

STRATEGIC INFORMALITY IN GLOBAL VALUE CHAINS: Evidence from Nigeria's Agro-Food Smallholders

PhD in Management - International Business and Strategy

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DECLARATION:

I hereby declare that this thesis is my own original work. Any information or ideas derived from other sources have been fully acknowledged and referenced.

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ABSTRACT

*The persistence of widespread informality among agro-food smallholders in developing countries like Nigeria presents a significant barrier to economic upgrading and effective integration into Global Value Chains (GVCs). This study investigates the complex linkages between strategic informality, institutional quality, GVC participation, and value capture in Nigeria's agricultural sector, using Kaduna State as an in-depth case study. Employing an **explanatory sequential mixed-methods (QUAN → qual)** design, the research integrates quantitative survey data from 206 smallholders with rich qualitative insights from focus group discussions and key informant interviews. A central contribution of this thesis is the development and empirical validation of a multi-dimensional **“Formality-Informality Continuum.”** This framework challenges binary classifications by demonstrating that smallholders strategically position themselves along this spectrum based on a rational, albeit bounded, assessment of institutional incentives, regulatory costs, and the efficacy of the **Informal Support Ecosystem (ISE)**. The analysis empirically identifies four distinct actor profiles—Highly Informal, Moderately Informal, Moderately Formal, and Highly Formal—and introduces two key conceptual dynamics. The **“Informality Trap”** is a self-reinforcing cycle where high perceived costs of formalization and deep reliance on the ISE deter formal engagement, limiting upgrading potential. Conversely, the **“Experience Effect”** describes how positive, repeated engagement with reliable formal institutions fosters trust and incentivizes sustained participation. Key findings reveal that **Formal Exchange Arrangements (FEA)**, such as contractual farming, are significantly stronger drivers of formal market participation than regulatory compliance alone. The ISE is shown to play a crucial dual role: acting as a vital “lifeline” by providing accessible informal credit and risk mitigation, yet also functioning as an “anchor” that can constrain transitions to higher-value markets. Furthermore, while GVC participation offers upgrading potential, the study demonstrates that its translation into tangible value capture for smallholders is significantly **mediated by their access to formal credit**. This study challenges conventional top-down formalization policies, advocating instead for an incentive-based approach. It calls for differentiated strategies tailored to actors' positions on the continuum, prioritizing the strengthening of market-based enablers, developing hybrid financial models, and strategically leveraging the strengths of the ISE. Such an approach is crucial for creating viable pathways towards sustainable economic upgrading for Nigeria's agro-food smallholders within domestic and global value chains.*

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
GVCs	Global Value Chains
TiVA	Trade in Value-Added
DC	Developing Country
GDP	Gross Domestic Product
ILO	International Labour Organization
MNE	Multinational Enterprise
FDI	Foreign Direct Investment

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GLOSSARY

Term	Definition
Access to Formal Credit (AFC)	A dimension measuring the extent to which economic actors (e.g., agro-food smallholders) utilize formal financial institutions like banks, microfinance, government programs, or cooperative lending schemes for obtaining credit. Contrasted with reliance on informal credit mechanisms.
Baturiya	Directly translated as "white woman" to depict the Caucasian manager of the Multinational enterprise (MNE) in Igabi LG, this is a local, informal, trust-based credit system.
Economic Upgrading	The acquisition of higher value-added activities within a value chain, including the development of new skills, knowledge, technologies, and improved productivity.
Esusu / Adashi	Traditional informal rotating savings and credit associations (ROSCAs) common in Nigeria, providing community-based financial support.
Experience Effect	The phenomenon where actors who successfully integrate into structured markets develop a sustained appreciation for formalization due to repeated exposure to its benefits (e.g., price stability, financial inclusion), making them less likely to revert to informality.
Extensive Margin of Informality	Refers to the decision of firms whether or not to register formally and pay entry fees. Declines as firms grow.
Formal Exchange Arrangements (FEA)	Structured economic transactions governed by legally binding contracts or agreements that provide security, predictability, and accountability. Includes contractual agreements, participation in cooperatives, and direct enterprise linkages. Emerged as the strongest predictor of formal market access and information access in the study.
Formal Market Access (FMA)	Reflects the extent to which economic actors engage with structured, organized, and regulated markets, such as export platforms, certified retail chains, government procurement, or direct sales to formal companies. Considered a market outcome resulting from structural enablers.

Formal Regulatory Compliance (FRC)	The degree to which businesses adhere to formal legal and financial requirements, such as business registration, licensing, and tax payment. In the study, cooperative registration emerged as the most significant indicator for this dimension.
Formality-Informality Continuum	A conceptual framework proposing that economic activities exist along a spectrum of engagement with formal and informal practices, rather than a strict formal/informal binary. Actors strategically position themselves based on costs, benefits, and constraints. The study empirically identified four clusters along this continuum: Highly Informal, Moderately Informal, Moderately Formal, and Highly Formal.
Forward GVC Participation	Integration into structured market systems through the sale of products (raw or processed) to domestic or international buyers, such as processing firms, wholesalers, or export markets.
Global Value Chains (GVCs)	Networks of production, distribution, and consumption spanning multiple countries, where value is added at different stages. Participation involves backward linkages (using imported inputs) and forward linkages (supplying inputs/products to others).
Highly Formal agro-food smallholders	Actors fully integrated into formal economic systems, complying with regulations, using formal finance, participating in structured markets and contracts, and benefiting from institutional support. Constituted 8.7% of the study sample.
Highly Informal agro-food smallholders	Actors demonstrating minimal engagement with formal business practices, lacking participation in structured markets, contracts, or formal credit, and relying almost entirely on informal exchanges, networks, and self-financing. Constituted 45.6% of the study sample.
Hybrid Contract Models	Contractual arrangements that blend formal agreements with flexible terms (e.g., seasonal supply, output-based pricing, multi-tiered compliance) to facilitate the integration of informal actors into value chains while mitigating risks and compliance burdens.
Informal Economy	Economic activities by workers and economic units that are not covered or inadequately protected by formal regulatory frameworks, excluding illicit activities. Encompasses a wide

	spectrum from unregistered micro-enterprises to informal employment within formal firms. Often referred to as the "shadow" or "grey" economy.
Informal Support Ecosystem	A network comprising informal social structures, community-based credit systems (like <i>esusu</i> or <i>baturiya</i>), trust-based relationships, peer-to-peer information sharing, and mentorship programs that sustain informal economic actors, mitigate risks, and compensate for weak formal institutions. Plays a dual role: provides resilience but can also reinforce informality.
Informality	Economic activities operating outside official registration, regulation, and legal recognition. Characterized by lack of formal contracts, social protections, and limited access to formal credit or markets. Can be viewed as both a strategic choice (exit view) and a result of exclusion (exclusion view).
Informality Trap	A self-reinforcing cycle where institutional inefficiencies (high compliance costs, bureaucracy, weak enforcement, corruption) and reliance on informal support ecosystems deter actors from formalizing, keeping them in low-value arrangements with limited upgrading potential, even if they recognize the benefits of formality.
Information Access (IA)	An economic actor's exposure to and use of formal information channels, such as government reports, extension services, digital platforms, and structured training programs, to enhance decision-making and competitiveness.
Institutional Quality	The effectiveness, reliability, and accessibility of formal institutions, including regulatory frameworks, legal systems (e.g., contract enforcement, property rights), government support systems, and governance structures (e.g., control of corruption). Weak institutional quality is a key driver of informality.
Intensive Margin of Informality	Refers to the extent to which formally registered firms engage in informal employment practices (e.g., hiring workers without formal contracts) to evade labour regulations and costs. Persists even in larger firms.
Legalist School of Thought	A theoretical perspective attributing informality primarily to excessive state regulations, high costs of formalization (taxes, fees, bureaucracy), and weak governance, making informality a rational choice for entrepreneurs.

Marshrutka	A system of informal, privately operated minibuses common in post-Soviet countries, studied as an example of socially embedded informal transport.
Moderately Formal agro-food smallholders	Actors engaged in both formal and informal systems, exhibiting some regulatory compliance (e.g., cooperative membership) and structured market linkages, but still relying partly on informal practices to mitigate constraints. Constituted 24.3% of the study sample.
Moderately Informal agro-food smallholders	Actors with limited engagement in formal systems, perhaps complying with some requirements (e.g., tax payment) but still heavily reliant on informal networks for credit, market access, and essential services. Constituted 21.4% of the study sample.
Outgrower Agro-food smallholders	Agro-food smallholders engaged in contractual agreements with larger agribusiness firms, typically receiving inputs, technical assistance, and guaranteed market access in return for supplying specified agricultural produce. Often represent a form of partial integration into formal value chains.
Pragmatism (Research Philosophy)	A research philosophy focused on practical consequences and "what works" to address a research problem, allowing for methodological pluralism (combining qualitative and quantitative methods) and acknowledging multiple realities. Adopted in this thesis.
Rational Choice Theory (RCT)	A theoretical lens suggesting that individuals make decisions by weighing the perceived costs and benefits of available options to maximize their utility or well-being, based on their circumstances and available information (which may be imperfect). Applied to explain why informal actors choose to remain informal.
Social Capital	Resources accessed through durable social networks, including trust, norms of reciprocity, community ties, and shared information, which play a crucial role in the informal support ecosystem.
Social Upgrading	Improvements in the quality of employment and life for workers within value chains, encompassing aspects like wage levels, working conditions, contractual terms, social protections, and empowerment.

Structuralist Theory	A theoretical perspective arguing that informality is an integral part of modern capitalism, resulting from formal firms exploiting informal labor through subcontracting and outsourcing to reduce costs and increase flexibility, particularly under globalization.
Trade in Value-Added (TiVA)	An approach to measuring international trade by tracking the value added by each country in the production of goods and services, providing a clearer picture of GVC participation than traditional gross trade statistics.
Upgrading (in GVCs)	The process by which firms or producers move to higher value-added activities within a value chain. Can include process upgrading (efficiency improvements), product upgrading (quality improvements), functional upgrading (moving to higher-value functions like design or marketing), and inter-sectoral upgrading (diversifying).
Value Capture (in GVCs)	The ability of actors (firms, workers, countries) participating in a GVC to retain a share of the economic value (financial and non-financial gains) generated within that chain. Influenced by bargaining power, institutional quality, market position, and upgrading capabilities

Chapter 1: Introduction and Study Background

1.1 Contextual Analysis

1.1.1 Global Economic Landscape and the Rise of GVCs

The global economic landscape has been redefined by the emergence of global value chains (GVCs), which have become pivotal in shaping international trade dynamics. Conceptually, GVCs are understood as networks of production, distribution, and consumption that span multiple countries, wherein value is added at different stages of the production process, involving both backward linkages (the use of imported inputs) and forward linkages (supplying inputs or products to other entities in the chain) (Gereffi, Humphrey, & Sturgeon, 2005; Taglioni & Winkler, 2016). This transformation, spurred by technological breakthroughs, diminishing trade barriers, and heightened economic interdependence, positions GVCs at the forefront of global commerce (Baldwin, & Yan, 2014; Silajdzic, & Mehic 2018; Ignatenko, Raei, & Mircheva, 2019; Pananond, Gereffi, & Pedersen, 2020; Boffa, Jansen, & Solleder, 2021; Buciuni, Canello, & Gereffi, 2022; Park, Lundquist, & Stolzenburg, 2023). By fragmenting production across borders, GVCs allow nations to exploit their unique strengths, potentially enhancing efficiency, productivity, and access to global markets and knowledge, fostering industrial and competitive growth (Tajoli & Felice, 2018; Chikhun & Romanov, 2023). Fragmented production across national boundaries enables countries to capitalize on their comparative advantages, enhancing economic efficiency, industrial productivity, and access to global markets and knowledge (Tajoli & Felice, 2018; Chikhun & Romanov, 2023).

