 2 (H2): Financial Inclusion (FI) is significantly associated with Financial Literacy (FL)s supported. Regression results show a positive and significant path ($\beta = 0.22, p < 0.000$) from financial inclusion to FL. This suggests that greater FI is related to higher FL. In other words, as individuals become more financially included (e.g., having access to accounts, credit, digital payments), their FL levels tend to increase. This finding suggests that as individuals gain greater access to financial products and services, their financial knowledge, awareness, and skills also increase. Involvement in formal financial systems exposes individuals to practical experiences such as saving, borrowing, and using digital financial tools, which enhance their financial understanding. Therefore, FI not only improves economic participation but also serves as a catalyst for building FL within communities. However, since the reliability of the FL scale was marginal (Cronbach's $\alpha = 0.668$), the observed relationship may be slightly conservative, and future research should retest this link using a more reliable measurement instrument to confirm the strength of this association.

Hypothesis 3 (H3): posits that FL mediates the relationship between FI and SD. The empirical findings support this hypothesis, revealing a positive and statistically significant indirect effect ($\beta = 0.075, 95\% \text{ CI } [0.040, 0.117]$). This effect suggests that although FI directly influences sustainable development, its impact is bolstered when individuals possess higher levels of FL. While this mediation effect is confirmed, caution is warranted in its interpretation: measurement limitations may have attenuated the observed strength of the relationships. Future research is therefore encouraged to replicate this analysis using more robust measurement scales to validate and reinforce these findings, thereby ensuring greater precision and empirical confidence.

This suggests:

- The indirect effect (FI $\rightarrow$ FL $\rightarrow$ SDGs) is positive and significant, meaning FL does mediate the impact of FI on sustainable development.
- Because the direct effect of FI on SDGs is still significant, this is called partial mediation not full mediation.

- In simple terms, FI impacts sustainable development both directly and indirectly through FL.

A portion of the impact of FI on SD operates through improvements in individuals' levels of FL. When people gain better access to financial services (FI) and also understand how to use them wisely (FL), they are more likely to contribute to economic stability, growth, and sustainability through increased access to credit, savings mechanisms, and investment opportunities that support productive activities and financial resilience. It highlights that FI alone is not enough without FL, people might not use services effectively, which limits their developmental impact. Therefore, education and awareness programs should complement inclusion policies to maximize the developmental benefits.

The results also imply that governments, banks, and development agencies should invest not only in expanding financial access (more accounts, ATMs, digital platforms) but also in enhancing financial knowledge and skills. This dual approach (FI + FL) will produce stronger and more sustainable economic outcomes. It also underlines the importance of integrating financial education into national inclusion strategies, school curricula, and community development initiatives to promote widespread financial capability and support inclusive growth.

5.5.2 Moderation

The PROCESS Model 1 was employed to test whether SC moderates the relationship between FI and SDGs as shown in the appendix 8.

Hypothesis 4 (H4): SC significantly moderates the relationship between FI and SDGs supported. The interaction term ($FI \times SC$) is positive and significant at $p = 0.05$ ($\beta = 0.089$), indicating that the relationship between FI and SDGs depends on the level of social capital. In other words, the results of Hypothesis 4 indicate that SC significantly moderates the relationship between FI and SDGs, as evidenced by a positive and significant interaction effect ($\beta = 0.089$, $p = 0.05$). This finding suggests that the positive impact of financial inclusion on sustainable development becomes stronger in contexts with higher levels of SC. In communities characterized by trust, cooperation, and strong social networks, FI is more effectively translated into productive and sustainable outcomes. Conversely, where SC is weak, the developmental benefits of FI may be limited. These results underscore the importance of fostering both financial and social infrastructures to achieve inclusive and sustainable growth. Therefore, policies should

aim to strengthen community engagement and trust alongside financial access to maximize the impact of inclusion on sustainable development.

5.5.3 Conditional Effects Analysis:

To further interpret the interaction, the effects of FI on sustainable development were examined at three distinct levels of SC (16th percentile = low, 50th percentile = medium, 84th percentile = high) as illustrated in Appendix 9.

The results underscore the moderating role of SC in enhancing the impact of FI on SDGs. Specifically:

- At lower levels of SC, FI has a positive and significant, but weak, influence on sustainable development.
- At higher levels of SC, this relationship becomes stronger and more pronounced.

This suggests policy makers should consider strengthening social structures and networks to maximize the developmental benefits of financial services. Simply improving financial access may not be enough; enhancing SC can amplify its effects on development outcomes. Shortly, it can be said that Hypothesis 4 is supported. The interaction term is positively and statistically significant, indicating that higher levels of SC strengthen the relationship between FI and SDGs.

5.5.4 Moderated Mediation Analysis

To examine how FL mediates and how SC moderates the relationship between FI and sustainable development, PROCESS Model 14 was applied (Hayes, 2022) as shown in the appendix 10.

The first regression analysis revealed that FI significantly predicts FL with a standardized coefficient of $\beta = 0.22$ ($p < 0.01$), and the model explains approximately 4.87 % of the variance in FL.

In the second regression, FI has a direct, significant, and positively direct effects on sustainable development ($\beta = 0.27$, $p < 0.01$). The mediator (FL) has a non-significant direct effects ($\beta = 0.23$, $p = 0.11$), while the moderator (SC) positively and significantly influences sustainable development ($\beta = 0.49$, $p < 0.05$). Additionally, the interaction term (financial literacy $\times$ social capital) was non-significant ($\beta = -0.02$, $p = 0.68$), suggesting moderation of the indirect path by social capital is not supported.

The conditional indirect effects show FL mediates the relationship between FI and SDGs across all levels of SC, with indirect effects ranging from 0.0406 at low SC to 0.0352 at high SC. Importantly, the index of moderated mediation (-0.0043 , 95% CI $[-0.03, 0.02]$) crossed zero, indicating the indirect effects were not significantly moderated by SC.

This analysis underscores the direct role of FI and the mediating role of FL in promoting sustainable development. However, SC does not appear to influence the strength of this indirect relationship, suggesting policy makers should focus on enhancing FL alongside financial services to foster sustainable development outcomes. Nonetheless, strengthening social networks and community ties may be valuable in other contexts, and future research should further explore these conditions.

5.5.5 Correlation

To investigate the relationships amongst the main variables of this study, Pearson's Coefficient was applied.

The results of appendix 11 show positive and significant correlations at $p < 0.01$ between all pairs of variables. Specifically:

- FI has a moderate, positively significant relationship with SDGs ($r = 0.47$, $p < 0.01$).
- FI also correlates positively with FL ($r = 0.22$, $p < 0.01$) and SC ($r = 0.46$, $p < 0.01$).
- SDGs is positively and significantly related to FL ($r = 0.40$, $p < 0.01$) and SC ($r = 0.59$, $p < 0.01$).
- Furthermore, FL shows a strong, positively significant relation with SC ($r = 0.46$, $p < 0.01$).

The observed relationships highlight the interdependence of financial, human, and social resources in shaping sustainable development outcomes in the context of Iraq. Specifically, higher levels of access to financial services are associated with greater financial literacy and stronger social networks both of which, in turn, are positively related to the nation's progress toward achieving sustainable development goals.

5.6 Summary of Findings

Exploratory factor analysis was conducted to evaluate the measurement integrity of the constructs: FI, SD, FL, and SC. Across all constructs, Kaiser Meyer Olkin (KMO) values ranged from 0.794 to 0.892, and Bartlett's tests yielded statistically significant results

($p < 0.001$) indicating excellent sampling adequacy and factorability well above the general threshold of 0.60 for robust factor analysis. Retaining factors with eigenvalues greater than 1, the FI construct yielded a five-factor solution explaining 54.6 % of the variance; SD identified three factors accounting for 49.7 %; FL had three factors explaining 54.5 %; and SC revealed a three-factor structure capturing 50.9 % of variance percentages aligned with psychometric standards for social science research. The resulting dimensions across constructs were logically interpretable and conceptually grounded: FI encompassed barriers, usage patterns, income/savings behaviors, loan experiences, and trust/distance concerns; SD reflected economic, environmental, and social pillars; FL captured understanding, long-term saving, and immediate gratification facets; and SC highlighted bonding/bridging norms, collective financial behavior, and external trust/sharing dynamics. Notably, certain SC items exhibited cross-loadings, suggesting overlapping social capital dimensions and indicating potential refinements in future Confirmatory Factor Analysis (CFA). Altogether, these findings affirm that the measurement instruments are both reliable and valid, providing a solid foundation for subsequent hypothesis testing and structural modeling.

6. CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

6.1 Conclusion

The proposed structural model demonstrated substantial explanatory power for sustainable development outcomes. Regressions predicting SDGs from F, FL, and SC yielded R^2 values on the order of 0.31 and 0.40. In other words, the model explains roughly one-third to two-fifths of the variance in sustainable development indicators, indicating that a significant share of development differences is captured by the included factors.

Financial inclusion had a robust positive effect on sustainable development. The direct path from FI to SDGs was strong and highly significant ($\beta \approx 0.44$, $p < 0.001$). In parallel, financial inclusion significantly improved financial literacy (Path a: $\beta \approx 0.22$, $p < 0.001$). This supports the interpretation that greater access to financial accounts, credit, or digital services exposes individuals to practical financial experiences (savings, loans, digital payments) that raise their financial knowledge. Thus, expanding formal financial access directly drives development outcomes while also fostering financial education within the population.

The strength of these effects is worth noting. The standardized direct effect of FI on sustainable development ($\beta \approx 0.44$) is much larger than the mediated effect through FL ($\beta \approx 0.075$). In practical terms, FI alone explains the bulk of its impact on development: improving FI by one standard deviation predicts a 0.44 SD increase in SDGs, whereas the indirect pathway via literacy adds only a 0.075 SD effect. This is reflected in the model R^2 values (≈ 0.31 with FI and FL, rising to ≈ 0.40 when social capital is added). Hence, while FL serves as a helpful partial mediator (confirming partial mediation), its role is comparatively modest. FI's primary developmental payoff is its immediate inclusion effect, with literacy contributing an incremental benefit.

Social capital played a dual role. On one hand, SC had a statistically significant direct positive effect on SDGs ($\beta \approx 0.27$, $p = 0.03$), indicating that networks of trust and community support independently promote development outcomes. On the other hand, SC did not significantly moderate the inclusion–literacy–development pathway. In the moderated-mediation analysis, the interaction term (FI $\times$ SC or equivalently FL $\times$ SC)

was non-significant (e.g. $\beta \approx -0.02$, $p = 0.68$), and the index of moderated mediation crossed zero. In short, higher SC did not amplify the indirect effect of FI on SDGs via FL. Thus, SC contributes positively in its own right but does not strengthen the financial inclusion $\rightarrow$ literacy $\rightarrow$ development link under the conditions studied.

This pattern reflects Iraq's contextual dynamics. In Iraq (including the Kurdistan Region), social cohesion tends to be highly localized, and trust remains confined to tight in-groups. Empirical observations note a "widespread lack of trust" toward anyone outside one's family or personal networks. At the same time, the KRI is riven by intense tribal and partisan divisions (Saeed, 2023). Moreover, Iraq's formal financial sector has long been underdeveloped and mistrusted: recent surveys report fewer than 20% of adults with a bank account and under 5% of SMEs with bank loans (Al-Azzawi, 2020). In such a setting, SC largely reinforces closed networks rather than bridging to broader society or institutions. Consequently, although rich in small-scale mutual support, it cannot effectively extend the impact of financial inclusion on macro-level development. In other words, closed in-group trust and weak institutional trust limit the ability of SC to moderate the inclusion development relationship.

These findings suggest several policy implications for Iraq and the KRI. First, the strong direct effect of FI means that expanding access to financial services should remain a top priority. At the same time, boosting FL will enhance these benefits. Policymakers should therefore pursue dual-track strategies: (a) expand access and (b) build capacity. Second, the positive direct effect of SC implies that strengthening community networks can still support development, but this will generally occur parallel to rather than through FI channels. In practice, this means leveraging SC (e.g. community groups, cooperatives) to assist financial programs, however not relying on it to substitute for formal inclusion efforts.

6.2 Policy Recommendations

Based on the above, the following context-specific recommendations are offered:

- **Policymakers and Regulators (Government):** Prioritize broadening formal financial access and rebuilding trust in institutions. This includes investing in financial infrastructure (e.g. mobile/agent banking networks, payment systems,

credit information bureaus) and strengthening the regulatory framework. For example, Iraq's National Financial Inclusion Strategy (NFIS) targets increasing account ownership to 50% and digital payment usage to 85% (CBI, 2025). To support this, the government should simplify account opening (e.g. ID requirements), mandate basic bank branches or kiosks in rural areas, and promote mobile money. Regulatory steps like deposit insurance, consumer-protection laws, and anti-corruption measures can mitigate mistrust. Integrating financial education into public policy is also key: national curricula should include FL, and public awareness campaigns should explain banking benefits and rights.

- **Financial Institutions:** Design products and delivery channels for underserved populations. Banks and fintech firms should offer low-cost savings and credit products, particularly via digital platforms, to reach rural residents, women, and youth. Extending branchless banking (mobile wallets, card systems) leverages technology to overcome infrastructure gaps (CBI, 2025). Financial institutions can partner with development agencies to pilot microloan or micro-insurance programs (especially for SMEs and agriculture) and should tie new offerings to financial education (e.g. bundling literacy workshops with new account openings). By providing transparent, user-friendly services, banks can begin to rebuild trust and draw people out of reliance on cash.
- **Non-Governmental Organizations and Community Groups:** Mobilize social capital to support inclusion and education. NGOs and community leaders should organize financial-literacy training and peer-learning groups at the local level. For instance, establishing community savings groups or rotating credit associations can channel informal trust networks into structured financial practices. NGOs can also target vulnerable groups (women, internally displaced persons, rural farmers) with business and money-management workshops, aligning with national inclusion goals. By acting as intermediaries between citizens and formal finance (through group guarantees or mentorship), civil society may help bridge the gap between closed social networks and wider financial systems.
- **Educators and Academic Institutions:** Institutionalize financial education. Schools, universities, and training centers should include courses on budgeting, saving, credit, and digital finance. Programs like university-bank partnerships for financial-education curricula or student-run credit cooperatives can raise baseline

literacy. Embedding financial literacy in vocational and continuing-education programs (especially in technical institutes and teacher-training colleges) will ensure that future professionals and community leaders are equipped to use and promote financial services. Educational campaigns (in partnership with media or social networks) can further reinforce practical financial skills across age groups.

In conclusion, the empirical evidence indicates that scaling up FI and literacy is a viable pathway to SDGs in Iraq. The model's explanatory power ($R^2 \approx 0.31\text{--}0.40$) confirms that these factors are substantive levers of progress. Social capital, while independently beneficial, cannot substitute for broad institutional access given Iraq's trust constraints. Therefore, coordinated policies as outlined above supported by national strategies like the NFIS (CBI, 2025) should guide efforts by government, finance, and civil society alike. By expanding access, building knowledge, and strengthening institutions in tandem, Iraq and the Kurdistan Region can harness financial inclusion more fully as a driver of their sustainable development goals.

6.3 Discussion

6.3.1 Discussion of Key Findings

The overall findings of this thesis provide strong empirical support for the proposed conceptual framework linking FI, FL, SC, and SDGs. The results for Hypothesis 1 (H1) reveal that financial inclusion directly and positively impacts SDGs ($\beta = 0.44$, $p < 0.001$), confirming that greater inclusion to financial services contributes to economic participation, entrepreneurship, income growth, and social inclusion, all essential drivers of sustainable development. Hypothesis 2 (H2) posits that FI is positively and significantly related to FL; the empirical findings support this hypothesis, indicating a standardized effect size of $\beta = 0.22$ ($p < 0.001$), suggesting that as individuals gain access to financial systems, they acquire valuable financial knowledge and practical experience that enhance their ability to make informed financial decisions. Hypothesis 3 (H3) asserts that FL functions as a significant mediator in the relationship between FI and SDGs. Empirical analysis supports this hypothesis, revealing an indirect effect of $\beta = 0.075$ (95% CI [0.040, 0.117]). The result suggests that while financial inclusion exerts a direct effect on sustainable development, its influence is augmented when individuals possess higher levels of financial literacy. However, given the marginal internal consistency of the

financial literacy scale (Cronbach's $\alpha = 0.668$), this mediation effect should be interpreted with caution, as the true relationship may be somewhat underestimated due to measurement error. Finally, the results of Hypothesis 4 (H4) show that social capital significantly moderates the relationship between FI and SDGs ($\beta = 0.089$, $p = 0.05$), revealing that the developmental impact of FI is amplified in contexts characterized by stronger social networks, trust, and community engagement. Collectively, these findings underscore that FI drives sustainable development both directly and indirectly through FL and that this relationship becomes stronger when supported by high levels of social capital. The study thus highlights the importance of an integrated policy approach that simultaneously enhances access to financial services, strengthens financial education, and fosters social cohesion to achieve inclusive and sustainable economic growth.

The findings of this study furnish significant insights into how FL interacts with other key constructs in the model. Specifically, they underscore the pivotal role of FL as a bridging mechanism through which financial inclusion exerts its influence on sustainable development outcomes, FI, SDGs, and SC within the surveyed population.

- **On Financial Inclusion and Sustainable Development:** The robust positive and direct impact of FI on SDGs (H1 supported) aligns with extensive global literature. Access to formal financial services such as savings, credit, and insurance has been consistently shown to drive poverty reduction, economic growth, and social well-being (Serrao et al., 2021, P 209-227). This study further solidifies this understanding, emphasizing the foundational role of financial access in fostering broader sustainable outcomes.
- **On Financial Literacy as a Mediator:** The confirmed mediating role of financial literacy (H2 supported) is a critical finding. It highlights that the ability to understand and effectively use financial products significantly enhances the transformative power of inclusion. By improving individuals' financial knowledge and capabilities, FL enables better long-term planning, resilience to shocks, and investments in sustainable practices, a pattern consistently observed across diverse global contexts (Rani & Goyal, 2023, pp. 1362-1380). This reinforces the imperative to integrate financial literacy initiatives with FI efforts for truly impactful development.

- On Social Capital's Role:** While social capital exerted a significant direct positive effect on sustainable development, its failure to moderate the indirect FI→SD pathway (H3 rejected) was an unexpected but important finding. This contrasts with some prior studies that found SC moderates FI's influence on SD. Our results suggest that in the specific study setting, SC operates through independent channels, such as collective action, information sharing, and mutual support, contributing to sustainable outcomes separate from amplifying the effect of FI (Lontchi et al., 2022, pp 570-590). This divergence highlights the contextual specificity of these complex relationships and the need to investigate the unique institutional, cultural, and community dynamics at play.

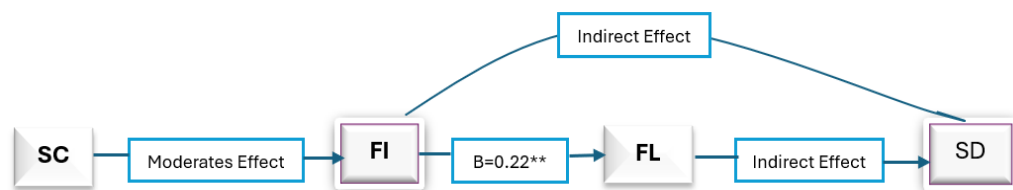


Figure 6.1
The Results

6.3.2 Similarities and Differences with Previous Studies

6.3.2.1 Similarities of the Study:

- FI's Direct Effect on SD:** Our finding that FI has a direct, positive impact on sustainable development is widely supported by recent peer-reviewed literature. For instance, (Serrao et al. 2021) confirmed this positive direct impact, linking access to financial products with improved socio-economic indicators.
- FL's Mediating Role:** The mediating role of FL in the relationship between FI and sustainable development is well supported in literature. For example, a study investigating this relationship in Cameroon found that FL significantly mediates the impact of FI on sustainable development. Lontchi et al. (2022) in Cameroon and research from Bangladesh similarly reported FL's crucial role in transmitting the benefits of FI to SD. Rani and Goyal (2023) also emphasized that FL increases individuals' ability to use financial services effectively, leading to improved financial well-being and, consequently, sustainable development outcomes.

- **SC's Direct Effect on SD:** Our study found a important direct impact of SC on SDGs, which aligns with existing literature highlighting how social networks, trust, and community cooperation independently support sustainable outcomes (Lontchi et al., 2022).

6.3.2.2 Differences of the Study

- **SC's Moderating Role:** A noteworthy divergence in our findings relative to much of the extant literature is the absence of a statistically significant moderating effect of SC on the relationship between FI and SDGs. While studies often suggest that SC can amplify the benefits of FI (e.g., through collective action or shared information facilitating better access or usage), our context appears to show SC contributing to SDGs more independently. This divergence might be attributable to specific institutional or cultural dynamics within the study region, where SC may operate through its own distinct channels rather than by strengthening the mediated effect of FI.

6.3.3 Theoretical Contributions

This study offers several sophisticated contributions to the theoretical discourse on financial development and sustainability. It primarily serves to empirically validate established relationships within a novel context while offering significant refinement to social capital theory based on its contextual findings.

1. Empirical Validation and Contextual Specification of Known Relationships

The study provides robust empirical confirmation for the well-established theoretical proposition that FL acts as a critical mechanism translating financial access into tangible developmental outcomes (e.g., Lusardi & Mitchell, 2011; Atkinson & Messy, 2012). By demonstrating this mediated pathway (FI → FL → SD) within the complex and institutionally challenging environment of Iraq, the research strengthens the external validity of this theoretical model. The contribution here is not the discovery of a new relationship but the empirical verification and contextual specification of a known one, underscoring its relevance in fragile and post-conflict states where formal institutions are often weak. This provides a critical evidence base for policymakers operating in similar

contexts, confirming that the interplay between inclusion and literacy remains a foundational pillar for sustainable development even under duress.

2. Contextual Refinement of Social Capital Theory: Towards a Theory of Institutional Substitution

The most salient theoretical implication of this research stems from its nuanced findings concerning social capital. While SC exerted a direct, positive influence on sustainable development, it did not, contrary to a body of existing literature (e.g., Huang, Cheng, & Shu, 2024; Lontchi, Yang, & Su, 2022), moderate the connection between financial inclusion and sustainable development. This challenges the assumption of a universal, synergistic interaction between SC and formal financial systems and calls for a more context-sensitive theoretical understanding.

Building upon Putnam's (2000) seminal distinction between bonding and bridging social capital, this study proposes the concept of "institutional substitution" to explain this finding. In contexts like Iraq, SC is predominantly "bonding" in nature characterized by strong, dense ties within homogeneous kinship or tribal groups that foster high internal trust and reciprocity. However, this often occurs alongside underdeveloped "bridging" social capital, which forges connections across diverse social cleavages and fosters generalized trust in formal institutions.

The findings suggest that in an environment of pervasive institutional fragility and low public trust, strong bonding social capital does not necessarily act as a complement to formal financial inclusion. Instead, it can function as a substitute. Dense, inward-looking networks provide robust, informal safety nets (e.g., familial loans, communal support) that fulfill essential functions of risk-mitigation and resource-pooling, paralleling those of formal financial products (e.g., savings accounts, insurance, credit). Consequently, these networks operate on a parallel track to the formal financial system. They provide independent pathways to socio-economic well-being (hence the significant direct effect on SD) but do not systematically enhance engagement with or the efficacy of formal financial services (hence the non-significant moderating effect).

This perspective refines social capital theory by specifying the conditional nature of its interaction with formal institutions. It posits that the moderating role of social capital is

not a universal constant but is contingent upon its structural form and the institutional landscape in which it is embedded. In fragile states with robust bonding capital, social capital may not serve as a lever that amplifies formal inclusion but rather as a resilient, parallel system that sustains development independently. This elucidates the "independent channels" through which social capital operates in such settings, including:

- **Informal Risk-Sharing:** Mitigating economic shocks without recourse to formal insurance mechanisms.
- **Community Resource Mobilization:** Funding local enterprises or consumption through informal credit, reducing reliance on formal banking sectors.
- **Enforcement of Local Norms:** Ensuring cooperation and sanctioning malfeasance within the in-group, thereby supporting local economic activity that remains largely insular.

In conclusion, while this study corroborates the established role of FL, its primary theoretical contribution lies in empirically demonstrating and theoretically explicating the context-dependent role of social capital. By proposing the "institutional substitution" effect, it offers a refined theoretical lens through which to understand how bonding SC in fragile states can produce independent, rather than interactive, effects on SDGs. This insight provides a foundation for future studies to further investigate the differential functions of social capital across varied institutional contexts. This study significantly contributes to the current theoretical frameworks by offering a multidimensional perspective on the interconnections among FL, FI, SDGs, and SC.

- **Interconnectedness of FI and FL:** While FL and FI have often been researched independently, this study empirically demonstrates their strong interconnectedness and the critical mediating role of FL. This extends existing theories by highlighting that mere access (FI) is insufficient without the capability (FL) to navigate and utilize financial services effectively, thereby leading to sustainable outcomes. This reinforces and expands upon capability theories, suggesting that financial knowledge alone doesn't drive behavior but rather the combination of knowledge, self-belief, and supportive structures (Rehman & Mia, 2024, pp 456-470).