Recent studies have examined the linkage between the GVC and the informal sector, particularly in relation to the informal sector strategic importance within the context of GVC (Narula, 2019). The informal sector (broadly defined as economic activities conducted by enterprises that are not registered, regulated, or protected under legal and institutional frameworks), plays a critical role in many economies, despite operating outside formal oversight (La Porta & Shleifer, 2014). According to the International Monetary Fund (IMF, 2020), informal economy activities encompass market-based transactions that generate income and value, and would contribute to gross domestic product (GDP) and public revenue if properly recorded and taxed. These activities are often essential for household livelihoods but fall outside the reach of labour regulations, tax systems, and social protection mechanisms.

Despite lacking formal legitimacy and the ability to trade internationally under their own name, informal enterprises are deeply embedded in GVCs (Beladi, Dutta & Kar, 2016). They frequently serve as upstream suppliers to formal firms, particularly in labor- and resource-intensive sectors (Beladi, Dutta, & Kar, 2016). Their contributions are especially pronounced in agriculture, textiles, and light manufacturing, where agro-food smallholders informal producers provide raw materials, intermediate goods, and low-cost labor inputs for downstream processing and export by formal enterprises, including multinational corporations (Narula, 2019). In doing so, informal suppliers help reduce production costs, enhance sourcing flexibility, and contribute to the overall efficiency of GVCs – a demonstration of their strategic importance, albeit often without capturing commensurate value or protections

Participation in GVCs can catalyze economic and social upgrading, particularly in economies with substantial informal sectors (Barrientos et al., 2011). Economic upgrading refers to the acquisition of higher value-added activities, including new skills, knowledge, and technologies, while social upgrading encompasses wage levels, contractual terms, improvements in working conditions, and social protections for workers (Barrientos et al., 2011; Soliman, Papanastassiou, and Saka-Helmhout, 2023). These upgrading processes can be driven by factors like technology transfer, skill development, productivity improvements, expanded market access, value chain development, job creation, local entrepreneurship, and SME development (Bernhardt & Pollak, 2015; Yoo, 2022; Shengwen & Goerzen, 2022).

While GVCs hold the potential to stimulate industrialization and economic development, the realisation of these gains in developing countries is often contingent on factors like as technological absorption capacity, availability of skilled labour, and supportive institutions, which are often lacking in many developing economies (Narula, 2019; Montalbano & Nenci, 2020). This has raised concerns about unequal distribution of gains, power dynamics, and limited upgrading opportunities for participating firms and countries (Silajdzic and Mehic, 2018; Park *et al.* 2023).

Statistical evidence further illustrates these disparities. For instance, in developed countries, where advanced technological capabilities and robust institutions prevail, value-added gains from GVCs are disproportionately higher (Narula, 2019; Montalbano & Nenci, 2020; De Blasis, 2020). For instance, the U.S. saw its trade in value-added- a concept used to measure the value that is added to a product or service at each stage of the production process- increase from USD 10.02 trillion in 2000 to USD 20.56 trillion in 2020, while the UK experienced growth from

USD 1.55 trillion to USD 2.53 trillion during the same period (OECD, 2024). This highlights the advantage that developed economies possess in leveraging GVCs for economic growth.

1.1.2 Developing Economies and Nigeria's GVC Integration

The term "developing economy" in this study refers to countries with lower per capita income, low living standards, high inequality, low Human Development Index (HDI), weak industrial base, and poor governance/macroeconomic outcomes as typically classified by the World Bank and IMF (Todaro & Smith, 2020; United Nations, 2021). These economies often face difficulties in leveraging GVCs due to constraints such as poor infrastructure, limited access to capital, and institutional deficiencies. Nigeria, a representative case within this group, has seen its trade in value-added increase from USD 68.04 billion in 2000 to USD 425.70 billion in 2020. Yet, this growth has been predominantly within low-value activities, particularly agriculture, which employs the majority of the population (Kordalska & Olczyk, 2023).

Despite modest improvements in GVC integration, Nigeria continues to face structural constraints that limit its ability to capture higher value-added activities. These include inadequate institutional frameworks, skill deficits, and the overwhelming dominance of informal employment, which restrict the transformative potential of GVC participation. Nonetheless, this context of widespread informality also fosters significant economic resilience and adaptability, with actors developing unique strategies to navigate these structural limitations. Table 1.1 illustrates the disparities between GVC participation in developed and developing regions.

Region	2000 Trade in Value-Added (USD Trillion)	2020 Trade in Value-Added (USD Trillion)
United States	10.02	20.56
United Kingdom	1.55	2.53
Nigeria	0.068	0.425
Egypt	0.45	0.78
South Africa	0.52	0.91

Table 1.1: Trade in Value Added in some Selected Developed and Developing countries

Source: OECD (2024)

As shown in Table 1.1, developed nations like the United States and the United Kingdom have witnessed substantial increase in their trade in value-added in 2000 and 2020 (OECD, 2024). Bolstered by advanced technological capabilities and robust institutions, this growth has often manifested in increased productivity, innovation, and access to higher quality inputs (Antràs & Chor, 2021; OECD, 2024). For instance, the U.S. experienced a significant growth in trade in value-added, from USD 10.02 trillion in 2000 to USD 20.56 trillion in 2020.

Similarly, the UK, despite a slower growth rate, significantly increased its value-added from USD 1.55 trillion to USD 2.53 trillion. These figures align with research indicating that firms in developed economies strategically leverage GVCs to specialize in core competencies and procure high-quality resources (Criscuolo & Timmis, 2017). In contrast, developing economies, particularly those in Africa, face a more challenging GVC landscape. Table 1.1 illustrates this, with Nigeria's value-added trade increasing from a modest USD 68.04 billion in 2000 to USD 425.70 billion in 2020.

1.1.3 The Challenges of GVC Participation in Developing Economies

While GVCs hold immense potential to drive industrialization and economic development, realizing these benefits remains highly contingent on factors such as technological absorption capacity, skilled labour availability, and institutional support systems – challenges common across many DCs. On the one hand, many multinational enterprises (MNEs), key actors in GVCs, face significant "process complexity" when operating internationally, stemming from the need to manage across diverse and often distant environments (Georgakakis, Wedell-Wedellsborg, Vallone, & Greve, 2023). Furthermore, navigating the specific characteristics of host country environments, such as varying degrees of "institutional ambiguity", a situation where reliance on informal rules and relationships dominates due to unclear or unreliable formal institutions adds layers of operational complexity and information-processing demands for firms participating in GVCs. (Vallone, Elia, & Greve, 2023). From a behavioural agency perspective, these institutional ambiguities not only challenge MNEs, but also shape the decision-making landscape for local informal actors, who must evaluate participation under conditions of uncertainty, limited trust, and uneven enforcement. The persistence of pervasive informality in these economies further compounds these issues, limiting their integration into GVCs and undermining their potential to capture value-added benefits effectively (Ignatenko et al., 2019; La Porta & Shleifer, 2014).

1.1.4 The Pervasiveness of Informality in Developing Economies

One key factor hindering the integration of developing economies into GVCs is their pervasive informality (La Porta & Shleifer, 2014). Conceptually, informality refers to economic activities by workers and economic units that operate outside of, or are insufficiently covered by, formal regulatory and legal frameworks, excluding illicit activities (ILO, 2002; OECD, 2001). Such activities, often characterized by a lack of formal contracts, social protections, and limited access to formal credit or markets, encompass a wide array of legal goods and services produced outside of governmental oversight (Bruton et al., 2012). The **rates of informality**, which quantify this prevalence, can be measured through the proportion of the workforce in informal employment, the share of GDP from unregulated businesses, or the number of unregistered enterprises. High rates of informality are a defining feature of many developing economies.

This prevalence can be theoretically framed through the lens of "institutional ambiguity," a form of host country environmental complexity where a lack of clear, explicit, or reliably enforced formal rules forces economic actors to rely on informal norms and relationship-based governance (Vallone, Elia, & Greve, 2023). In such environments, informality becomes a rational response or characteristic way of operating. However, this rationality is often bounded: informal actors do not only weigh costs and benefits, but also rely on cognitive shortcuts, trust networks, and past experience to guide decisions under conditions of uncertainty. The lack of legal recognition and regulatory protection limits the bargaining power of informal operators within GVCs, often resulting in underdevelopment (La Porta & Shleifer, 2014). Furthermore, their limited negotiation skills (Grabs & Ponte, 2019; De Blasis, 2020) often translate into lower wages, precarious working conditions. Informal actors tend to have limited opportunities for skill development and upgrading, perpetuating a cycle of informality and underdevelopment and tend to remain small scale and inefficient. Households in the informal sector remain mired in a cycle of chronic poverty, with a string intergenerational effect, with the children of informal actors often engaged in child labour, and consequently, less likely to engage in formal education (International Labour Organization, 2022).

While these limitations are widely documented, it is also important to recognise that informality in many African contexts—including SSA—is not purely a sign of dysfunction, but often reflects adaptive resilience. Informal actors navigate resource constraints and institutional weaknesses with creativity and agility, using trust-based networks, community

savings schemes, and intergenerational knowledge-sharing to sustain livelihoods. These embedded capacities, although often overlooked, form a critical part of the economic and social fabric, especially in rural agricultural settings where formal support is minimal. This supports the view of informal actors as behaviourally constrained yet purposeful agents – operating within structural and institutional limits, but making decisions that maximise their chances of survival and success. Thus, this thesis adopts a balanced view, acknowledging both the constraints posed by informality and the strategic capabilities of informal actors operating within resource-scarce environments.

Despite predictions of its eventual disappearance with economic growth (Lewis, 1954; Todaro & Smith, 2020), the informal sector has persisted and even resurged, not just in developing economies, but globally. The International Labour Organization (ILO) estimates that over 60% of the global workforce operates in the informal sector, with this figure exceeding 83% in Sub-Saharan Africa. This prevalence is starkly evident in developing countries (DCs), where the informal sector contributes approximately 48.2% to GDP, compared to 11.1% in Developed Countries. High rates of self-employment further underscore the sector's dominance, reaching 85.85% in Nigeria and 76.87% in India (ILO, 2020; Elgin et al., 2021; World Bank 2023). Table 2 highlights regional variations in informality rates.