- **Contextualizing Social Capital's Role:** By finding that SC exerts a direct, but not a moderating, effect on the FI→SD pathway, this study offers a nuanced theoretical contribution. It challenges the assumption that social capital universally amplifies the effects of FI, suggesting that its role can be more independent and context-dependent. This extends Putnam's (2000) work on SC by demonstrating its practical implications in a specific regional context, emphasizing the need for theoretical models to account for diverse operational mechanisms of social capital in different environments.

6.3.4 Practical and Policy Implications

The results have several significant implications for policymakers, financial institutions, and educators. In the KRI, there is a compelling need for a specialized institution established under government auspices to oversee and monitor the policies, regulations, and operations of banks, financial institutions, and digital-payment providers. This body would ensure regulation, accountability, and alignment of the financial sector with community needs, thereby promoting financial inclusion. Complementing this regulatory framework, comprehensive financial-literacy programs should be mandated: not only by the government, but also by banks, fintech firms, universities, and private-sector entities. Financial institutions themselves should proactively integrate financial-education initiatives for individuals, university students, and private companies, embedding financial literacy in their corporate social responsibility and service models. Furthermore, all stakeholders public, private, and academic, should incorporate the Sustainable Development Goals (SDGs) into their strategic and annual plans, with an obligation for banks and financial institutions to publish yearly reports on their SDG-related progress. Finally, to bolster social capital, a key instrument for economic growth, the private sector should build stronger bridges with banks, while the government designs and implements a strategy to facilitate meaningful collaboration between banks and private enterprises. Moreover, to institutionalize ongoing collaboration and innovation, an annual “Kurdistan Financial Summit (KFS)” should be established convened under the auspices of the government (through the relevant KRG-led regulatory body) and bringing together banks, fintech firms, digital payment companies, regulators, private-sector businesses, academia, and civil society. Such a Summit would serve as a platform for assessing progress, sharing best practices, coordinating financial-inclusion strategies, launching financial-literacy

and SDG-aligned initiatives, and reinforcing the commitment of all stakeholders to enhance access, quality, and usage of financial services. By gathering participants regularly, the Summit could help to align institutional efforts, identify gaps, foster public-private partnerships, and ensure transparency through presentation of annual SDG-impact reports and financial-inclusion metrics. Over time, the KFS could become the flagship national event driving financial inclusion, institutional accountability, digital finance innovation, and social-economic development across the region. This can help all parties to meet the overall goals we mentioned above. Given that our data were collected from the provinces of Erbil, Sulaymaniyah, and Duhok, regions that, together, represent a significant portion of the KRI, we believe that our findings offer valuable insights applicable beyond these localities. Because no comparable data are available for the remainder of Iraq, our results can provide a useful reference framework for national-level decision-makers. That said, we acknowledge that the validity of generalizing from a regional sample to the entire country depends on how representative those three provinces are relative to all Iraqi governorates. In research methodology, this ability to generalize is known as “external validity.” In this case, because the sampled provinces share many socio-demographic and health-system characteristics with broader Iraqi contexts, our data can serve as a tentative but informed basis for national-scale policymaking, while highlighting the urgent need for wider data collection across additional provinces.

- **Dual Strategy for Policymakers:** Policymakers should pursue a dual strategy: simultaneously enhancing access to financial products and developing robust FL education. The mediating role of FL implies that without adequate financial knowledge, the full benefits of FI cannot be realized. This aligns with advice from the OECD (2025) advocating for integrated financial education and inclusion efforts.
- **Targeted Interventions for Financial Institutions and Educators:** Financial institutions should focus on providing low-cost, accessible products and building trust through transparent practices. Educators, in partnership with financial institutions, should develop tailored curricula that combine theoretical knowledge with practical, experiential learning (e.g., in-school bank branches, digital simulations, financial literacy activities such as financial literacy day/week in schools and universities) to foster true financial capability (Barrett, 2024).

Leveraging digital tools for learning and tracking progress is also essential by providing a good internet, POS machines in markets, and enhance connections between private sector and banks.

- **Complementary Social Capital Initiatives:** Despite its non-moderating role, the direct positive effect of SC on SDGs suggests that initiatives fostering community trust, reciprocity, and networks (e.g., cooperative groups, peer learning) should be pursued as complementary strategies to FI and literacy programs (Marza et al., 2025, pp 78-95; Rahman, 2024).
- **Digital Financial Services and Consumer Protection:** Given the increasing adoption of digital financial services, integrating cybersecurity awareness, algorithmic fairness, and safeguards against fraud into both FL programs and the design of financial services is crucial for protecting users and maintaining trust (Lee, 2024; OECD, 2025).

6.4 Policy Recommendations

The results of this research reveal that overcoming barriers of trust, knowledge, and access is paramount for advancing FI in Iraq. Therefore, moving beyond generic prescriptions, the following recommendations are formulated as concrete, context-sensitive action plans that leverage the specific data from this study and align with the socio-institutional realities of Iraq and the KRI.

6.4.1 Financial Literacy: From General Knowledge to Context-Specific Empowerment

The marginal reliability of the FL scale and the identified knowledge barriers necessitate a targeted approach. Financial literacy initiatives must be redesigned to address the specific deficits and distrust uncovered in the data.

- **Target Audience-Specific Content Design:** Curricula must pivot from generic financial concepts to address the precise hurdles identified. This includes:
- **Trust-Building Modules:** Develop materials that demystify banking operations, explicitly explain deposit insurance mechanisms, and transparently outline fee structures to counter the perception of "hidden charges" (Table 8).

- **Procedural Clarification:** Create simple, visual guides (in Kurdish and Arabic) on the step-by-step process of opening an account, the documents required (addressing the "Documents" barrier), and how to access and use digital banking platforms.
- **Consumer Rights Education:** Partner with the CBI to disseminate information on consumer protection laws and grievance redressal mechanisms, empowering individuals in their interactions with financial institutions.
- **Collaboration with Localized Trust Networks:** Instead of relying solely on formal institutions, integrate into existing trust structures.
- **Leverage Influential Figures:** Formalize partnerships with tribal leaders, religious figures (Imams), and local civil society organizations to act as ambassadors and facilitators for financial literacy workshops. Their endorsement can significantly lower the "Trust" barrier.
- **Institutionalize in Education:** The KRG's Ministry of Education should integrate the above tailored financial literacy content into secondary school and university curricula, particularly in provinces like Erbil, Sulaymaniyah, and Duhok, as a mandatory component of civic education.

6.4.2 Financial Services: Building Trust and Hybrid Access Models

The recommendations must address the trifecta of trust, affordability, and physical access, moving beyond simply advocating for "low-cost accounts."

Solving the Trust Issue Through Regulatory and Operational Reform:

- **Regulatory Mandate for Transparency:** The CBI should mandate a standardized "Key Facts Document" for all retail banking products, written in plain language, which clearly states all fees, interest rates, and terms. This directly addresses the "hidden charges" concern (Table 8).
- **Public Awareness of Protections:** Launch a public campaign, co-branded by the CBI and the Iraqi Private Banks League, to raise awareness about the existence and scope of deposit insurance, a critical step in rebuilding institutional trust.
- **Digital and Physical Balance via Hybrid Models:** Acknowledge the limitations of Iraq's digital and physical infrastructure.

- **Strategic Expansion of Agent Banking:** Instead of costly brick-and-mortar branches, banks incentivize banks to deploy manafez (banking agents) by partnering with trusted local entities such as post offices, pharmacies, and major stationery stores in urban and semi-urban areas. This strategy overcomes the "Distance" barrier effectively.
- **Contextually Aware Digital Products:** While promoting digital accounts (e.g., through partnerships with telecoms like ZainCash and Korek), financial literacy must include digital skills training. Furthermore, USSD-based services that do not require smartphones or constant high-speed internet should be developed to ensure inclusiveness for rural and elderly populations.

6.4.3 Social Capital: Integrating Existing Structures, Not Imposing New Ones

The finding that social capital provides a direct, but not moderating, pathway to development suggests policy should work with, not around, these existing structures.

- **Using Existing Structures as Bridges:** Rather than creating new, Western-style cooperatives, policies should integrate Iraq's inherent social fabric.
- **Tribal and Familial Networks as Collateral Substitutes:** Develop group-lending products where the traditional hamula (extended family or clan) serves as the reference group. The social collateral within these groups can mitigate banks' perceived risk and facilitate credit access for individuals who would otherwise be excluded, effectively leveraging bonding social capital as a bridge to formal finance.
- **Channeling Existing Solidarity:** Work with community leaders to formalize and scale existing informal savings and loan circles by linking them to a designated bank account, providing security and a pathway to a formal credit history.

6.4.4 A Coordinated Implementation Framework

For these recommendations to be effective, a coordinated, multi-stakeholder approach is essential.

- **Lead Agency:** The CBI, in coordination with the KRG's Ministry of Planning, should take the lead in orchestrating this strategy.

- **Implementation Consortium:** Establish a formal consortium comprising the CBI, the Iraqi Private Banks League, major telecommunications companies (Zain, Korek, Asiacell), the Ministries of Education and Communication, and representatives from tribal and religious councils.
- **Pilot Programs:** Launch targeted pilot programs in each of the three studied provinces (Erbil, Sulaymaniyah, Duhok) to test and refine these context-specific approaches for instance, a "Financial Literacy and Agent Banking" pilot in a district of Duhok, and a "Group Lending via Tribal Networks" pilot in a rural area of Sulaymaniyah.

By grounding these policy recommendations directly in the empirical findings and socio-cultural specificities of the KRI, this study provides a concrete and actionable roadmap for transforming financial inclusion from a theoretical goal into a tangible driver of sustainable development in Iraq.

6.5 Final Concluding Remarks

This study conclusively demonstrates that FI importantly and directly contributes to SDGs, with FL acting as a critical enabler, empowering individuals to translate access into effective and sustainable outcomes. While social capital does not amplify this mediated pathway, its independent positive influence underscores its multifaceted value in fostering trust, collective action, and community resilience. These insights reinforce the imperative for policymakers to adopt integrated strategies that enhance access to affordable financial services, embed tailored financial literacy programs across formal education and community outreach, and facilitate social cohesion through trust-building initiatives. By doing so and by modernizing frameworks to address digital awareness and consumer protection governments and financial institutions may unlock the full capacity of financial inclusion to drive equitable, resilient, and sustainable development. Future research should explore contextual factors that influence social capital's specific roles and assess the longitudinal impacts of combined financial inclusion, financial literacy, and social capital interventions to further refine this holistic model. Particularly for future research on Social Capital should focuses on:

- **Disentangle SC's direct vs. indirect effects:** Future studies should explicitly test whether social capital moderates the direct FI→SD link but not the FI→FL→SD

pathway. In other words, does SC influence SD outcomes “on its own” rather than by enhancing FI→FL? Researchers can compare simple moderation models with moderated mediation models (as done here) to clarify this.

- **Explore SC’s independent channels:** If SC does not operate through financial literacy, what are the alternate channels? Qualitative or path-analytic studies could investigate mechanisms such as trust networks enabling investment, community resource pooling, or norm-setting that lead to development. Understanding these “independent channels” (e.g. direct SC→SD effects) would clarify SC’s role in resilience and inclusion.
- **Distinguish SC Dimensions:** Empirical work should measure bonding, bridging, and cognitive social capital separately. Prior evidence shows bridging SC (links to diverse groups) tends to enhance inclusion, while bonding SC may not (or can even reinforce exclusion). Using multidimensional SC scales would reveal which aspects of social capital most strongly moderate FI–SDG links.
- **Improve Sampling and Representation:** Employ probability sampling across diverse Iraqi populations (including rural communities, low-income households, and informal-sector entrepreneurs) to ensure generalizability. Current samples often focus on urban/formal sectors. Broader sampling would test whether the FI–FL–SC–SD dynamics hold across social and economic strata.
- **Regional Comparisons:** Investigate how these relationships vary across regions of Iraq. Differences in governance quality, security, and cultural norms (for example, between the IDB region and other provinces) could alter how FI, FL, and SC interact. Comparative studies could identify context-specific barriers or strengths in the pursuit of SDGs.

By addressing these issues, future research can clarify the mixed findings on social capital. For instance, distinguishing bridging vs. bonding SC, as recommended by (Abakah et al, 2021, pp 502-512) and improving SC measurement will help determine exactly how social networks and trust shape financial inclusion’s effect on development, especially in fragile contexts like Iraq.

RESOURCES

- Ababio, J. O.-M., Yiadom, E. B., Mawutor, J. K., Tuffour, J. K., & Botchwey, E. A. (2024). sustainable energy for all: the link between financial inclusion, renewable energy and environmental sustainability in developing economies. *International Journal of Energy Sector Management*, 1750-6220.
- Abdullah, H. A. (2020). The role of social capital in empowering individuals for sustainable development in Iraq. *International Journal of Psychosocial Rehabilitation*, 4781-4798.
- Abdullah, H. A. (2024). Measuring the level of Financial literacy of the financial. *Technium Social Sciences Journal*, 60, 57-70.
- Abidi, F. A., & Aldhalemi, A. A. (2024). Achievement of the sustainable development goals (SDGs) in Iraq 2022: A statistical comparative study. *2nd International Conference on Enguneering and Science to Achieve the Sustainable Developmenet Goals* (s. 2-27). Tebriz: AIP Publishing.
- Ahmed, A., & Ariannejad, A. (2025). An Empirical Study of Digital Literacy among Iraqi Kurdish EFL Teachers. *Applied Research on English Language*, 14, 83-106.
- Al Rahahleh, N. (2024). From Literacy to Inclusion: The Essential Role of Financial Self-Efficacy. *Review of Development Finance*, 14, 2-16. doi:https://hdl.handle.net/10520/ejc-rdfin_v14_n2_a5
- Ali, A., & Khalaf, A. (2017). Financial Inclusion and Economic Development in Iraq. *International Journal of Science and Research (IJSR)*, 6, 10.
- Al-Muqdadi, S. W., Khalaifawi, A., Abdulrahman, B., Kittana, F. A., Alwadi, K. Z., Abdulkhaleq, M. H., . . . Al Dahmani, R. (2021). Exploring the challenges and opportunities in the Water, Energy, Food nexus for Arid Region. *Journal of Sustainable Development of Energy, Water and Environment Systems*, 4, 1-29.
- Al-Okaily, M., Alqudah, H., Al-Qudah, A., Al-Qadi, N. S., Elrehail, H., & Al-Okaily, A. (2023). Does financial awareness increase the acceptance rate for financial inclusion? An empirical examination in the era of digital transformation. *Kybernetes*, 52, 4876-4896. doi:<https://doi.org/10.1108/K-08-2021-0710>
- Alsaegh, N. (2017). Measuring financial awareness: a study of a sample of Iraqi and Arab. *Tikrit Journal of Administrative and Economic Sciences*, 38, 375-387.
- Alsharafat, E. A., & Al-Sorour, M. (2025). The Role of Financial Literacy in Developing Innovative Thinking Among Basic Stage Students From the Perspective of National and

- Civic Education Teachers in Al-Mafraq. *Technological Horizons (Technological Innovation and Sustainability for Business Competitive Advantage)*, Emerald Publishing Limited, Leeds, 1-15.
- Alshebami, A. S., & Al Marri, S. H. (2022). The Impact of Financial Literacy on Entrepreneurial Intention: The Mediating Role of Saving Behavior. *Sec. Personality and Social Psychology*, 13, 2-3.
- Altaie, K. (2025). Evaluating the Impact of Sustainable Development Goals (SDGs) on Economic Development: Econometric Analysis with a Focus on Iraq. *IOP Conference Series: Earth and Environmental Science*, 2-19.
- Amidžić, G., Massara, A., & André, M. (2014). *Assessing Countries' Financial Inclusion Standing - A New Composite Index*. Washington, DC, USA: International Monetary Fund .
- Amonarriz, C. A., Iturrioz, C., Narvaiza, L., & Parrilli, M. D. (2024). The role of social capital in regional innovation systems: Creative social capital and its institutionalization process. *2019*, 98, 35-52.
- Ansar, S., Klapper, L., & Singer, D. (2023). The importance of financial education for the effective use of formal financial services. *Journal of Financial Literacy and Wellbeing*, 28-46. doi:10.1017/flw.2023.5
- 20.
- Abakah, A. A., Kim, G., & Somé, H. Y. (2024). Social networks and start-up funding. *Finance Research Letters*, 64, 105480.
- Adu, B. O.-S., & Peprah, W. K. (2025). Correlate of Savings Attitude and Generational Poverty as Mediated by Financial Literacy: Evidence from Ghana. *International Journal of Economics and Financial Issues*, 15, 67-75. doi:https://doi.org/10.32479/ijefi.17291
- Al-Azzawi, A. (2020, 11 10). *Promoting financial inclusion in Iraq: Financial Inclusion for economic prospects and integration*. GIZ: <https://www.giz.de/en/projects/financial-inclusion-economic-prospects-and-integration#:~:text=In%20Iraq%2C%20there%20is%20a,the%20Global%20Findex%20Database%2C%202021 adresinden alındı>
- Aldrich, D. P., & Meyer, M. (2015). Social Capital and Community Resilience. *American Behavioral Scientist*, 59, 254-269.

- Ali, T. R., & Al-Sayegh, N. A. (2022). Financial Literacy Levels Test Analytical Study of a Sample of Graduate Students, College of Administration and Economics / University of Mosul. *Journal of Tanmiyat Al-rafiadin* , 89-114.
- Al-Katawi, B. (2014). Social Capital in Modern, Conflicted Iraq : Its Characteristics, Dynamics and Effects at the Micro Level of Iraqi Society. *University of Technology Sydney (Australia) ProQuest Dissertations & Theses*, 29-76.
- Al-shami , S. A., Damayanti, R., Adil , H., Farhi , F., & mamun, A. A. (2024). Financial and digital financial literacy through social media use towards financial inclusion among batik small enterprises in Indonesia. *National Librery of Medicene* , 10, 34902. doi:10.1016/j.heliyon.2024.e34902
- AlSuwaidi, R. A., & Mertzanis, C. (2024). Financial literacy and FinTech market growth around the world. *International Review of Financial Analysis*, 95, 103481. doi:https://doi.org/10.1016/j.irfa.2024.103481
- AMF. (2025). *Iraq Launches National Financial Inclusion Strategy 2025–2029*. Abu Dhabi: Arab Monetary Fund.
- ANND. (2021). *Human and Social Development and the Sustainable Development Goals: Challenges and Opportunities*. Baghdad: Arab NGO Network for Development (ANND).
- Antoni, G. D., & Grimalda, G. (2024). Is social capital bridging or bonding? Evidence from a field experiment with association members. *Theory Decision*, 167–190.
- Atkinson, A., & Messy, F.-A. (2012). *Measuring Financial Literacy: Results of the OECD/International Network on Financial Education (INFE)*. Paris, France: Pilot Study; OECD.
- Atmaca, A. C., Yeh, C.-T., & Pehlivan, M. (2019). Development of a Measurement Tool for Sustainable Development Awareness. *International Journal of Assessment Tools in Education*, 80 - 91.
- Atmaca, M., Akman, N., Şahin, E. and Atmaca, C. (2019) 'Sustainable development in emerging economies: A review of the literature', *Journal of Economic Studies*, 46(5), pp. 988-1005.
- AAIB. (2025). Policies and Procedures. *Asia AllIraq Islamic Bank for Investment and Finance*, 2-

- Barrett, C. (2024, December 13). *Let's put financial literacy on the breakfast menu*. Financial Times: https://www.ft.com/content/c960d291-81aa-4975-bec5-dc20fc9dced3?utm_source=chatgpt.com adresinden alındı
- Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to Financial Services: Measurement, Impact, and Policies. *The World Bank Research Observer*, 24, 119–145.
- Barrett, S.E. (2024) Digital Financial Literacy and Its Impact on Economic Well-being. Routledge.
- Bianchi, M. (2017). Financial Literacy and Portfolio Dynamics. *The Journal of Finance*, 73, 831–859.
- Bongomin, G. O., Ntayi, J. M., Munene, J. C., & Nabeta, I. N. (2016). Social capital: mediator of financial literacy and financial inclusion in rural Uganda. *Review of International Business and Strategy*, 26, 291–312.
- Barrett, S.E. (2024) Digital Financial Literacy and Its Impact on Economic Well-being. Routledge.
- Bongomin, G.O.C., Ntayi, J.M., Munene, J.C. and Malinga, M.S. (2018) 'Financial inclusion and performance of small and medium enterprises in Uganda: The mediating role of financial literacy', *Journal of Banking & Finance*, 86, pp. 177-192.
- Brundtland, G. H. (1987). Brundtland Report. *World Commission on Environment and Development*, 3-6.
- Baqir, G. (2024). Role of Financial Literacy in Household Investment Decisions in Iraq. *American Journal of Finance*, 10, 52-62.
- Becha, H., Kalai, M., Houidi, S., & Helali, K. (2025). Digital financial inclusion, environmental sustainability and regional economic growth in China: insights from a panel threshold model. *Journal of Economic Structures*, 14, 2-40.
- Benaïm, A., Collins, A. C., & Raftis, L. (2008). *The Social Dimension of Sustainable Development: Guidance and Application*. Karlskrona, Sweden: School of Engineering, Blekinge Institute of Technology.
- Bouzidi, S., & Mohammed, B. (2019). Financial Literacy, Financial Behavior And Economic System. *Management & Economics Research Journal*, 1, 62-76.
- Browning, M. H., & Rigolon, A. (2019). School Green Space and Its Impact on Academic Performance: A Systematic Literature Review. *Environmental and Social Influences on Cognitive Development and Function*, 16, 429.

- Calcagno, R., & Monticone, C. (2015). Financial literacy and the demand for financial advice. *Journal of Banking & Finance*, 50, 363-380.
- CBI. (2025). *National Financial*. Baghdad: The Republic of Iraq; Central Bank of Iraq.
- CGAP. (2025, Jun 8). *Financial Inclusion*. CGAP: <https://www.cgap.org/about/financial-inclusion> adresinden alındı
- Chhatoi, B. P., Sahoo, S. P., & Nayak, D. P. (2023). Role of financial literacy in achieving financial inclusion: A review, synthesis and research agenda. *Global Business and Economics Review*, 9, 447-468.
- Choudhary, P., Ghosh, C., & Thenmozhi, M. (2025). Impact of fintech and financial inclusion on sustainable development goals: Evidence from cross country analysis. *Finance Research Letters*, 72, 106573.
- Coventry, K. R., & Garrod, S. C. (2004). *Saying, Seeing and Acting: The Psychological Semantics of Spatial Prepositions*. London, UK: Psychology Press.
- Chowdhury, M. H., Islam, M. T., Imran, A., & Quaddus, M. (2023). The role of social capital, resilience, and network complexity in attaining supply chain sustainability. *Business Strategy and the Environment*, 33, 2621-2639.
- Cámara, N. and Tuesta, D. (2014) Measuring financial inclusion: A multiform approach. BBVA Research Working Paper No. 14/26. Available at: SSRN: <https://ssrn.com/abstract=2506648> (Accessed: 23 July 2025).
- Chow, W.S. and Chen, Y.S. (2012) 'The effect of green product attributes on consumer purchase intentions', *Journal of Business Ethics*, 108(2), pp. 171-182.
- Dowdall, M. (2025, April 25). *5 fintechs advancing mobile money in Iraq in 2024*. Seamless Extra: <https://seamlessextra.com/5-fintechs-advancing-mobile-money-in-iraq-in-2024/> adresinden alındı
- Danladi, S., Modibbo, U. M., & Prasad, M. (2023). Achieving Sustainable Development Goals through Financial Inclusion: Collaborative Approaches to Fin-tech Adoption in Developing Countries. *Sustainability*, 1-16.
- Daulay, U. D., Lubis, R., & Gautama, B. (2023). The Influence of Fintech Usage and Financial Literacy on The Performance of MSME with Digital Marketing as The Moderating Variable. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 7, 184-194. doi:<https://doi.org/10.29040/ijebar.v7i1.8256>

- Delechat, C. C., Melina, G., Newiak, M., Papageorgiou, C., Wang, K., & Spatafora, N. (2024). Economic Diversification in Developing Countries: Lessons from Country Experiences with Broad-Based and Industrial Policies. *International Monetary Fund (IMF)*, 54.
- Eunice, I. U. (2009). Traditional Music Education and National Development, The IGBO Child Experience. *Alvan Journal of Music and Humanities*, 1, 1-10.
- Emmons, W. (2005) Financial literacy and household saving: Evidence from the 2004 Survey of Consumer Finances. The Center for Household Financial Stability. Available at: <https://www.stlouisfed.org/publications/regional-economist/october-2005/financial-literacy-and-household-saving-evidence-from-the-2004-survey-of-consumer-finances> (Accessed: 23 July 2025).
- Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 8, 1861–1883.
- FICO. (2025, February 12). *New FICO Survey: 88% of Customers Consider Customer Experience of Equal Importance to Product Offerings When Choosing Their Bank*. NYSE: FICO: https://investors.fico.com/news-releases/news-release-details/new-fico-survey-88-customers-consider-customer-experience-equal?utm_source=chatgpt.com adresinden alındı
- FirstCapital. (2025, July 2). *Financial Education in Iraq: The Iraqi Central Bank's Awareness Programs*. Faster Capital: https://fastercapital.com/content/Financial-Education-in-Iraq-The-Iraqi-Central-Bank-s-Awareness-Programs.html?utm_source=chatgpt.com adresinden alındı
- Farrukh, B., Younis, I., & Longsheng, C. (2023). The impact of natural resource management, innovation, and tourism development on environmental sustainability in low-income countries. *Current Opinion in Environmental Sustainability*, 86, 136-143.
- Fazil, S., & Tartir, A. (2023, March 13). *Iraq in 2023: Challenges and prospects for peace and human security*. Stockholm International Peace Research Institute: https://www.sipri.org/commentary/topical-backgrounder/2023/iraq-2023-challenges-and-prospects-peace-and-human-security?utm_source=chatgpt.com adresinden alındı
- Feng, J., Sun, Q., & Sohail, S. (2022). Financial inclusion and its influence on renewable energy consumption-environmental performance: the role of ICTs in China. *Environmental Science and Pollution Research*, 29, 52724–52731.