Region	Average Informality Rate (%)
Sub-Saharan Africa	83.10
South Asia	76.89
Arab States	66.90
Central Asia	63.22
Northern America	57.08
East Asia and the Pacific	54.10
Europe	9.06

Table 1.2: Average Informality Rate by Region

Source: International Labour Organization (2023)

As shown in Table 1.2, Sub-Saharan Africa (SSA) records the highest rate at 83.1%, followed by South Asia (76.89%) and the Arab States (66.90%). Similarly, Central Asia (63.22%), Northern America (57.08%), and East Asia and the Pacific (54.10%) exhibit significant informality (see Table 1.2). In contrast, Europe stands out with a much lower rate of 9.06%. Developed countries, such as the United Kingdom (6.5%), generally experience lower levels

of informal employment, while developing nations like India (88.8%) face significantly higher prevalence.

1.1.5 Informality in SSA

In SSA, informal employment is particularly dominant in agriculture, driven by the inability of formal sectors to absorb the growing labour force, perpetuating socio-economic vulnerabilities. Table 1.3 presents top and bottom 10 countries by informal employment in SSA. As shown in the table, Nigeria's informal employment rate stands at 93.9%, ranking it among the highest in Africa. While this highlights the structural challenge of widespread informality, it also reflects the enduring role of informal livelihoods as critical safety nets in contexts where formal employment remains limited. Countries like Chad (96.92%), the Democratic Republic of the Congo (96.8%), and Benin (96.3%) further exemplify the structural challenges posed by widespread informality, including weak regulatory frameworks, limited job creation, and persistent poverty. Conversely, countries such as Seychelles (16.97%), Mauritius (32.49%), and South Africa (34%) demonstrate significantly lower levels of informality, aided by stronger institutional structures and higher economic diversification.

Top Countries	Informal Employment (%)	Lowest Countries	Informal Employment (%)
Chad	96.92	Seychelles	16.97
Congo, Democratic Republic	96.8	Mauritius	32.49
Benin	96.3	South Africa	34.01
Mozambique	95.7	Tunisia	36.91
Madagascar	95.2	Djibouti	50.52
Uganda	95.2	Namibia	55.76
Burkina Faso	95.2	Cabo Verde	63.82
Guinea-Bissau	94.5	Egypt	67.00
Mauritania	94.5	Niger	73.57
Sudan	94.4	Botswana	76.14

Table 1.3: Top and Bottom 10 Countries by Informal Employment Rate in SSA

Source: International Labour Organization (2023)

The integration of agriculture into GVCs presents unique opportunities for developing economies, especially in Sub-Saharan Africa (SSA), where agriculture remains a primary source of employment and economic activity. GVC integration offers potential benefits such as increased productivity, better **market access** (defined in this context as the ability of agro-food smallholders to effectively participate in and benefit from various local, regional, national,

and international market channels), and higher income for agro-food smallholders. **"Formal market access"** specifically denotes engagement with structured, organized, and regulated markets, such as selling to formal companies, participating in export platforms, or supplying to certified retail chains. However, these benefits remain elusive for many due to structural challenges, including inadequate infrastructure, limited access to finance, and weak institutions (Narula, 2019; Montalbano & Nenci, 2020; De Blasis, 2020). Barriers to market access can include logistical challenges, lack of market information, inability to meet quality and quantity standards, and exclusion from formal contractual arrangements. These challenges are further compounded by the pervasive nature of informality in the agricultural sector, which hinders the ability of agro-food smallholders to engage in higher-value-added activities and capture a greater share of the benefits from GVC participation. This suggests that efforts to integrate agriculture into GVCs must not only address formalisation barriers but also recognise and build upon the adaptive strengths already embedded in informal agricultural systems.

The data in Table 1.4 highlights the significant disparity in informal employment between agriculture and non-agriculture sectors across regions, a trend common across developing countries (DCs). In Sub-Saharan Africa (SSA), informal employment remains prevalent, with Nigeria exemplifying extreme informality (99.65% in agriculture and 89.41% in non-agriculture). While South Africa demonstrates comparatively lower levels of informality, even within agriculture, this is reflective of its relatively advanced economy. Similarly, countries like Egypt, in North Africa, face persistently high levels of informality across both sectors. In Asia, informal employment is equally pervasive, particularly in agriculture, with countries like India (98.88%) and Indonesia (95.78%) exhibiting high rates, though Malaysia has shown progress in reducing informality in non-agriculture. The Americas also display patterns of widespread informality; for example, Bolivia maintains high rates, while Brazil has made strides in lowering informality in non-agriculture. Europe, in contrast, demonstrates minimal levels of informal employment due to robust formal labour markets, as seen in Belgium and Bulgaria, underscoring the structural and institutional differences between developing and developed economies

Region	Country	Informal Employment in Agriculture (%)	Informal Employment in Non-Agriculture (%)
SSA	Nigeria	99.65	89.41
	South Africa	30.86	34.19
	Egypt	97.85	65.64
Asia	India	98.88	80.97
	Indonesia	95.78	84.72
	Malaysia	98.01	61.36
Americas	Bolivia	90.35	55.55
	Brazil	73.85	33.76
	Argentina	54.16	50.42
Europe	Belgium	0	1
	Austria	63.61	25.21
	Bulgaria	4.77	1.04

Table 1.4: Regional Variation in Informal Employment (Agriculture vs. Non-Agriculture)

Source: International Labour Organization (2023)

1.1.6 The Strategic Nature of Informality and Support Ecosystems

The persistence of informality across developing countries underscores the need to understand its strategic nature. Informal actors often make strategic decisions to remain informal due to a number of reasons, including economic considerations such as tax aversion, limited access to credit, and distrust in formal institutions (La Porta & Shleifer, 2014). This cost-benefit consideration leads them to strategically combine formal and informal practices. For instance, some businesses may partially comply with tax regulations while remaining unregistered, or they may access formal credit through informal intermediaries. This strategic balancing act allows informal actors to leverage the benefits of both systems while mitigating the risks associated with full formalization.

The failure of formal institutions to provide effective support and services has led informal actors to rely on informal support ecosystems. These ecosystems, comprising social networks and community-based credit systems, play a crucial role in mitigating risks and providing a safety net for informal actors (Silvonon, 2019; Gómez-Cruz et al., 2024). They offer alternative mechanisms for accessing credit, resolving disputes, and sharing information, compensating for the shortcomings of formal institutions (Silvonon, 2019; Gómez-Cruz et al., 2024). This reliance on informal support systems further reinforces the strategic nature of informality, as actors navigate a complex landscape where formal and informal structures coexist and interact. Understanding these dynamics is crucial for designing effective policies that address the root causes of informality and promote inclusive economic development.

The strategic nature of informality discussed here reflects broader theoretical foundations. This thesis draws primarily on **Rational Choice Theory**, which frames informal actors as rational agents who make calculated decisions based on institutional incentives, regulatory burdens, and perceived costs and benefits of formalisation. However, recognising that these decisions are also shaped by perceptions of institutional trust, social norms, and bounded rationality, the study also integrates insights from the **Behavioural Agency Perspective**. Together, these theories provide a dual lens for understanding informality not merely as a default or residual state, but as a **deliberate and adaptive response** to complex socio-economic environments. This framing underpins the empirical investigation and supports the interpretation of informal actors as capable, resourceful participants in both formal and informal domains.

1.1.7 Informality in the Digital Era

The resurgence of informality is fuelled by the gig economy, the rise of digital platforms, and the globalisation of production and supply chains (Chen, 2012; Jan, 2024). These factors create new opportunities for informal economic activity, particularly in personal services, transportation, and online retail. The gig economy, with its short-term contracts and freelance work, blurs the lines between formal and informal employment, contributing to the informal sector's growth (Soundararajan, 2016). Digital platforms, like online marketplaces and ride-hailing apps, facilitate this expansion by enabling individuals and businesses to connect and transact outside traditional regulatory frameworks (Ennen & Heilker, 2020). Additionally, globalised production and supply chains have led to outsourcing and subcontracting to informal businesses, often in developing countries, further fuelling the sector's growth (Meagher, 2013). This trend is likely to continue as technology and globalisation further blur the lines between formal and informal economic activities. This blurring of boundaries between formality and informality underscores the need to understand informal actors as behaviourally adaptive agents—leveraging technology to navigate exclusion, mitigate risk, and access new opportunities outside traditional institutional structures.

1.1.8 Foreign Direct Investment (FDI) Trends in SSA

Foreign direct investment (FDI) plays a crucial role in supporting Global Value Chain (GVC) integration, particularly in developing regions. In recent years, SSA has experienced fluctuating FDI inflows, with variations in growth rates relative to GDP. Table 1.5 presents

FDI net inflows as a percentage of GDP for selected SSA countries. Egypt's FDI inflows grew from 170.8% of GDP in 1990 to 248.5% in 2023, reflecting its attractiveness for investment in key sectors. Nigeria, however, saw a more moderate trajectory, rising from 108.8% in 1990 to 164.2% in 2010 before declining to 51.5% in 2023, indicating a slowdown in investment inflows relative to GDP. South Africa, after reaching a peak of 93.3% in 2020, saw a marginal decline to 90.4% in 2023. These trends suggest that while FDI remains a significant component of external capital flows, its contribution to economic expansion varies across countries.

Country Name	1990 (%)	2000 (%)	2010 (%)	2020 (%)	2023 (%)
Egypt, Arab Rep.	170.8	123.7	291.6	152.5	248.5
Nigeria	108.8	164.8	164.2	55.2	51.5
South Africa	-6.0	63.8	88.5	93.3	90.4

Table 1.5: Foreign Direct Investment, Net Inflows (% of GDP) in SSA

Source: World Bank Development Indicator (2023)

Despite the steady growth in FDI, developing economies across regions face persistent disparities in capturing the value-added benefits of GVC trade. While agriculture, forestry, and fishing have maintained a stable share of GVC-related trade (ranging from 12.78% in 2000 to 12.60% in 2020, as shown in Table 1.6), this sector continues to be dominated by low-value-added activities, which limits economic transformation in developing countries (DCs).