- Fernando, J. (2025, Jun 7). *Financial Literacy: What It Is, and Why It Is So Important To Tech Teens*. Investopedia: <https://www.investopedia.com/terms/f/financial-literacy.asp#:~:text=Developing%20financial%20literacy%20involves%20learning,credit%20and%20investment%20products%20wisely>. adresinden alındı
- Hamad Ameen, M. H., & Afşar, A. (2023). The FinTech Industry in Iraq: Challenges and Opportunities. A. A. Mustafa Hasan Hamad Ameen içinde, *Finansal Piyasaların Evrimi-II* (s. 1-18). Ankara: Özgür Yayın Dağıtım Ltd. Şti.
- Harelimana, J. B. (2017). Impact of Mobile Banking on Financial Performance of Unguka Microfinance Bank Ltd, Rwanda. *Global Journal of Management and Business Research*, 54, 45–55.
- Hasan, M. M., Popp, J., & Oláh, J. (2020). Current landscape and influence of big data on finance. *Journal of Big Data*, 7, 1-17.
- Holzmann, R. (2010). *Bringing Financial Literacy and Education to Low and Middle Income Countries: The Need to Review, Adjust, and Extend Current Wisdom*. Bonn, Germany: IZA.
- Hongyan, S., Desmond, Y. C., Jiahang, Z., & Xu, Z. (2020). Is knowledge powerful? Evidence from financial education and earnings quality. *Research in International Business and Finance*, 52, 101179.
- Huang, S., Cheng, M., & Shu, Z. (2025). Role of social capital and financial inclusion in sustainable economic growth. *Research in International Business and Finance*, 72, 102525. doi:<https://doi.org/10.1016/j.ribaf.2024.102525>
- Ibrahim, R. L., Alomair, A., & Al Naim, A. S. (2024). How Financial Development Is Driving the Growth and Environmental Dimensions of Sustainable Development in Africa: Heterogeneous Analyses. *Sustainability*, 16, 5-6.
- Idris, I. (2018). *Inclusive and sustained growth in Iraq*. Brighton, UK: Institute of Development Studies.
- James, N. (2024). Urbanization and Its Impact on Environmental Sustainability. *Journal of Applied Geographical Studies*, 54-66.
- Jassim, A. M. (2025). Sustainable Development Indicators in Iraq and its Role in Achieving. *East African Scholars Journal of Economics, Business and Management*, 8, 2617-7269.
- Jassim, A. M. (2025). Sustainable Development Indicators in Iraq and its Role in Achieving Financial Inclusion: A Study on Economic and Social Indicators. *East African Scholars Journal of Economics, Business and Management*, 181-192.

- Jedi, F. F. (2022). The Relationship between Financial Inclusion and Women's Empowerment: Evidence. *Journal of Business and Management Studies* , 104-120.
- Jungo, J., Madaleno, M., & Botelho, A. (2024). The Effect of Financial Inclusion on the Sustainable Development Goals: A Systematic Review. *The Role of Financial Inclusion for Reaching Sustainable Development Goals*, 1-17. doi:10.4018/979-8-3693-0522-5.ch001
- Kamara, A. K. (2024). The Impact of Financial Inclusion on Economic Growth and Poverty Reduction: Empirical Evidence from sub-Saharan Africa. *International Journal of Science and Business*, 32, 16-33.
- Kara, A., Zhou, H., & Zhou, Y. (2021). Achieving the United Nations' sustainable development goals through financial inclusion: A systematic literature review of access to finance across the globe. *International Review of Financial Analysis*, 77, 101833.
- Khalaf, H. J. (2024). Investing in Financial Education for Iraqi Youth. *Al-Bayan Center for Planning and Studies*, 3.
- Khalaf, H. J. (2024). Investing in Financial Education for Iraqi Youth: Towards Building a Sustainable Financial Future. *Al-Bayan Center Studies Series*, 3-14.
- Khan, F., Siddiqui, M. A., & Imtiaz, S. (2022). Role of financial literacy in achieving financial inclusion: A review, synthesis and research agenda. *Cogent Business & Management*, 9, 2-37.
- Kisaka, S., & Mwewa, N. M. (2014). Effects of Micro-credit, Micro-savings and Training on the Growth of Small and Medium Enterprises in Machakos County in Kenya. *Review of Quantitative Finance and Accounting*, 5, 43–49.
- Long, T. Q., Morgan , P. J., & Yoshino , N. (2023). Financial literacy, behavioral traits, and ePayment adoption and usage in Japan. *Financial Innovation*, 9, 7-17. doi:<https://doi.org/10.1186/s40854-023-00504-3>
- Lontchi, C. B., Yang , B., & Su, Y. (2022). The Mediating Effect of Financial Literacy and the Moderating Role of Social Capital in the Relationship between Financial Inclusion and Sustainable Development in Cameroon. *Sustainability*, 3.
- Mago, S., & Chitokwindo, S. (2014). The Impact of Mobile Banking on Financial Inclusion In Zimbabwe: A Case for Masvingo Province. *Mediterranean Journal of Social Sciences*, 5, 221-230.
- Makulbayeva, G., & Sharipova, D. (2024). Social capital and performance of public councils in Kazakhstan. *Journal of Eurasian Stduies*, 1–14.

- Marcelin, I., & Sun, W. (2024). Financial Inclusion and Wellbeing. *National Bureau of Economic Research*, 16-22.
- Masoom, M. R. (2024). Social capital and health beliefs: Exploring the effect of bridging and bonding social capital on health locus of control among women in Dhaka. *National Library of Medicine*, 10, 28932.
- Neves, C., Oliveira, T., Santini, F., & Gutman, L. (2024). Adoption and use of digital financial services: A meta analysis of barriers and facilitators. *International Journal of Information Management Data Insights*, 3, 100201. doi:<https://doi.org/10.1016/j.jjime.2023.100201>
- Nosker, R. (2025, March 17). *Financial reform for EU citizen*. Finance Watch: <https://www.finance-watch.org/blog/what-is-financial-inclusion/> adresinden alındı
- Onodugo, C., Onodugo, I., Ogbo, A., Okwo, H., & Ogbaekirigwe, C. O. (2021). Moderating role of social capital on the effect of financial behavior on financial inclusion. *Problems and Perspectives in Management*, 502-512.
- Ozili, P. K. (2024). Sustainable Financial Inclusion: Integrating Sustainability Principles Into Financial Inclusion Strategies. Ozili, Peterson K, *Sustainable Financial Inclusion: Integrating Sustainability Principles Into Financial Inclusion Strategies (August 12, 2024). The Role of Financial Inclusion for Reaching Sustainable Development Goals, IGI Global, Forthcoming , Availabl*, 1-16. doi:<https://ssrn.com/abstract=4703525>
- OECD (2025) *OECD Guidelines on Financial Education*. OECD Publishing.
- Ozili, P. K. (2025). Financial Literacy Theory of Financial Inclusion. *In Microfinance, Financial Innovation, and Sustainable Entrepreneurship in Economics*, 243-254.
- Parry, J., & Aymerich, O. (2018). Navigating Peace and Security: Women and Social Capital in Iraq. *International Migration*, 57, 96-108.
- Pfeiffer , A., Middeke, F., & Tambour, M. (2017). 2030 agenda for sustainable development: Implications for official statistics. *Statistical Journal of the IAOS*, 33, 911-918.
- Pompei, F., & Selezneva, E. (2021). Unemployment and education mismatch in the EU before and after the financial crisis. *Policy Model*, 43, 448–473.
- Rahman, M. O. (2024). Influence of Social Capital on Promoting Sustainable Livelihood? Mediating Effect of Financial Inclusion. *International Research Journal of Management and Social Sciences*, 5, 2710-0316.

- Rashidin, M. S., Javed, S., Chen, L., & Jian, W. (2020). Assessing the Competitiveness of Chinese Multinational Enterprises Development: Evidence From Electronics Sector. *SAGE Open*, 10, 1-20.
- Rehman , K., & Mia, M. A. (2024). Determinants of financial literacy: a systematic review and future research directions. *Futur Bus*, 10, 3-25.
- Ringle, C. M., Wende, S., & Becker, J.-M. (2024). *PLS-SEM Algorithm*. Bönningstedt:: SmartPLS 4.
- Sakamoto, M. (2024). The role of social capital in community development: Insights from behavioral game theory and social network analysis. *Sustainable Development*, 5240-5258.
- Rahman, A. (2024) *Community-Based Financial Initiatives and Social Capital*. Springer.
- Rani, S. and Goyal, P. (2023) 'Financial literacy and sustainable development: Evidence from emerging economies', *International Journal of Social Economics*, 50(10), pp. 1362-1380.
- Rehman, S. and Mia, M.A. (2024) 'Social learning theory and financial capability: A theoretical review', *Journal of Financial Psychology*, 28(4), pp. 456-470.
- Sarma, M. (2012). *Index of Financial Inclusion – A measure of financial - – A measure of financial sector inclusiveness*. Delhi, India: Centre for International Trade and Development, School of International Studies - Jawaharlal Nehru University.
- Schneeberger, K., Dodds, F., Shaw, A., Bottero, M., Cornforth, J., & White, R. (2011). *A Pocket Guide to Sustainable Development*. New York, NY, USA,: Stakeholder Forum.
- Se, J. (2023). The Influence of Financial Literacy on Financial Inclusion in Indonesia with Fintech as a Mediator. *Inovbiz*, 2-18. doi:<https://doi.org/10.35314/inovbiz.v1i1.3264>
- Serrao, M., Sequeira, A., & Varambally, K. M. (2021). Impact of Financial Inclusion on the Socio-Economic Status of Rural and Urban Households of Vulnerable Sections in Karnataka. *Economics*, 1-28.
- Shali, S. (2024, September 30). *Managing Debt in the Kurdistan Region*. MRIS: <https://www.mirs.co/details.aspx?jimare=248> adresinden alındı
- Sivalogathan, V. (2024). Multiple Mediation and Moderation Variables Effect and Review: Statistical Analysis with a Multiple Independent Variables. *Sri Lanka Journal of Management Studies*, 6, 20-43.

- Tantardini, M., & Kroll, A. (2016). The Role of Organizational Social Capital in Performance Management. *Public Performance & Management*, 39, 83-99.
- Thieu Ha, D. T., Le, P., & Nguyen, K. (2025). Financial inclusion and fintech: a state-of-the-art systematic literature review. *Financial Innovation*, 11, 2-42.
- Tomul, E., Taslidere, E., Almış, S., & Açıl, E. (2024). The moderation effect of economic, social and cultural status on mediating role of adaptability and intercultural sensitivity in the relationship between self-efficacy and attitudes towards immigrants in Türkiye. *Curr Psychol*, 43, 19264–19282.
- Tsounis, A. (2024). *Social Capital Theory*. Greece: A review. In S.: <https://open.ncl.ac.uk/> / ISBN: <https://open.ncl.ac.uk/> / ISBN: adresinden alındı
- Yu, Y., & Tang, K. (2023). Does financial inclusion improve energy efficiency? *Technological Forecasting and Social Change*, 186, 122110.
- Zahid, R. A., Rafique, S., Khurshid, M., Khan, W., & Ullah, I. (2023). Do Women's Financial Literacy Accelerate Financial Inclusion? Evidence from Pakistan. *Journal of the Knowledge Economy*, 15, 1-23.
- Zaimovica, A., Meskovic, M. N., Dedovic, L., Berilo, A. A., Zaimovic, T., & Torlakovic, A. (2024). Measuring Digital Financial Literacy. *Procedia Computer Science*, 236, 574–581.
- Zhai, T., & Chang, Y.-C. (2018). Standing of Environmental Public-Interest Litigants in China: Evolution, Obstacles and Solutions. *Journal of Environmental Law*, 30, 369–397.
- Zhao, C., & Zhang, Y. (2024). Moderated serial mediation effects of adaptation problems, academic stress, and interpersonal relationships on the sleep quality of early-year university students. *Front. Public Health*, 12, 1-9.
- Gaudecker, H.-M. V. (2015). How Does Household Portfolio Diversification Vary with Financial Literacy and Financial Advice? *The journal of Finance*, 489-507.
- GFD. (2021). *Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*. Washington, DC: The Global Findex Database 2021.
- Ghorbel, A., & Mahdi, H. A. (2024). Analysis of Financial Inclusion Indicators for the Iraqi Banking Sector for the Period (2009-2022). *World Economics and Finance Bulletin*, 35, 285-300.
- GIZ. (2024). *Financial Inclusion for Economic Restart and Integration in Iraq*. Baghdad: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

- GIZ. (2024). *Promoting financial inclusion in Iraq*. Baghdad: GIZ.
- GOV.KRD. (2025). *KRG and Visa sign strategic partnership to promote financial inclusion*. Erbil: GOV.KRD Kurdistan Region of Iraq.
- Hamad, M. J. (2023). Analysis of the Relationship between Financial Sustainability and Sustainable Development with Special Reference to the Case of the Kurdistan Region of Iraq. *Salahaddin University*, 2-152.
- Hasan, A., Dowla, A. U., & Tarannum, R. (2024). Financial Inclusion and Economic Growth in Developing Nations: A Case Study of Bangladesh. *Muich Personal RePEc Archive*, 3-17.
- Hererra, J. J., Warokka, A., & Aqmar, A. Z. (2023). Financial Literacy and MSME Performance: Mediation and Moderation Analysis. *Journal of Sustainable Economics*, 65-76. doi:10.32734/jse.v1i2.14304
- Huang , S., Cheng, M., & Shu, Z. (2024). Role of social capital and financial inclusion in sustainable economic growth. *Finance*, 102525.
- IBIS. (2025, March 7). *IBIS World*. Access to credit: <https://www.ibisworld.com/united-states/bed/access-to-credit/88200/> adresinden alındı
- IBN. (2024, May 7). *Iraqi Business News-Finance*. Iraqi Business News: <https://www.iraqi-businessnews.com/2024/05/07/financial-literacy-for-a-sustainable-future-in-iraq/> adresinden alındı
- IISD. (2025, Jun 16). *Sustainable Development*. International Institute for Sustainable Development: https://stg.iisd.org/mission-and-goals/sustainable-development?utm_source=chatgpt.com adresinden alındı
- ILO. (2023). *Human security and sustainable development in Iraq and the Arab World: Reality, Challenges, and Ways Forward [EN/AR]*. Baghdad: International Labour Organization (ILO).
- ILO. (2024). *Financial literacy for a Sustainable Future in Iraq*. Baghdad: International Labour Organization.
- IMF. (2019). *Iraq: Selected Issues*. Washington, D.C.: International Monetary Fund (IMF).
- IPBL. (2024, December 2). *Iraqi Private Banks League*. Iraq Banking & Finance News: <https://www.iraqi-businessnews.com/tag/iraqi-private-banks-league/> adresinden alındı
- Issa, H. (2023, August 17). *The path to transforming Iraqi Kurdistan's economic diversity and potential Kurdistan's economic diversity and potential*. Atlantic Council:

https://www.atlanticcouncil.org/blogs/menasource/kurdistan-regional-government-economy/?utm_source=chatgpt.com adresinden alındı

- Jaber, F. H. (2019). An Assessment Study of Financial Inclusion in Iraq: Barriers and Prospects. *International Conference on Accounting, Business, Economics and Politics*, 447-455.
- Jaber, F. H., & Yasir, M. H. (2021). Determinate main Challenges that Facing Financial Inclusion in Iraq - An Evaluation Study. *Academy of Accounting and Financial Studies Journal*, 25, 1-16.
- Jawad, K. K., & Shaker, R. F. (2020). The relationship between financial inclusion and banking stability. *Iraqi Journal for Administrative Sciences*, 16, 80-104.
- Joudar, F., & Ghmari, O. E. (2025). The Impact of Financial Inclusion on Financial Stability: Evidence from MENA and African Countries Analyzed Using Hierarchical Multiple Regression. *Economies*, 13, 2-20.
- Judijanto, L., & Hernat, O. P. (2025). Financial Inclusion and Financial Literacy among the Millennial Generation: A Bibliometric Study. *West Science Social and Humanities Studies*, 232-244.
- Kezar, A., & Yang, H. (2010). The Importance of Financial Literacy. *About Campus*, 14, 15-21.
- Khal, S. K., & Hamad, H. S. (2019). The relationship between social capital and knowledge sharing and their impact on improving the educational service quality: an analytical study of the views of a sample of academic staffs in the government universities in the Kurdistan Region of Iraq. *Journal Of Economics And Administrative Sciences*, 25, 160-181.
- Lee, L. (2024). Enhancing Financial Inclusion and Regulatory Challenges: A Critical Analysis of Digital Banks and Alternative Lenders Through Digital Platforms, Machine Learning, and Large Language Models Integration. *Artificial Intelligence*, 1-17.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: an overview. *Journal of Pension Economics & Finance*, 10, 497-508.
- Lyons, A. C., & Kass-Hanna, J. (2021). Financial Inclusion, Financial Literacy and Economically Vulnerable Populations in the Middle East and North Africa. *Emerging Markets Finance and Trade*, 57, 2699-2738.
- Lee, S. (2024) *Cybersecurity in Digital Finance: Threats and Safeguards*. Palgrave Macmillan.

- Lontchi, B.N., Yang, K. and Su, J. (2022) 'Financial inclusion, financial literacy, social capital, and sustainable development in Cameroon: A PLS-SEM approach', *Journal of African Business*, 23(3), pp. 570-590.
- Mamun, A. Y., & László, V. (2025). Advancing sustainability through financial inclusion and sustainable finance: a systematic literature review. *Digital finance*, 1-18. doi:<https://doi.org/10.1007/s42521-025-00142-7>
- Marza, B., Bratu, R.-D., Serbu, R., Stan, S. E., & Oprean-Stan, C. (2025). Applying AHP and FUZZY AHP Management Methods to Assess the Level of Financial and Digital Inclusion. *General Economics*, 165-182.
- Mamun, A.A. and László, B. (2025) 'Financial literacy and sustainable development: A meta-analysis', *Sustainability Research*, 17(2), pp. 123-145.
- Marza, S.A., Bratu, P., Serbu, E.A., Stan, S.C. and Oprean-Stan, R.A. (2025) 'The role of social capital in promoting sustainable community development', *Journal of Community Development*, 46(1), pp. 78-95.
- Mikhin, V. (2023, January 13). *Iraq: New Times, Old Problems*. New Eastern Outlook: Viktor Mikhin adresinden alındı
- Mushtaq, A., & Shah, M. A. (2025). Empirical Study On Financial Inclusion: A Structural Equation Modeling Approach. *International Journal of Microgravity Science and Application*, 11-16.
- Mamun, A.A. and László, B. (2025) 'Financial literacy and sustainable development: A meta-analysis', *Sustainability Research*, 17(2), pp. 123-145.
- Marza, S.A., Bratu, P., Serbu, E.A., Stan, S.C. and Oprean-Stan, R.A. (2025) 'The role of social capital in promoting sustainable community development', *Journal of Community Development*, 46(1), pp. 78-95.
- Mushtaq, R., Murtaza, G., Yahiaoui, D., Alessio, I., & Talpur, Q.-u.-a. (2024). Impact of financial literacy on financial inclusion and household financial decisions: exploring the role of ICTs. *International Studies of Management & Organization*, 54, 68-84. doi:<https://doi.org/10.1080/00208825.2023.2281207>
- Mustafa, A. (2017). Iraq verses Sustainable Development Goal 16: Peace, Justice and Strong Institutions. *Security and Peace Studies*, 1-7.
- Myeong, S., & Seo, H. (2018). Which Type of Social Capital Matters for Building Trust in Government? Looking for a New Type of Social Capital in the Governance Era. *Sustainability*, 322. doi:<https://doi.org/10.3390/su8040322>

- OECD. (2025, July 3). *Financial consumer protection, education and inclusion*. OECD: https://www.oecd.org/en/topics/policy-issues/financial-consumer-protection-education-and-inclusion.html?utm_source=chatgpt.com adresinden alındı
- Oke, D., & Adamson, T. W. (2023). Demand and supply-side determinants of financial inclusion: A case study of micro, small and medium enterprises in southwest Nigeria. *Review of Socio-Economic Perspectives*, 8, 61-73.
- Olsson, D., Gericke, N., & Rundgren, N. C. (2016). The effect of implementation of education for sustainable development in Swedish compulsory schools – assessing pupils' sustainability consciousness. *Environmental Education Research*, 22, 176–202.
- Ondougo, C., Onodugo, I., Ogbo, A., Okwo, H., & Obgaekirigwe, C. (2021). Moderating role of social capital on the effect of financial behavior on financial inclusion. *Problems and Perspectives in Management*, 502-512.
- Ozili, P. K. (2025). Financial literacy theory of financial. *Munich Personal RePEc Archive*, 1-13.
- Paul, C. J., Weinthal, E. S., Bellemare, M. F., & Jeuland, A. M. (2016). Social capital, trust, and adaptation to climate change: Evidence from rural Ethiopia. *Global Environmental Change*, 36, 124-138.
- Persson, Å., Weitz, N., & Nilsson, M. (2016). Follow-up and Review of the Sustainable Development Goals: Alignment vs. Internalization. *Review of European Comparative & International Environmental Law Published*, 59-68.
- Rani, S., & Goyal, N. (2023). Achieving Sustainable Development Through financial literacy and financial Inclusion. *Routledge*, 1-8.
- Rodgers, W. (2023, February 8). *Why cash is still king in Iraq*. Rest of World: <https://restofworld.org/2023/iraq-digital-payments/> adresinden alındı
- Roth, F. (2022). *Social Capital, Trust, and Economic Growth*. Hamburg, Germany: Intangible Capital.
- Rydgren, J., & Dana, S. (2011). Interethnic relations in Northern Iraq: Brokerage, social capital and the potential for reconciliation. *International Sociology*, 25, 25-49.
- Rahman, A. (2024) Community-Based Financial Initiatives and Social Capital. Springer.
- Rani, S. and Goyal, P. (2023) 'Financial literacy and sustainable development: Evidence from emerging economies', *International Journal of Social Economics*, 50(10), pp. 1362-1380.

- Rao, S. (2017) Financial inclusion in India: An empirical study. Springer.
- Rehman, S. and Mia, M.A. (2024) 'Social learning theory and financial capability: A theoretical review', *Journal of Financial Psychology*, 28(4), pp. 456-470.
- Lontchi, B.N., Yang, K. and Su, J. (2022) 'Financial inclusion, financial literacy, social capital, and sustainable development in Cameroon: A PLS-SEM approach', *Journal of African Business*, 23(3), pp. 570-590.
- Rieger, M.O. (2020) 'Financial literacy and the gender gap in stock market participation', *Journal of Behavioral and Experimental Finance*, 26, 100318.
- Saeed, Y. (2023, Jun 17). *Kurds were once referred to as kingmakers, a pillar of stability, and the most powerful force in the fight against ISIS. Now, the Kurdish Region of Iraq is crippled by ferocious partisanships, tribal politics, and internal splits.* Washington Institute: <https://www.washingtoninstitute.org/pdf/view/18187/en> adresinden alındı
- Said , R., & Acheampong, A. O. (2024). Achieving Carbon-Neutrality in MENA Countries: Does Financial Inclusion Matter? *The Journal of Environment & Development*, 33, 312–336.
- Sakanko, M. A., Yahaya , S. U., & Abdullahi, S. (2023). Financial literacy and Financial inclusion. *Zakariya Journal of Social Sciences (ZJSS)*, 2, 1-10.
- Saleh, D. (2024). Social Capital in Arab Countries: A Theoretical Perspective. *Sosyal Ekonomik Araştırmalar Dergisi*, 15-28.
- SDGs. (2025, Jun 14). *Department of Economic and Social Affairs Sustainable Development.* United Nations: <https://sdgs.un.org/> adresinden alındı
- Sholevar, M., & Bachmann , R. (2025). Patterns of trust in financial services: critical factors and gender differences. *Journal of Financial Services Marketing*, 30, 2-15. doi:<https://doi.org/10.1057/s41264-025-00303-0>
- Suyanto. (2024). Financial Literacy, Social Capital, Demography, Financial Inclusion, and Financial Performance: the Role of the Alignment use of Information Technology . *International Journal of Business and Society*, 852-871.
- Sekaran, U. and Bougie, R. (2016) Research Methods for Business: A Skill-Building Approach. 7th edn. Wiley.