Sect Group	2000	2010	2020
Agriculture, forestry and fishing	12.78%	11.75%	12.60%
Construction	0.10%	0.13%	0.12%
Electricity, Gas and Water	0.26%	0.29%	0.23%
Manufacturing	46.40%	44.02%	42.81%
Mining and Quarrying	4.70%	7.20%	5.21%
Services	35.74%	36.62%	39.03%

Table 1.6: Global GVC-Related Trade by Sector

Source: OECD (2024)

This trend reflects a structural imbalance between developing and developed economies, particularly in agriculture. Developing countries primarily participate as suppliers of raw materials, while higher-value-added activities such as processing, marketing, and innovation

are concentrated in developed economies (Dannenberg, 2011; Narula, 2019; Montalbano & Nenci, 2020; De Blasis, 2020). This pattern, common in DCs across Africa, Asia, and Latin America, reinforces global inequality in value capture. This pattern, common in DCs across Africa, Asia, and Latin America, reinforces global inequality in value capture—particularly for informal agricultural actors, who face cognitive, institutional, and informational constraints in positioning themselves higher along the value chain.

1.1.9 The case of Nigeria

Nigeria's experience exemplifies the complexities developing countries face in harnessing GVCs for social and economic upgrading. Despite efforts to attract Foreign Direct Investment (FDI), Nigeria's GVC participation remains primarily confined to low-value-added activities. This is evident in its minimal backward (0.002% of GDP) and forward (0.003% of GDP) GVC participation in 2020. Furthermore, Nigeria's value-added trade reached only USD 425.70 billion (OECD, 2024). This indicates limited integration into high-value sectors (OECD, 2024).

The informal sector, which contributed approximately 54.9% to Nigeria's 2020 GDP (Elgin et al., 2021)¹, poses a significant challenge. This pervasive informality limits the potential benefits of GVC participation, as informal firms often lack the resources and capacity to engage in higher-value-added activities. The agricultural sector, which represented 23.2% of the 2023 GDP, is particularly affected, hindering productivity, market access, and potential for upgrading within GVCs. Between 2010 and 2022, Nigeria's capital importation declined by 44.3% (from USD 9,573 million to USD 5,329 million), and domestic firms struggled to move up the value chain. This is compounded by high poverty levels, with 63% of the population experiencing multidimensional poverty in 2022 (World Bank, 2023), constraining the capacity for both human capital development and the expansion of high-value sectors.

The data in Table 1.7 further underscores these trends. Backward GVC participation increased from 0.59% of GDP in 1995 to 7.59% in 2020, but this remains modest by global standards. Forward GVC participation peaked at 23.70% in 2010 before declining to 12.52% in 2020. Throughout this period, the informal sector's contribution to GDP remained high, fluctuating between 52.5% and 54.9%, while the agricultural sector's contribution remained around 24%.

¹ Informal sector estimates vary depending on the methodology and data sources used. The International Labour Organization (ILO) primarily relies on labor force surveys and employment-based metrics, while the estimates developed by Elgin et al. (2021) for the World Bank employ a model-based approach incorporating macroeconomic indicators. As a result, figures derived from these sources differ, reflecting variations in measurement frameworks and underlying assumptions.

Additionally, GDP per capita has shown only modest growth, increasing from USD 1,271.62 in 1995 to USD 2,019.66 in 2020. These indicators highlight the persistent challenges Nigeria faces in advancing GVC participation, upgrading its capacity, and addressing structural constraints within the economy.

Year	Backward GVC Participation (% of GDP)	Forward GVC Participation (% of GDP)	Value-Added Trade (Gross trade balance in USD Million)	Informal Sector Contribution to GDP (%)	Agriculture Contribution to GDP (%)	GDP per capita (current US\$)
1995	0.59	2.78	4653.8	52.5	25.74	1271.62
2000	0.91	5.57	16252.8	52.7	21.58	547.32
2005	1.87	8.64	16489.7	53.1	26.36	1211.38
2010	5.05	23.70	30930.6	53.9	23.89	2202.26
2015	6.81	17.18	1199.4	54.7	20.86	2585.73
2020	7.59	12.52	-30512.7	54.9	24.45	2019.66
2023	-	-	-	-	23.2	1596.64

Table 1.7: Key Indicators for Nigeria

Sources: OECD/World (2023), Elgin, Kose, Ohnsorge, and Yu (2021), NBS Annual Abstract (2019), NBS Statistical Bulletin (2022).

Despite these constraints, Nigeria's informal sector continues to grow, highlighting the need for a deeper understanding of the factors driving individuals and businesses to remain informal. These factors include economic considerations such as tax aversion and limited access to credit, institutional and regulatory barriers like mistrust in government and complex procedures, and broader social and cultural norms, alongside demographic and cognitive biases.

These dynamics underscore the strategic nature of informality in Nigeria, where actors consciously navigate between formal and informal systems based on perceived risks, incentives, and access. As such, this thesis situates Nigeria's informal sector within the broader informality–formality continuum—a concept that captures the fluid and overlapping nature of enterprise behaviours rather than treating informality as a binary status. While the continuum is not novel, this study contributes to its empirical refinement by identifying strategic informal behaviours and clustering patterns among agro-food smallholders. This analysis is guided by an integrated theoretical framework built on a behavioural agency perspective. This lens acknowledges that smallholders are strategic agents whose rational choices (the domain of Rational Choice Theory) are shaped by the specific context of institutional rules (Institutional Theory) and regulatory costs (Legalist School of Thought), while also being influenced by cognitive and social factors like trust and established norms.

1.1.10 The case of the North West region and Justification for Kaduna State

Kaduna State – the focus of our empirical analysis, and a core part of the North West geopolitical zone – mirrors many of the national challenges and characteristics pertinent to the study of informality within agricultural GVCs. The selection of Kaduna State as the research site, rather than other major Nigerian urban or economic centres like Lagos (the commercial hub) or Abuja (the federal capital), is deliberate and grounded in several factors that make it particularly suitable for investigating the dynamics of informality in the agro-food sector.

Firstly, Kaduna State possesses a significant agricultural base, with agriculture contributing 36.7% to the state's GDP and employing a substantial portion of its population (over 1.3 million farming households). This agrarian dominance, characterized by smallholder farming and the cultivation of staple crops like tomatoes, rice, and maize, is representative of many regions in Nigeria and other Sub-Saharan African countries where agriculture is a primary livelihood but remains largely informal. The prevalence of informality in Kaduna's agricultural sector (with over 63% of farmland inherited and precarious land ownership) provides a rich context to study how informal actors navigate GVCs.

Secondly, Kaduna hosts notable multinational agribusinesses (MNEs) such as Olam Nigeria and Tomato Jos, which operate integrated value chains involving outgrower schemes with agro-food smallholders. This direct interface between formal MNEs and informal smallholders offers a unique opportunity to examine the pressures, opportunities, and strategic responses related to GVC participation and formalization efforts. Such direct engagement is less characteristic of highly urbanized centers like Lagos, where the agro-food GVC linkages might be more dominated by large-scale processing and logistics further down the chain, or Abuja, which is primarily an administrative and service-oriented economy. While Lagos has a vast market and significant food processing activities, the primary production and the initial interface with informality in agriculture are more pronounced in states like Kaduna, which serve as key agricultural production hubs.

Thirdly, Kaduna State exhibits the socio-economic and institutional characteristics common to many developing regions struggling with informality. These include high poverty rates (47% of adults below the poverty line), significant youth population, and governance challenges reflected in low World Governance Indicator scores for rule of law and control of corruption. While precise data on Kaduna's informal sector size is unavailable, its relatively low internally

generated revenue (IGR) compared to its economic potential suggests a substantial informal economy. This environment, where formal institutions may be perceived as weak or inaccessible, fosters the development of informal support ecosystems, a key aspect of this study. Lagos, by contrast, while having a large informal sector, operates within a more complex and perhaps more diversely developed institutional and commercial environment due to its status as a megacity and economic powerhouse. The dynamics of informality in Lagos's agro-food sector would likely be influenced by different urban pressures, land scarcity, and more intricate market structures compared to the predominantly agrarian and rural informality studied in Kaduna.

To further contextualize the choice of Kaduna State, Table 1.8 presents key comparative statistics for Kaduna, Lagos, the Federal Capital Territory (FCT) Abuja, and Kano State.

Indicator	Kaduna State	Lagos State	FCT (Abuja)	Kano State	National Context
Population (2022 est. Million)	9.03	13.49	3.07	15.46	~216.8
Land Area (km²)	46,053	3,345	7,315	20,131	923,768
Arable Land (million Ha)	~2.9 million Ha (~63% of total)	~50,884 Ha cultivated (of 169,613 Ha designated agric. land)	~274,000 Ha (earmarked for agric.)	~1.75 million Ha (~87% of total)	~34 million Ha (arable)
Agric. Contribution to State GDP (%)	36.7% (2017)	0.55% (Q2 2024)	~10% (2017)	Significant (dominant sector)	~22-25%
Employment in Agriculture	>80% of pop. engaged in agric.	Lowest % of agric. households in crop cultivation (48%)	Significant rural engagement	~75% of pop. engaged in agric.	>80% of pop. engaged in agric.
Poverty Rate (% below national/specified line)	47% adults / 37.3% (\$2.15/day, 2018)	4.5%/ 3.8% (\$2.15/day, 2018)	25% / 11.7% (\$2.15/day, 2018)	68.8%/ 40.9% (\$2.15/day, 2018)	30.9% (\$2.15/day, 2018/19)
Internally Generated Revenue (IGR) (2023, Bn)	₦62.49	₦815.86	₦211.10	₦59.64	₦243.1
Presence of Agro-Allied MNEs / Outgrower Schemes	Yes (e.g., Olam, Tomato Jos)	Yes (e.g., Saro Group, Dangote)	Some presence, mainly services/HQs	Yes (e.g., Seed companies, KSADP projects)	Varies by state

Table 1.8: Comparative Statistics of Selected Nigerian States

Sources: National Bureau of Statistics (NBS), Kaduna State Bureau of Statistics (KDBS), World Bank (2024), State Agricultural Policies/Reports, and other cited academic/news sources.

The data in Table 1.8 reinforces the rationale for selecting Kaduna. While Lagos stands out for its commercial prowess and high IGR, its agricultural contribution to GDP and land dedicated to farming are significantly smaller, reflecting its highly urbanized nature. FCT Abuja, as the administrative capital, has a more service-driven economy with a moderate agricultural footprint. Kano, like Kaduna, has a large population, a significant number of agricultural households, and a substantial informal economy, making it a comparable major agricultural hub in the North. However, Kaduna's specific combination of a strong existing agricultural base, the documented presence of MNEs with established outgrower schemes relevant to GVC studies (like Olam and Tomato Jos), and its representation of the socio-economic and institutional challenges (including informality and poverty levels) pertinent to the research questions make it an ideal site for an in-depth empirical investigation.

Beyond these specific characteristics, Kaduna State serves as a theoretically and empirically relevant microcosm of the broader Nigerian context, especially regarding agricultural informality and GVC participation. While no single case can fully capture the diversity of Nigeria's agro-ecological and institutional environments, Kaduna reflects a convergence of factors — high informality, significant agro-based employment, institutional gaps, and ongoing engagement with formal agribusiness actors — that are present across many northern and middle-belt regions. The thesis therefore treats Kaduna as an analytical case rather than a statistically generalisable one, allowing the findings to generate transferable insights and inform broader theoretical debates on informality, institutional quality, and strategic participation in GVCs across similar contexts in Nigeria and Sub-Saharan Africa.

In sum, while Lagos offers a lens into urban informality and large-scale market dynamics, and Abuja represents the formal governmental sphere, Kaduna State provides a more direct and representative setting for examining the grassroots realities of informality within agricultural GVCs, the strategic choices of agro-food smallholders, and the interplay between formal agribusinesses and agro-food smallholders in a region typical of Nigeria's broader agricultural landscape. The presence of MNEs with outgrower schemes in Kaduna offers a focused environment to study the specific research questions related to GVC integration and the "Informality Trap" at the primary production level. This study aims to provide insights into the determinants of persistent informality, the extent of GVC participation, and value capture within Kaduna State's agricultural sector. It addresses the significant challenges of collecting

data on informality in this context, including insecurity, mistrust towards outsiders, the seasonality of agricultural activities, and the geographical dispersion of rural communities.

1.2 Problem Definition

The persistence of informality in many developing countries, despite efforts to promote formalisation, raises questions about the underlying factors that drive individuals and businesses to operate outside the formal economy. While several factors, ranging from economic considerations to institutional and regulatory barriers, social and cultural norms, have been identified in extant literature, a comprehensive understanding of the decision-making processes of informal actors within GVCs in developing economies is lacking. This is particularly true for the agricultural sector, where informality is prevalent, resources are scarce and the cost-benefit calculations of informal workers are poorly understood. This gap in understanding is critical because informality is intertwined with socioeconomic dynamics, and its persistence challenges traditional views of economic development. Empirical evidence suggests that countries with widespread informality often have large agricultural sectors, weak human capital, and poor institutional environments (Dabla-Norris & Rhee, 2020). These conditions create constraints and limited opportunities for individuals, influencing their decisions to operate informally.

The study resonates with Gereffi's (2019) work on governance in GVCs, which emphasizes the interplay between formal and informal economic structures. By focusing on how informality affects economic and social outcomes for firms and workers, this study extends the discussions from Pietrobelli and Rabellotti (2011) about how informality influences learning and capability building in GVCs. It also aligns with Narula's (2019) examination of how informal economies interact with global networks, questioning how participation in GVCs can either mitigate or exacerbate the disadvantages of informality.

Furthermore, the research examines these decision-making processes through an integrated theoretical framework built on a behavioural agency perspective. This lens acknowledges that agro-food smallholders are strategic agents whose rational choices are shaped by their institutional context and cognitive frameworks. This perspective integrates the core logic of Rational Choice Theory (RCT)—which explains how actors weigh costs and benefits—with

the specific contexts provided by two other key theories. Institutional Theory explains how the 'rules of the game,' both formal and informal (like trust and social networks), structure an actor's choices. The Legalist School of Thought specifies the high costs of regulation and bureaucracy as a key driver of the rational choice to remain informal. Together, this integrated framework provides a robust foundation for analyzing why actors choose their position on the formality continuum and is crucial for developing policy implications that foster inclusive economic upgrading within GVCs. This analysis is crucial for policy implications, echoing the calls for institutional reforms by Buckley (2009) and Mudambi (2008) to foster environments conducive to formal economic integration and upgrading within GVCs.

As Rothenberg et al. (2016) and others argue, these actors are not simply avoiding formality; they are making strategic choices based on their unique circumstances and perceived opportunities, aligning with the principles of Rational Choice Theory (RCT). Therefore, this study adopts an RCT lens to examine the decision-making processes of individuals operating in the informal agricultural sector in Kaduna State, Nigeria. While the concept of the informality–formality continuum is not novel, this study contributes to its empirical deepening and contextual application. It does so by investigating how smallholder agro-food actors in Nigeria strategically position themselves along this continuum in response to institutional conditions and GVC dynamics. This avoids an overstatement of conceptual originality, while highlighting the study's relevance to ongoing debates on informality, upgrading, and inclusion in global value chains. It analyses the motivations and constraints shaping informality through five key lenses: economic considerations (e.g., tax aversion, access to credit), institutional and regulatory barriers (e.g., lack of trust in government, complex procedures), social and cultural norms (e.g., preferences for informal practices, social networks), demographics, and cognitive biases).

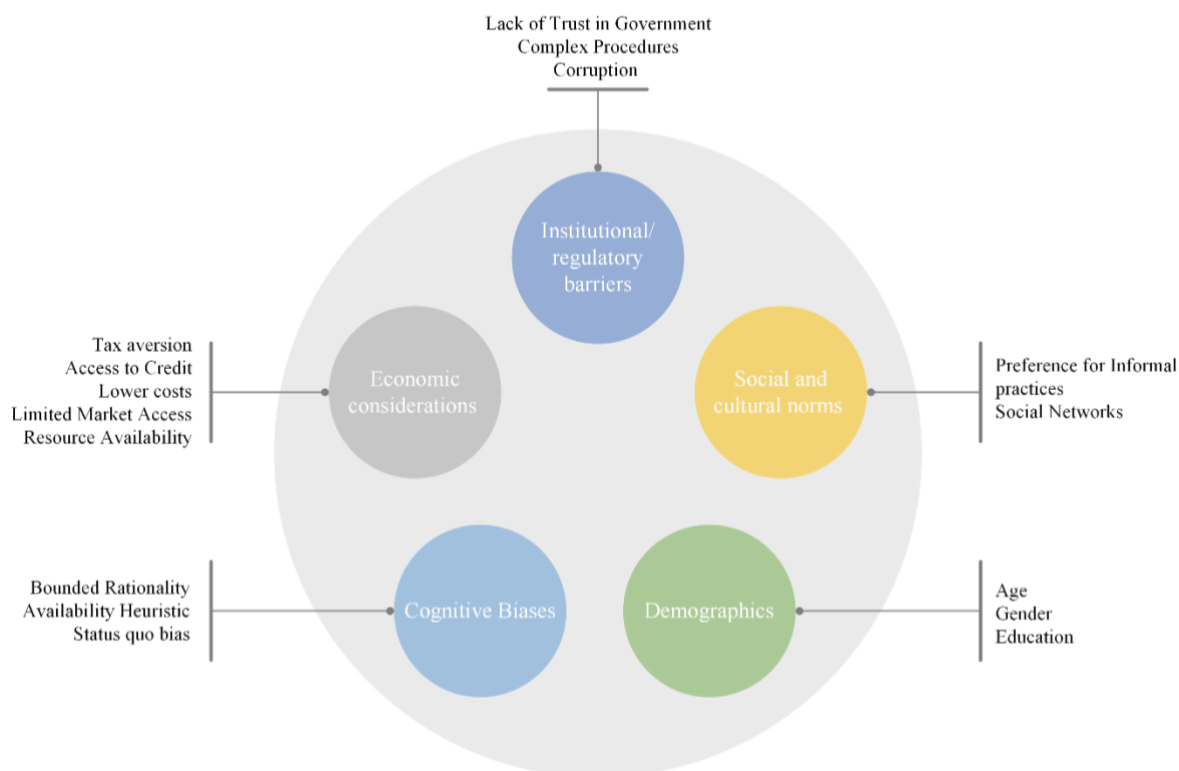


Figure 1.1: Motivations and Constraints shaping Informality

Beyond individual decision-making, this study also addresses the overlooked role of informal support ecosystems. Recent research by Silvonen (2019), Hoxhaj and Kruja (2020), and Gómez-Cruz et al. (2024) highlights the existence of these ecosystems and their role in sustaining informal economic activities. These ecosystems provide vital resources and support, mitigating the risks and uncertainties of operating informally. However, no known studies have examined how these ecosystems reinforce the motivations for informality and how their components work to sustain informal actors. This study aims to fill this gap by understanding the informal support ecosystem in a specific locale in Kaduna state and analysing its influence on the propensity of the local farming community to remain informal.

Furthermore, unlike most previous studies, which treated informality as a simple dichotomy between "formal" and "informal," this study builds on the concept of the informality–formality continuum by offering an empirical application and refinement within a specific agricultural context. The persistence of informality in developing economies presents a complex challenge to economic and social development. While traditionally viewed as a consequence of weak formal institutions or limited opportunities in the formal sector, informality is increasingly

recognized as a multifaceted phenomenon influenced by a variety of factors, including strategic choices made by individuals and the evolving nature of the economy itself. This study argues that the conventional binary perspective of informality as the antithesis of formality is becoming increasingly obsolete, particularly with the rise of the digital economy (Narula 2021). The digital age has also blurred the lines between formal and informal economic activities, as informal individuals and enterprises leverage technology to operate outside traditional regulatory frameworks, while still engaging in formal transactions and contributing to economic growth.

In the agricultural sector, agro-food smallholders are increasingly utilizing digital tools to access financial services, market information, and agricultural inputs, even when operating outside formal regulatory systems (Rodrik, 2018; Montalbano & Nenci, 2020). This trend highlights the need for a deeper understanding of informality, one that recognizes the diverse ways in which actors engage with both formal and informal systems. By adopting a continuum approach, this study seeks to move beyond the simplistic binary view of informality and capture the dynamic and evolving nature of economic activities in the digital age. This continuum recognizes that economic activity exists along a spectrum, with actors exhibiting varying degrees of engagement with formal and informal practices. To this end, a composite index incorporating key dimensions of formality and informality will be constructed. This allows for a deeper analysis of the dynamics of transition and the interrelationships between different dimensions of formality. By analysing the association of these dimensions with the demographic profile of agro-food smallholders, the study will identify factors influencing their position on the continuum.

Finally, this study examines the participation of agro-food smallholders in GVCs. While the potential benefits of GVC participation are acknowledged (Gereffi, 2014; Taglioni & Winkler, 2016), informal actors in developing countries often face challenges in capturing a fair share of the value added, particularly in accessing markets and navigating GVC complexities (Fernandes et al., 2020). Using data triangulation, this study analyzes the specific modes of participation employed by agro-food smallholders in Kaduna State, the extent of value capture within the GVC, and the influence of value capture and demographics on development. Cross Tabulations, Analysis of Variance, and regression models were employed to achieve these objectives.

The study focuses on two distinct groups within the agricultural sector in Kaduna State, Nigeria. The first group comprises informal actors, primarily agro-food smallholders engaged in outgrower schemes or directly supplying their produce to larger agribusinesses. These individuals and their enterprises often operate outside the formal regulatory framework, making them central to understanding the dynamics of informality in the agricultural value chain. The second group is made up of key stakeholders involved in agricultural development and GVCs, including representatives from government agencies (MDAs), non-governmental organizations (NGOs), and multinational agribusinesses operating in Kaduna State. These stakeholders possess valuable insights into the broader context of informality, GVC participation, and development within the region.