Serrao, M.L., Sequeira, M.R. and Varambally, M.K. (2021) 'Financial inclusion and sustainable development goals: A systematic review', *Journal of Sustainable Finance & Investment*, 11(3), pp. 209-227.

Serrao, M.L., Sequeira, M.R. and Varambally, M.K. (2021) 'Financial inclusion and sustainable development goals: A systematic review', *Journal of Sustainable Finance & Investment*, 11(3), pp. 209-227.

Talip, S. N., & Wasiuzzaman, S. (2024). Influence of human capital and social capital on MSME access to finance: assessing the mediating role of financial literacy. *International Journal of Bank Marketing*, 0265-2323.

UN. (2012). *Report of the United Nations Conference on Sustainable Development*. Rio de Janeiro, Brazil: United Nations.

UN. (2015). Executive Board of the United Nations Development Programme, the United Nations Population Fund and the United Nations Office for Project Services. *United Nations Capital Development Fund*, 3-19.

UN Iraq. (2025, May 2). *Financial literacy for a Sustainable Future in Iraq*. United Nations Iraq: https://iraq.un.org/en/267768-financial-literacy-sustainable-future-iraq?utm_source=chatgpt.com adresinden alındı

UNDP. (2025). *Integrated SDG Insights Iraq (SDG Push Insights Report)*. Baghdad: UNDP.

UNESCO. (2006). *United Nations Decade of Education for Sustainable Development 2005–2014*. Paris, France: UNESCO.

United Nations. (2024). *Financial literacy for a Sustainable Future in Iraq*. Baghdad: United Nations, Iraq.

World Bank. (2022, Jun 1). *The World Bank In Iraq*. World Bank Group: <https://www.worldbank.org/en/country/iraq/overview#:~:text=A%20Multi%E2%80%911Donor%20Trust%20Fund:&text=It%20also%20aspires%20to%20support,Report%20of%20the%20I3RF%202021>. adresinden alındı

Wang, J.-Y., & Chiang, H.-T. (2024). Role of Social Capital in Building Financial Resilience. *Asian Journal of Economics, Business and Accounting*, 24, 116-130.

Wilkinson, A., & Mangalagiu, D. (2012). Learning with futures to realise progress towards sustainability: The WBCSD Vision 2050 Initiative. *Futures*, 44, 372-384.

- Yap, S., Lee, H. S., & Liew, X. P. (2023). The role of financial inclusion in achieving finance-related sustainable development goals (SDGs): a cross-country analysis. *Economic Research-Ekonomska Istraživanja*, 36, 2212028.
- Yuan, C. W., Hanrahan, B. V., & Carroll, J. M. (2024). Is there social capital in service exchange tools?: Investigating timebanking use and social capital development. *Computers in Human Behavior*, 81, 274-281.



APPENDIX

APPENDIX-1... ETHIC COMMITTEE APPROVAL CERTIFICATE

Evrak Kayıt Tarihi: 11.12.2023	Protokol No: 663781	Tarih: 28.12.2023
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ANADOLU ÜNİVERSİTESİ
SOSYAL VE BEŞERİ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU
KARAR BELGESİ

ÇALIŞMANIN TÜRÜ:	Doktora Tez Çalışması
KONU:	Sosyal Bilimler
BAŞLIK:	Irak'ta Finansal Kapsayıcılık ve Sürdürülebilir Kalkınma İlişkisinde Finansal Okuryazarlığın Etkisi ve Sosyal Sermayenin Rolü
PROJE/TEZ YÜRÜTÜCÜSÜ:	Prof. Dr. Aslı AFŞAR
TEZ YAZARI:	Mustafa Hasan Hamad Ameen HAMAD AMEEN
ALT KOMİSYON GÖRÜŞÜ:	-
KARAR:	Olumlu

APPENDIX-2... RELIABILITY STATISTICS (CRONBACH'S ALPHA)

Scale Name	Cronbach's Alpha	Number of Items (N)
Financial Inclusion (FI)	0.824	19
Sustainable Development (SD)	0.868	18
Financial Literacy (FL)	0.668	10
Social Capital (SC)	0.782	12



APPENDIX-3... ROTATED COMPONENT MATRIX FOR FINANCIAL INCLUSION (FI)

Question	Barrier to Access	Bank Access & Regularity	Income & Savings Usage	Loan & Charges Experience	Trust & Distance Barrier
Knowledge: I do not have enough knowledge about financial services.	0.751	0.125	-0.026	0.096	0.076
Family: I do not see it necessary because someone else in my family has an account.	0.714	0.132	0.099	-0.010	0.025
Documents: I do not have a bank account because I do not have the necessary documents.	0.683	-0.043	0.177	0.174	-0.014
Affordability: I do not have a bank account because I perceived it to be too expensive.	0.501	-0.109	0.250	-0.036	0.331
Religion: My religion prohibits me from owning and using a bank account.	0.485	0.010	0.004	-0.002	0.468
I have an active bank account with a reliable financial institution.	0.047	0.827	0.090	0.015	-0.040
I can easily reach the bank branches/ATMs to withdraw my money.	-0.024	0.646	0.124	0.352	0.014

My bank is located at a convenient distance from my business.	0.190	0.639	0.355	0.117	- 0.037
I use my bank account regularly.	0.021	0.478	0.439	0.165	0.150
I usually receive payment from customers through my bank.	0.124	0.119	0.750	0.125	0.137
I usually receive salary through my bank account.	0.123	0.139	0.682	0.181	0.116
I make more savings to qualify for bigger loans.	0.104	0.176	0.647	0.126	- 0.110
There were no hidden charges by the bank that affects the business.	0.143	0.178	0.050	0.694	- 0.023
The procedure for acquiring the loan was simple.	0.064	- 0.017	0.297	0.674	0.057
I frequently borrow money from my financial sources with relative ease.	0.200	0.196	0.360	0.580	- 0.167
Making remittances through a number of ways including the bank, mobile money transfers, and cash.	- 0.066	0.464	- 0.058	0.538	0.196
I can do bank transactions through e.g., agency banking, e-banking, or mobile money transfer.	- 0.064	0.393	0.232	0.416	0.180
Trust: I do not have a bank account because I do not trust the financial system.	0.058	0.138	0.033	0.011	0.819
Distance: I do not have bank account because the branches are too far away.	0.453	- 0.154	0.161	0.131	0.494

APPENDIX-4... ROTATED COMPONENT MATRIX FOR SUSTAINABLE DEVELOPMENT (SD)

Question	Economic Development Goals	Environmental Awareness & Responsibility	Social Services & Learning Access
Our economic development is planned to prevent unemployment.	0.746	0.019	0.086
Our economic policies shaped sustainable production.	0.703	0.133	0.159
Our economic policies are aimed at reducing poverty and differences in income distribution.	0.695	0.069	0.155
Our investments in the agriculture and livestock sectors are supports economic development.	0.620	0.321	0.039
Our economic development is planned to increase innovational capabilities and R&D expenditures.	0.545	0.272	0.194
Our environment creates lifelong learning for all individuals in the society.	0.526	0.016	0.369
Society takes responsibility to keep the well-being of individuals and families above the minimum.	0.504	0.014	0.355

Our policy is to effectively use our land to meet sustainable and environmental goals.	0.498	0.267	0.227
Climate change poses a serious impact on animal species and natural habitats.	0.066	0.796	0.110
Renewable energies should be used instead of the massive usage of current energy sources.	0.008	0.768	0.120
Global warming poses a serious threat to the future of our world if cautions are not taken.	0.094	0.698	0.006
Green areas are dispensed with for urbanization and industrialization.	0.093	0.672	0.047
Individual has responsibilities in the process of recycling waste so that the raw material resources can be used by future generations.	0.238	0.586	0.124
Wastes are separated according to their characteristics and reused, so that raw material sources can be used by future generations.	0.321	0.478	0.247
We have access to education and health services to all individuals in the society.	0.164	0.221	0.744

We do have integrating and enhancing social services (such as nurseries, shelter homes, social assistance foundations, etc.).	0.061	0.363	0.682
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Individuals are provided with environments where they feel safe while living.	0.332	0.022	0.648
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We have access to the free courses and training programs provided by business and financial institutions (such as banks to enhance customer awareness, etc.)	0.423	-0.044	0.558
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APPENDIX-5... ROTATED COMPONENT MATRIX FOR FINANCIAL LITERACY (FL)

Question	Financial Understanding & Prudence	Long-Term Saving Habits	Immediate Gratification
The cost of living rises as inflation rises.	0.788	-0.002	0.032
A high-return investment will also be high-risk.	0.758	-0.030	0.115
Before I buy something I carefully consider whether I can afford it.	0.621	0.128	-0.113
I always put aside some money for emergencies.	0.612	0.324	-0.136
I save some part of the money I receive monthly for future needs.	0.543	0.511	-0.094
I keep a close personal watch on my financial affairs.	0.448	0.386	0.125
I have been able to save money over the last year.	-0.123	0.791	0.170
I regularly save money in order to achieve long-term financial goals, such as educating my children, purchasing a home, and retiring.	0.348	0.596	-0.216

I find it more rewarding to spend money than to save for the future.	0.050	0.000	0.784
I tend to live today and let tomorrow happen.	-0.053	0.025	0.763



APPENDIX-6... ROTATED COMPONENT MATRIX FOR SOCIAL CAPITAL (SC)

Question	Bonding & Bridging Norms	Collective Financial Behavior	External Sharing & Trust
A superior level of bonding between business owners and managers will raise the level of honesty in information transmission.	0.627	-0.330	-0.025
High bonding rates among business owners and managers will foster a culture of respect, honor, and appreciation with others.	0.611	-0.329	0.132
Business owners and managers are constantly sincere with each other.	0.607	0.150	-0.114
We always share our strategy with people outside our business community.	0.559	0.195	-0.463
Business owners and managers are always open to sharing information with other members of the business community.	0.540	0.383	0.263
In this business community, individuals typically trust one another when it comes to lending and borrowing money.	0.519	-0.048	0.291
Businesses with a high bridging ratio will share unique financial operating techniques and use one another's strengths to enhance financial success.	0.519	-0.352	-0.309
High level of trust minimizes the likelihood of financial contract default.	0.493	-0.218	0.488

Trust promotes participation in financial activities.	0.484	- 0.461	0.188
Business owners and managers permit access to financial services such as credit and are constantly eager to share knowledge with other people in the business community.	0.542	0.600	0.061
Business owners and managers uphold a collective culture regarding credit and spending; thus, they are more likely to save more money and pay back their debts than stand-alone companies.	0.500	0.542	0.082
A high level of bridging reveals business concepts like items that are affordable, reaching additional customers, getting feedback from outside sources, and predicting market developments.	0.516	- 0.111	- 0.531

APPENDIX-7... PROCESS MODEL 4 (MEDIATION) SUMMARY OF
REGRESSION COEFFICIENTS

	Coefficient	SE	t	p	95% CI
Path a (FI → FL)	0.2200	0.0429	5.1297	0.000	[0.1357, 0.3043]
Path b (FL → SDs)	0.3426	0.0415	8.2600	0.000	[0.2612 , 0.4241]
Path c' (direct; FI → SDs)	0.4392	0.0414	10.6207	0.000	[0.3580 , 0.5205]
Indirect (FI → FL → SDs)	0.0754	0.0198	—	—	[0.0395, 0.1167] (Bootstrapped 5000 samples)
Total (FI → SDs)	0.5146	0.0446	11.5372	0.000	[0.4269 , 0.6023]
Model Summary	R ² = 0.3105	F(2, 513) = 115.50	p < 0.000	—	—

APPENDIX-8... PROCESS MODEL 1 (MODERATION) SUMMARY OF
REGRESSION COEFFICIENTS

	Coefficient	SE	t	p	95% CI
Constant	1.47	0.41	3.60	0.000	[0.67, 2.27]
Financial Inclusion (FI)	- 0.02	0.16	- 0.11	0.91	[- 0.32, 0.29]
Social Capital (SC)	0.27	0.13	2.12	0.03	[0.02, 0.52]
Interaction (FI × SC)	0.09	0.05	1.96	0.05	[-0.0001, 0.18]
Model Summary	R ² = 0.40	F(3, 512) = 114.79	p < 0.000	—	—

APPENDIX-9... CONDITIONAL EFFECTS

	Coefficient	SE	t	p	95% CI
low SC (2.42)	0.20	0.06	3.44	0.0006	[0.088, 0.31]
medium SC (3.08)	0.26	0.04	5.98	0.000	[0.17, 0.34]
high SC (3.67)	0.31	0.05	6.80	0.000	[0.22, 0.40]



APPENDIX-10... PROCESS MODEL 14 - MODERATED MEDIATION ANALYSIS
(N = 516)