1.3 Statement of Research Aim and Objectives

The broad aim of this study is to enhance our understanding of how the prevalence of informality in developing countries hinders economic and social development for firms and workers in GVCs. More specifically, it seeks to address the following overarching research question:

How does the prevalence of informality in developing countries influence economic and social development outcomes for firms and workers within GVCs?

These objectives are theoretically grounded in the integrated behavioural agency framework established previously. This lens allows the study to explore informality as a phenomenon that is both strategic (driven by actors' rational calculations about costs and benefits) and structurally influenced (shaped by institutional contexts, regulatory burdens, and cognitive factors). The objectives are therefore designed to investigate:

1. *To examine how the degree of informality among agro-food smallholders influences their levels of income, access to credit, and overall well-being, even when controlling for participation in GVCs.* This objective aims to establish a clear link between informality and economic well-being. It seeks to determine whether informality, independent of GVC participation, negatively impacts agro-food smallholders' livelihoods. This is crucial for understanding the broader consequences of informality and the potential benefits of formalization.

2. *To assess the extent to which perceived costs of formalisation predict continued informality among actors in GVCs, compared to the perceived benefits of formalisation.*
Under this objective, the study seeks to assess the decision-making process of informal actors, highlighting why agro-food smallholders choose to remain informal, even when participating in GVCs. By examining the perceived costs and benefits of formalization, the study aims to identify the key drivers of continued informality.
3. *To evaluate whether and how improved institutional quality (e.g., regulatory frameworks, support systems, and contract enforcement) is associated with reductions in informality and supports upgrading among agro-food smallholders.* Improved institutional frameworks are critical for fostering a supportive environment for businesses by reducing barriers to entry and enabling smoother transitions between formality and informality. Strong regulatory systems, efficient support mechanisms, and effective contract enforcement mitigate the risks and uncertainties associated with formal engagements, encouraging informal actors to formalize their operations. Additionally, firms participating in Global Value Chains (GVCs) benefit from stable, well-structured institutions that enable the adoption of best practices, enhance productivity, and diversify offerings. This objective seeks to determine whether stronger institutions can create a more enabling environment for formalization and economic upgrading. This is crucial for understanding how institutional reforms can promote greater participation in the formal economy and enhance the benefits of GVC participation.
4. *To investigate the mediating role of access to formal credit and markets in the relationship between GVC participation and value capture for informal actors.* Here, the study focuses on the mechanisms through which GVC participation leads to value capture for informal actors, differentiating between domestic market engagement and global market integration through GVCs. It seeks to determine whether access to formal credit and domestic markets acts as a mediator in this relationship. This is crucial for understanding how informal actors can leverage GVC participation to enhance their economic outcomes compared to their engagement in domestic markets, and for identifying the critical factors that facilitate their integration into formal economic systems both domestically and globally.

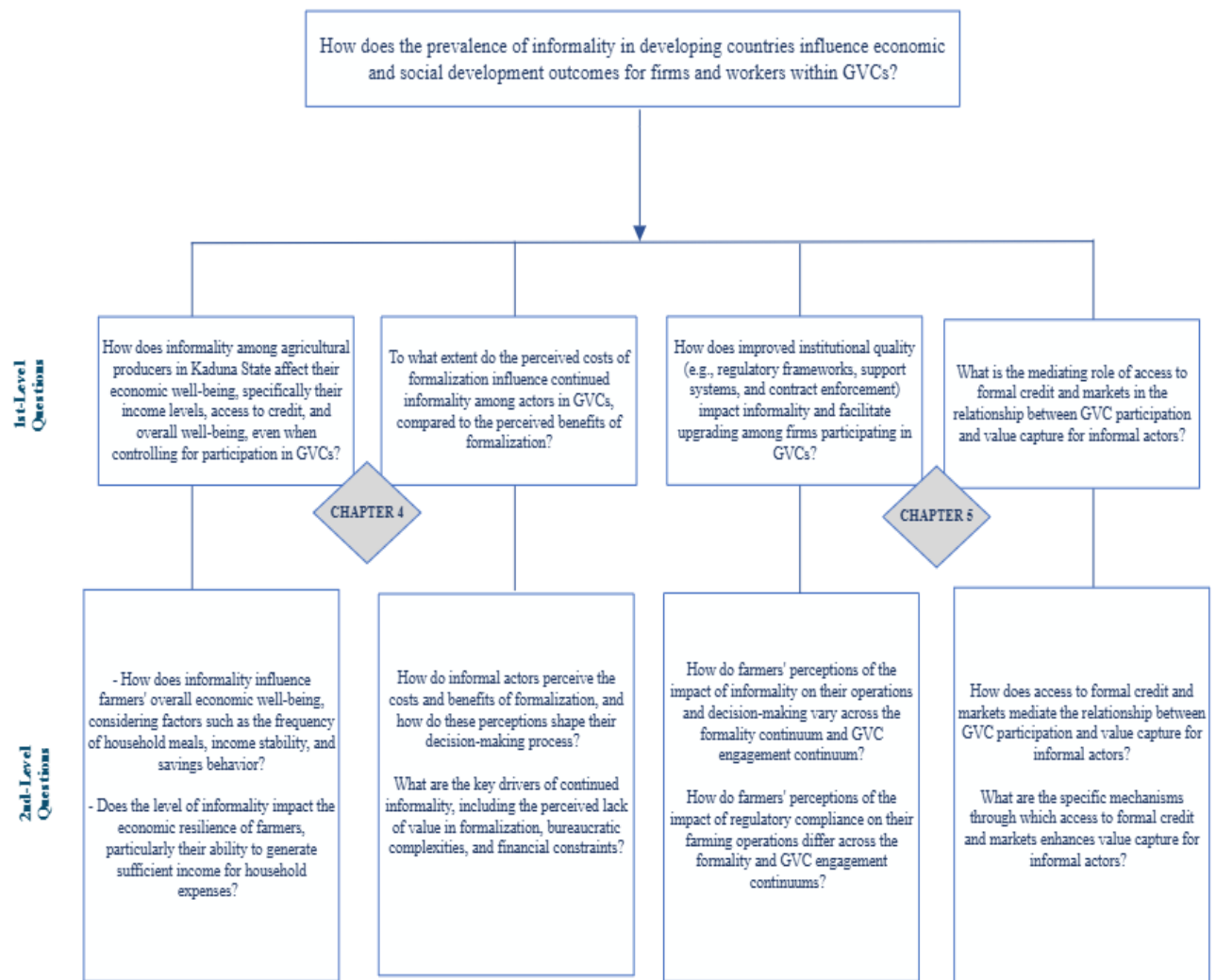


Figure 1.2: Overview of Research Agenda

Figure 1.2 offers a detailed visual summary of the research agenda, structured around four core research questions. Each question is further divided into sub-questions, facilitating an in-depth examination of the dynamic relationship between informality, GVC participation, and development outcomes. As shown in the figure, chapters 4 and 5 form the analytical backbone of the study. Chapter 4 focuses on the first two research objectives, evaluating the economic consequences of informality and uncovering the decision-making processes of informal actors. Chapter 5 shifts to the institutional dimensions underpinning objectives three and four, investigating how institutional quality and access to formal credit and markets mediate the relationship between GVC participation and economic upgrading. By integrating quantitative

analysis with qualitative insights, this dual-chapter approach delivers a comprehensive understanding of the complex dynamics at play.

1.4 Theoretical Framing

This study adopts a multi-layered theoretical framework to explain the persistence of informality among agro-food smallholders in developing contexts and their interaction with global value chains (GVCs). At its core, the study is grounded in Rational Choice Theory (RCT), which posits that individuals are utility-maximising agents who make strategic decisions based on a calculation of expected costs and benefits. Applied to informality, RCT offers a powerful lens to understand why economic actors may choose to remain outside formal regulatory frameworks—particularly when the perceived burdens of formalisation, such as taxation, bureaucratic complexity, or institutional exposure, outweigh the anticipated benefits, such as improved market access or legal protections. In the context of Kaduna State, where formal institutions are often inaccessible or inefficient, smallholders' continued informality can be viewed as a rational adaptation to their environment. This analytical lens guides the study's investigation into the determinants of informality and the conditions under which actors might transition toward formalisation.

Within the Rational Choice tradition, Institutional Theory and the Legalist Perspective offer more specific insights into the rational foundations of informal behaviour. Institutional Theory, particularly from the new institutional economics tradition, emphasises the influence of formal rules, enforcement mechanisms, and transaction costs in shaping economic actions. When institutions are weak, ambiguous, or unreliable—as is often the case in developing country agricultural systems—actors rationally turn to informal arrangements that provide more predictable or accessible alternatives. In Kaduna State, for example, deficiencies in land registration, contract enforcement, and agricultural support services have created an environment where smallholders rely on informal systems to navigate market participation. Closely related is the Legalist Perspective, which views informality as a deliberate response to excessive state regulation. It suggests that many informal entrepreneurs actively avoid formal processes not because of ignorance or resistance, but due to prohibitive compliance costs, red tape, and the often extractive behaviour of the state. From this standpoint, informality is not a mark of failure or exclusion but a calculated strategy to minimise exposure to inefficient institutions. Taken together, these institutional and legalist variants of RCT help explain the

structural incentives and disincentives that shape the engagement of smallholders with both formal institutions and GVCs.

While Rational Choice Theory and its variants provide a strong foundation for understanding strategic behaviour, they are often limited by their assumption of perfect information and full rationality. To address this, the study incorporates the Behavioural Agency Perspective as a complementary lens. Drawing on behavioural economics and social psychology, this perspective introduces a more realistic model of decision-making that accounts for bounded rationality, cognitive biases, and the role of trust and social norms. In many informal contexts, decisions are not made purely through economic calculus but are influenced by risk perceptions, cultural expectations, and social embeddedness. Smallholders in Kaduna may resist formalisation not simply because it is costly, but because of fear, habit, misinformation, or low trust in formal institutions. Moreover, their reliance on informal support systems—such as kin-based credit, cooperative farming, and community dispute resolution mechanisms—can further entrench informality as a rational and socially acceptable norm. This behavioural lens is particularly relevant in interpreting findings related to the informal support ecosystem and the psychological dimensions of formality resistance.

To complement these actor-centred perspectives, the study also acknowledges the value of Structuralist Theory in providing a broader macro-level context. Structuralist thinkers argue that informality is not solely a product of individual choice or immediate institutional failures but reflects deep systemic exclusion tied to the structure of global capitalism. In this view, informality is the result of limited industrialisation, chronic underemployment, and segmented labour markets that “push” large populations into informal survival strategies. In Nigeria—and Kaduna specifically—these structural conditions manifest in the form of poor rural infrastructure, underinvestment in agriculture, and weak state capacity. While Structuralist Theory is not used for direct empirical modelling in this study, it frames the background conditions that shape and constrain individual agency. It helps situate the analysis of informality within broader patterns of global inequality and institutional underdevelopment.

Together, these perspectives offer a comprehensive and layered understanding of informality. Rational Choice Theory and its variants capture the economic logic and institutional realities that shape individual decision-making; the Behavioural Agency Perspective accounts for the cognitive, emotional, and social factors that mediate those decisions; and Structuralist Theory

situates both within the broader economic and historical structures that perpetuate inequality. This integrative framework underpins the study's conceptualisation of the informality–formality continuum and informs the empirical investigation of how agro-food smallholders in Kaduna engage with formal and informal systems in their pursuit of livelihoods, resilience, and value capture within GVCs.

1.5. Thesis Approach and Structure

This study employs a mixed-methods approach, integrating both quantitative and qualitative analyses to provide a comprehensive understanding of the research problem. The thesis is organized into six chapters. The first chapter (Chapter 1) introduces the research, offering essential background and situating the study within the broader global economic landscape, with particular emphasis on developing economies such as Nigeria. The chapter adopts an inverted pyramid framework, beginning with a broad analysis of global economic trends and the rise of Global Value Chains (GVCs). It then narrows its focus to the specific challenges faced by developing economies, especially Nigeria, in effectively integrating into these value chains. In addition, the chapter examines the pervasive informality in Sub-Saharan Africa (SSA), the implications of Foreign Direct Investment (FDI), and the evolving digital landscape. This section concludes by clearly defining the research problem, stating the study's aim and objectives, and providing an overview of the thesis structure, thus setting the stage for subsequent chapters.

Chapter 2 offers a critical review of existing literature, focusing on the role of informality in developing countries, GVC participation, and their implications for economic development. The chapter traces the global evolution of informality, with a particular focus on Nigeria, and explores various theoretical frameworks, including Institutional Theory, the Legalist School of Thought, and Structuralist Theory. The methodology for the literature review is detailed, including the search strategy, selection criteria, and characteristics of the studies included. Additionally, this chapter delves into the drivers, consequences, and institutional responses to informality within the context of GVC participation and value capture. It concludes with the presentation of the conceptual framework and identifies key research gaps, thereby laying the foundation for the study's original contributions.

Chapter 3 outlines the research design and methodology, providing an overview of the study's geographic and economic context. This includes a discussion of Nigeria's geopolitical landscape, population trends, FDI flows, income distribution, and GVC participation. The focus is then narrowed to the agricultural sector in Kaduna State, exploring the local dynamics of informality. The chapter further details the research philosophy, data collection methods, sampling approach, and ethical considerations, offering a clear justification for the chosen methodology. The chapter concludes by summarizing the approach and providing a bridge to the subsequent empirical analysis.

Chapter 4, the first empirical analysis based on primary data, examines the determinants of informality, focusing on the decision-making processes of informal actors and the factors sustaining informality within global value chains (GVCs). It details the research methods used for data analysis before presenting findings on the motivations and constraints shaping informal actors' choices. The chapter also explores the informal support ecosystem that enables their survival and assesses the impact of informality on well-being and formalization decisions. It concludes with a discussion of key findings.

Chapter 5, the second empirical chapter, builds on the previous analysis by investigating GVC participation and value capture. It first establishes the theoretical and conceptual framework, followed by a discussion of the methodology. The chapter then presents findings on participation patterns in GVCs, highlighting the role of informal support networks and the significance of credit and market access in enabling participation. It further examines upgrading mechanisms and value capture, analyzing factors that enhance or hinder value extraction. The chapter concludes by linking its findings to the broader thesis, demonstrating their contribution to understanding informality in GVCs.

The final chapter (Chapter 6) provides a comprehensive summary of the key findings, synthesizing the insights drawn from the empirical evidence. It outlines the study's contributions to the existing body of knowledge and discusses its implications for policy and practice. The chapter concludes with recommendations for future research, highlighting areas where further scholarly inquiry is needed, and offering suggestions for advancing the study of informality, GVC participation, and value capture in developing economies. A visual representation of the thesis structure is provided in Figure 1.3.

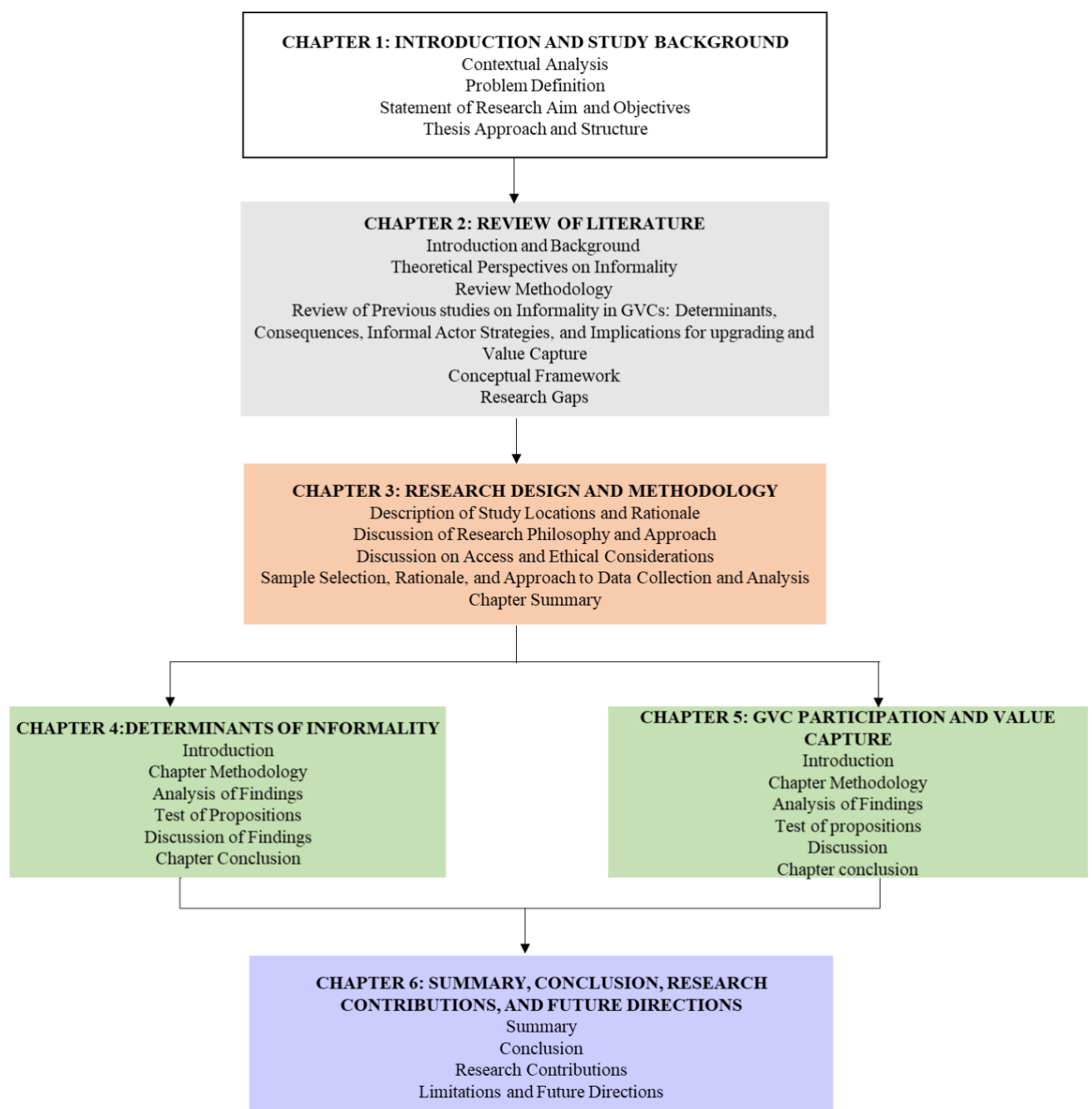


Figure 1.3: Thesis Structure

Chapter 2: REVIEW OF LITERATURE

2.1 Introduction and Background

2.1.1 The Evolving Concept of Informality

The concept of informality has undergone a significant intellectual transformation since its initial articulation in the 1970s. Originally conceptualized primarily as a distinct “informal sector,” the terminology and underlying understanding have evolved towards the more encompassing notion of the “informal economy.” This evolution reflects a growing appreciation for the diverse, dynamic, and deeply embedded nature of informal work and enterprises within broader economic systems. Crucially, this shift acknowledges the intricate and often symbiotic relationships between informal and formal economic activities, moving decisively beyond a simplistic, rigid dichotomy.

The recognition that informality is not a monolithic category, and that economic activities often exist along a spectrum between full formality and complete informality, has gained considerable traction in contemporary scholarly discourse. This perspective challenges earlier dualistic views that tended to portray the formal and informal as separate and oppositional spheres (Chen, 2012; Perry et al., 2007). This study builds directly upon these understandings by adopting, empirically developing, and validating a multi-dimensional 'formality-informality continuum,' designed to facilitate a more granular analysis of the strategic positioning and operational realities of economic actors.

Figure 2.1 provides a schematic overview of the intellectual journey in understanding informality.