1. OUTCOME MODEL FOR MEDIATOR (M_FL)

	Coefficient	SE	t	p	LLCI	ULCI
Constant	2.68	0.12	21.92	.000	2.44	2.92
Financial Inclusion (X_FI)	0.22	0.04	5.13	.000	0.14	0.30
$R^2 = 0.05$; $F(1, 514) = 26.31$; $p < 0.000$						

2. OUTCOME MODEL FOR SUSTAINABLE DEVELOPMENT (Y_SD)

	Coefficient	SE	t	p	LLCI	ULCI
Constant	0.19	0.47	0.39	.70	- 0.75	1.12
Financial Inclusion (X_FI)	0.27	0.04	6.57	.000	0.19	0.36
Financial Literacy (M_FL)	0.23	0.14	1.62	.11	- 0.05	0.51
Social Capital (O_SC)	0.49	0.16	3.02	.003	0.17	0.82
Interaction (M_FL $\times$ O_SC)	- 0.02	0.05	- 0.42	.68	- 0.11	0.07
$R^2 = 0.42$; $F(4, 511) = 91.64$; $p < 0.000$						

3. CONDITIONAL INDIRECT EFFECTS OF X ON Y THROUGH MEDIATOR
(M_FL)

O_SC (moderator)	Effect	BootSE	BootLLCI	BootULCI
2.42 (-1 SD)	0.0406	0.0157	0.0133	0.0752
3.08 (mean)	0.0378	0.0140	0.0141	0.0692
3.67 (+1 SD)	0.0352	0.0155	0.0087	0.0695
Index of Moderated Mediation: - 0.0043 (BootSE = 0.0109; 95% CI [- 0.03, 0.02])				

APPENDIX-11. PEARSON'S PRODUCT-MOMENT CORRELATIONS AMONG
STUDY VARIABLES (N = 516)

	Financial Inclusion (FI)	Sustainable Development (SDs)	Financial Literacy (FL)	Social Capital (SC)
Financial Inclusion (FI)	Pearson's r	1	.47	.22
	p-value	—	.000	.000
Sustainable Development (SDs)	Pearson's r	.47	1	.40
	p-value	.000	—	.000
Financial Literacy (FL)	Pearson's r	.22	.40	1
	p-value	.000	.000	—
Social Capital (SC)	Pearson's r	.46	.59	.46
	p-value	.000	.000	.000

APPENDIX- 12... AN EXAMPLE OF THE UTILIZED SURVEY

Tick as appropriate as possible						
1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree						
<i>Financial inclusion</i>						
Access (ACC) Items		1	2	3	4	5
1	I have an active bank account with a reliable financial institution.	☐	☐	☐	☐	☐
2	My bank is located at a convenient distance from my business.	☐	☐	☐	☐	☐
3	I can easily reach the bank branches/ATMs to withdraw my money.	☐	☐	☐	☐	☐
4	I frequently borrow money from my financial sources with relative ease.	☐	☐	☐	☐	☐
5	There were no hidden charges by the bank that affects the business.	☐	☐	☐	☐	☐
6	Making remittances through a number of ways including the bank, mobile money transfers, and cash.	☐	☐	☐	☐	☐
Usage (USG) Items		1	2	3	4	5
1	The procedure for acquiring the loan was simple.	☐	☐	☐	☐	☐
2	I can do bank transactions through e.g., agency banking, e-banking, or mobile money transfer.	☐	☐	☐	☐	☐
3	I use my bank account regularly.	☐	☐	☐	☐	☐
4	I make more savings to qualify for bigger loans.	☐	☐	☐	☐	☐
5	I usually receive payment from customers through my bank.	☐	☐	☐	☐	☐
6	I usually receive salary through my bank account.	☐	☐	☐	☐	☐
Barrier (BRR) Items		1	2	3	4	5
1	Trust: I do not have a bank account because I do not trust the financial system.	☐	☐	☐	☐	☐
2	Affordability: I do not have a bank account because I perceived it to be too expensive.	☐	☐	☐	☐	☐
3	Distance: I do not have bank account because the branches are too far away.	☐	☐	☐	☐	☐
4	Documents: I do not have a bank account because I do not have the necessary documents.	☐	☐	☐	☐	☐

5	Religion: My religion prohibits me from owning and using a bank account.	☐	☐	☐	☐	☐
6	Knowledge: I do not have enough knowledge about financial services.	☐	☐	☐	☐	☐
7	Family: I do not see it necessary because someone else in my family has an account.	☐	☐	☐	☐	☐

<i>Sustainable development</i>						
Social (SCL) Items		1	2	3	4	5
1	We do have integrating and enhancing social services (such as nurseries, shelter homes, social assistance foundations, etc.).	☐	☐	☐	☐	☐
2	We have access to education and health services to all individuals in the society.	☐	☐	☐	☐	☐
3	Individuals are provided with environments where they feel safe while living.	☐	☐	☐	☐	☐
4	We have access to the free courses and training programs provided by business and financial institutions (such as banks to enhance customer awareness, etc.)	☐	☐	☐	☐	☐
5	Our environment creates lifelong learning for all individuals in the society.	☐	☐	☐	☐	☐
6	Society takes responsibility to keep the well-being of individuals and families above the minimum.	☐	☐	☐	☐	☐
Economic (ECO) Items		1	2	3	4	5
1	Our economic policies are aimed at reducing poverty and differences in income distribution.	☐	☐	☐	☐	☐
2	Our economic policies shaped sustainable production.	☐	☐	☐	☐	☐
3	Our economic development is planned to prevent unemployment.	☐	☐	☐	☐	☐
4	Our investments in agriculture and livestock sectors are supported for economic development.	☐	☐	☐	☐	☐
5	Our economic development is planned to increase innovational capabilities and R&D expenditures.	☐	☐	☐	☐	☐
6	Our policies is to effectively use our land to meet the sustainable and environmental goals.	☐	☐	☐	☐	☐
Environmental (ENV) Items		1	2	3	4	5
1	Green areas are dispensed with for urbanization and industrialization.	☐	☐	☐	☐	☐
2	Individual has responsibilities in the process of recycling waste so that the raw material resources can be used by future generations.	☐	☐	☐	☐	☐
3	Wastes are separated according to their characteristics and reused, so that raw material sources can be used by future generations.	☐	☐	☐	☐	☐
4	Climate change poses a serious impact on animal species and natural habitats.	☐	☐	☐	☐	☐

5	Renewable energies should be used instead of the massive usage of current energy sources.	☐	☐	☐	☐	☐
6	Global warming poses a serious threat to the future of our world if cautions are not taken.	☐	☐	☐	☐	☐

<i>Financial literacy</i>						
Financial literacy (FL) Items		1	2	3	4	5
1	A high-return investment will also be high-risk.	☐	☐	☐	☐	☐
2	The cost of living rises as inflation rises.	☐	☐	☐	☐	☐
3	I save some part of the money I receive monthly for future needs.	☐	☐	☐	☐	☐
4	I always put a side some money for emergency.	☐	☐	☐	☐	☐
5	I regularly save money in order to achieve long-term financial goals, such as educating my children, purchasing a home, retiring.	☐	☐	☐	☐	☐
6	I keep a close personal watch on my financial affairs.	☐	☐	☐	☐	☐
7	Before I buy something I carefully consider whether I can afford it.	☐	☐	☐	☐	☐
8	I find it more rewarding to spend money than to save for the future.	☐	☐	☐	☐	☐
9	I tend to live today and let tomorrow happen.	☐	☐	☐	☐	☐
10	I have been able to save money over the last year.	☐	☐	☐	☐	☐

<i>Social Capital</i>						
Collective action (CA) Items		1	2	3	4	5
1	Business owners and managers are always open to share information with other members of the business community.	☐	☐	☐	☐	☐
2	Business owners and managers permit access to financial services such as credit and are constantly eager to share knowledge with other people in the business community.	☐	☐	☐	☐	☐
3	Business owners and managers uphold a collective culture regarding credit and spending; thus, they are more likely to save more money and pay back their debts than stand-alone companies.	☐	☐	☐	☐	☐
Bridging (BRG) Items		1	2	3	4	5
1	We always share our strategy with people outside our business community.	☐	☐	☐	☐	☐
2	A high level of bridging reveals business concepts like items that are affordable, reaching additional customers, getting feedback from outside sources, and predicting market developments.	☐	☐	☐	☐	☐
3	Businesses with a high bridging ratio will share unique financial operating techniques and use one another's strengths to enhance financial success.	☐	☐	☐	☐	☐

Bonding (BND) Items		1	2	3	4	5
1	Business owners and managers are constantly sincere with each other.	☐	☐	☐	☐	☐
2	A superior level of bonding between business owners and managers will raise the level of honesty in the information transmission.	☐	☐	☐	☐	☐
3	High bonding rates among business owners and managers will foster a culture of respect, honor, and appreciation with others.	☐	☐	☐	☐	☐
Trust (TRS) Items		1	2	3	4	5
1	In this business community, individuals typically trust one another when it comes to lending and borrowing money.	☐	☐	☐	☐	☐
2	High level of trust minimizes the likelihood of financial contract default.	☐	☐	☐	☐	☐
3	Trust promotes participation in financial activities.	☐	☐	☐	☐	☐

CURRICULUM VITAE (CV)

Name and Surname: Mustafa Hasan Hamad Ameen HAMAD AMEEN

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- Bachelor Degree In Finance and Banking, Colleague of Administration and Economics, Salahaddin University-Erbil (2016-2017).
- Masters Degree in Finance, Anadolu University, Turkiye (2019-2021).
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Publications:

- Hamad Ameen, Kamışlı , Kocadayı (2020), The Asymetric Relationship Between Hedge Funds and Financial Indicators: Evidence From Turkey, *Journal of Entrepreneurship and Development*. Volume: 15, Number: 2, p. 34-44.
https://www.researchgate.net/publication/350089862_The_Asymetric_Relationship_Between_Hedge_Funds_and_Financial_Indicators_Evidence_From_Turkey_Hedge_Fonlari_ile_Finansal_Gostergeler_Arasindaki_Asimetrik_Iliskiler_Turkiye_Ornegi
- Hamad Ameen, M , Temizel, F , Kamışlı, M . (2020). The Impact Of Inflation On Stock Market Indices . *İnsan ve Toplum Bilimleri Araştırmaları Dergisi* , 9 (3) , 3004-3018 . Retrieved from <http://www.itobiad.com/tr/pub/issue/56503/735746>. Available from: https://www.researchgate.net/publication/356469818_The_Impact_of_Inflation_on_Stock_Market_Indices_Evidence_from_BIST_100_Index_Melik_KAMISLI .
- Hamad Ameen M.H. & Kamışlı M. & Temizel F., The Impact Of Exchange Rate On Stock Market Indices, *BMIJ*, (2020), 8(2): 2044-2062: https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.15295%2FBmij.v8i2.1485?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6ImxvZ2luIiwic

- [GFnZSI6InB1YmxpY2F0aW9uIiwicHJldmlvdXNqYWdlIjoicHJvZmlsZSIsInBvc2l0aW9uIjoicGFnZUNvbnRlbnQifX0.](#)
- Hamad Ameen, M. & Afşar, A. (2023). Investigating the Effects of Climate Policy Uncertainty on the Volatility of the U.S. Real Estate Markets . Journal of the Human and Social Science Researches , 12 (3) , 1255-1270 .<https://doi.org/10.15869/itobiad.1258345>. Available from: https://www.researchgate.net/publication/374164423_Investigating_the_Effects_of_Climate_Policy_Uncertainty_on_the_Volatility_of_the_US_Real_Estate_Markets#fullTextFileContent.
- Hamad Ameen, M. & Afşar, A. (2023). The FinTech Industry in Iraq: Challenges and Opportunities. Evolution of Financial Markets 2, Available from: DOI: [10.58830/ozgur.pub105.c645](https://doi.org/10.58830/ozgur.pub105.c645).
- Hamad Ameen, M.H, Afşar, A. (2022) “Investigating the effects of climate policy uncertainty on the US petroleum markets”, International Journal of Energy Studies 2022; 7(1): 1-20. Available from: https://www.researchgate.net/publication/364030105_Investigating_the_effects_of_climate_policy_uncertainty_on_the_US_petroleum_markets_INTERNATIO
[NAL_JOURNAL_OF_ENERGY_STUDIES#fullTextFileContent](https://www.researchgate.net/publication/364030105_Investigating_the_effects_of_climate_policy_uncertainty_on_the_US_petroleum_markets_INTERNATIO).
- Hamad Ameen, M & Afşar, A (2023) ‘‘Cryptocurrency and Decentralized Finance: Is this the Future of Money’’ In book: Current Debates on Social Sciences 13, Edition: 1th, Chapter: 10 Publisher: <https://www.bilginyayinevi.com/> .