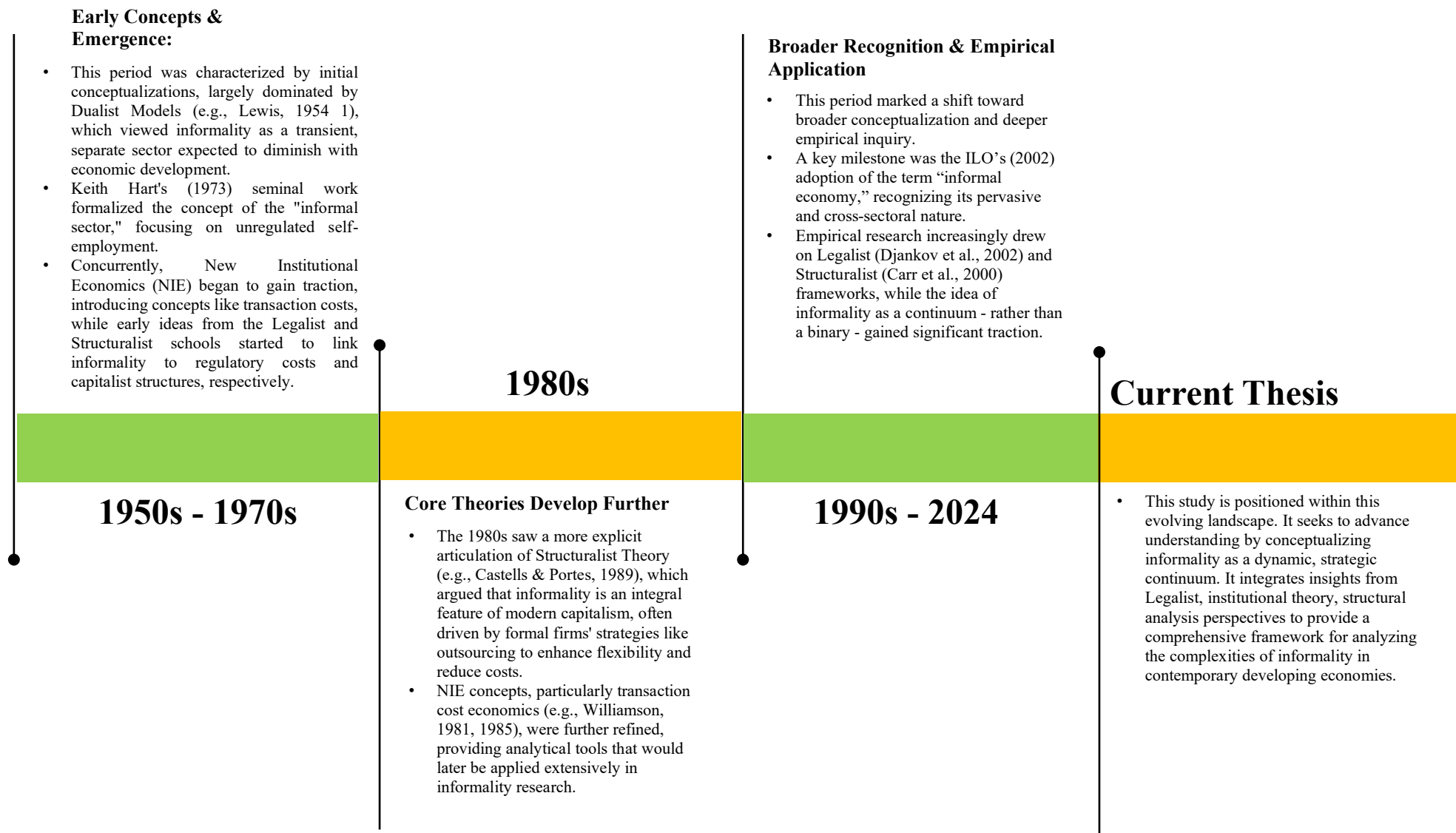


Figure 2.1: Historical Evolution of Informality Concepts and Theories

The informal economy, as it is now widely understood, encompasses all economic activities by workers and economic units that are, in law or in practice, not covered or inadequately protected by formal regulatory frameworks—explicitly excluding illicit activities (ILO, 2002; ILO, 2015). This definition is expansive, covering a wide spectrum of economic actors, from unregistered micro-enterprises and own-account workers to informal employment arrangements within formally recognized firms.

A key milestone in this conceptual evolution was the 90th Session of the International Labour Conference (ILC) in June 2002. During this session in Geneva, Switzerland, the International Labour Organization (ILO) officially adopted the term “informal economy,” replacing the narrower “informal sector.” This change was driven by the recognition that “sector” misleadingly implied a distinct industry or type of economic activity, whereas informality, in reality, permeates various sectors and forms of employment. The ILO’s broader framework thus explicitly includes informal employment in both formal and informal enterprises, as well as self-employed individuals operating informal businesses. This comprehensive understanding was reaffirmed and further elaborated in ILO Recommendation No. 204 (Concerning the Transition from the Informal to the Formal Economy), adopted during the 104th Session of the ILC in 2015, which also reiterated the exclusion of illicit economic activities from the definition.

Even before these formal international recognitions, scholars were actively debating and refining the concept of informality. Keith Hart (1973) is widely credited with one of the earliest and most influential conceptualizations, describing the informal economy as a sphere of economic activity operating largely outside direct legal sanction, state intervention, and formal regulation. Following Hart, numerous scholars, such as Yusuff (2011), characterized the informal sector as encompassing irregular work that remains beyond state oversight. Legalistic perspectives, notably advanced by scholars like De Soto (1989) and later empirically explored by Perry et al. (2007), further refined these distinctions. Perry et al. (2007), for instance, argued that informal firms typically tend to be smaller in scale, generate lower revenues, pay lower wages, and employ less-educated workers compared to their formal counterparts. Such structural disparities contributed to interpretations of the informal and formal economies as distinct, sometimes parallel, spheres, often characterized by different technologies and product markets. This dualistic perspective, while useful in highlighting differences, primarily

underscored the informal economy's defining characteristic: its absence of formal regulatory oversight, leading some to describe it as a “grey” or “shadow economy.”

Overall, the historical trajectory of "informality" as a concept reflects a progressive understanding. From an initial view of a marginal or residual sector, there is now a widespread recognition that informal economic activities constitute an integral, adaptive, and often substantial component of broader economic systems, particularly in developing countries.

2.1.2 Global Prevalence of Informality

The informal economy is a significant driver of global economic activity, particularly in developing economies. Between 1993 and 2018, an estimated 33.4% of global economic activity occurred within the informal sector, with even higher proportions in low- and middle-income countries. In many developing economies, informality accounts for between one-third and two-thirds of economic activity and encompasses 20–80% of the labour force.

While the formal sector is widely characterized as “more developed, efficient, and productive due to its utilization of modern production techniques”, the informal sector remains an “elusive concept”. A conceptual distinction often drawn in the literature is between labour informality and firm informality. Labor informality is relatively straightforward, referring to workers without formal contracts or labour protections. Firm informality, however, is more complex, as enterprises may comply with certain regulations while evading others. Ulyssea (2020) argues:

In both developed and developing countries, many formally registered firms evade taxes by underreporting revenues, implying partial compliance with tax regulations. Also, crucially for the analysis of informal employment, many formal firms hire some fraction of their labor force informally to evade the costs imposed by labor regulations (p. 526).

To refine this perspective, Ulyssea (2020) introduces the *extensive and intensive margins of informality*. The extensive margin concerns whether firms register and pay entry fees to attain formal status, while the intensive margin refers to the extent to which formally registered firms engage in informal employment practices. As firms grow, extensive informality declines, since larger firms face higher operational costs and require access to formal credit. However,

intensive informality persists, as even large firms employ informal labour to reduce costs, particularly in developing economies where regulatory enforcement is weak.

The informal economy is not only subordinate to the formal sector but is also conceptualized differently across scholarly traditions. Some scholars equate it with micro-enterprises, an “economy of the poor,” or agro-food smallholders, unregulated businesses. The pioneering work of Hart (1973) conceptualized informality as self-employment outside state regulation. However, Obadan et al. (1996) critique Hart’s approach for using the individual as the unit of analysis rather than the nature of economic activities, leading to ambiguity in distinguishing between formal and informal sectors. Bruton et al. (2012) further define informality as a network of informal suppliers and customers. More recent research emphasizes that informal economic activities operate outside the formal sector and are predominantly carried out by subsistence entrepreneurs and workers with no contractual protections.

Despite extensive academic debate, there is no universally accepted definition of informality. The International Labour Organization (ILO) provides the most widely cited definition, describing informality as economic activity beyond state oversight, often referred to as the shadow economy. In the Nigerian context, the informal sector remains a dominant force but is poorly understood and insufficiently studied. Attempts to demarcate formal and informal economic activities frequently encounter ambiguity, shaped by historical and structural factors. Given these complexities, Yusuff (2011) cautions against applying Latin American-centric theories of informality to African economies, arguing that:

Given the structural and historical differences in the emergence of informality between developed, Latin American, and African countries, caution must be exercised in applying theories developed predominantly from Latin American experiences to African informal economies. These theories often overlook the specific historical circumstances in which informal activities emerged in African countries... the informal economy in developing countries should be analyzed as a social and historical process rather than a sector that arises solely due to economic crises (p. 624).

This discussion provides a foundation for examining informality within Nigeria’s economic landscape.

2.1.3 Informality in the Nigerian Economy

The informal sector has historically played a crucial role in Nigeria's economic development. Research underscores its significant impact on economic and social development, positioning informality as a central issue in development discourse, particularly in developing economies. Studies examining the size, evolution, and drivers of informality in Nigeria indicate that, since 1970, the informal economy has accounted for 53.6% to 77.2% of GDP, averaging approximately 64.6%. Key drivers include unemployment, tax burden, government regulation, and inflation, while the sector remains a vital employment provider for both literate and non-literate populations unable to access formal sector jobs.

The perception of informality as a by-product of poverty, serving as a last resort for unskilled, low-paid workers, aligns with broader arguments about its widespread economic and social impact in developing countries. Consequently, the International Labour Organisation (ILO) recognizes informal economic activities as a key focus in the United Nations' Sustainable Development Goals (SDGs), particularly SDG 8.3 and SDG 10.2, which identify informality as a major challenge to sustainable development.

Despite the challenges, the informal sector is often regarded as a catalyst for Nigeria's economic development, acting as a "safety belt" by providing employment and income to the poor. However, the sector continues to struggle with issues such as limited access to credit, insecurity, weak managerial capacity, outdated technology, inadequate government policies, and the economic disruptions caused by the COVID-19 pandemic. Nigeria's informal economy is characterized by low entry requirements, small-scale operations, skills acquired outside formal education, and labour-intensive production methods. Dominant activities include beverage, food, and tobacco manufacturing. This suggests that informal enterprises are most concentrated in the primary (agricultural) sector.

Development economists, focusing on poverty reduction through modernization, emphasize the role of agro-allied activities in contributing to broader economic growth. Despite the size of Nigeria's primary sector, the country lacks sufficient industrial players to create value that integrates into the wider economy. The dominance of informality is seen as a barrier to investment, growth, and development in low- and middle-income economies, such as Nigeria and India, where structural limitations hinder informal businesses from contributing meaningfully to formal value chains. Additionally, the lack of reliable data on informal

businesses poses challenges for commercial banks in approving loans to small and medium-sized enterprises (SMEs). Financial constraints are further exacerbated by commercial banks' reluctance to lend to informal businesses due to their perceived risks, weak financial bases, low credit ratings, and poor business structures.

In response, the Nigerian government has introduced various policy and financing interventions, including the Bank of Industry, the National Enterprise Development Programme, the Small and Medium Enterprises Credit Guarantee Scheme, and direct funding for informal sector traders. However, these initiatives have had limited impact, often failing due to poor design and a lack of alignment with the realities of informal enterprises.

The persistence of informality, despite modernization efforts, challenges the traditional development economics view that informal economies will disappear with industrial growth. Over the past two decades, informality has grown alongside industrial expansion, accounting for 80% of new jobs in Africa and over 90% of India's labor force. This resilience prompted the Organisation for Economic Cooperation and Development (OECD) to question whether "Informal is Normal," ultimately concluding in the affirmative. However, high informality levels pose economic challenges, including limited credit access, weak investor protections, and ineffective tax and licensing systems, all of which threaten formal sector stability. The McKinsey Global Institute once described informal firms as "parasites" competing unfairly with formal businesses. Porta and Shleifer (2014) further argue that informal firms rarely transition to formality, often persisting for decades without significant growth or structural improvement. Their research indicates that 91% of registered firms started out as formal, while informal enterprises that have operated for nearly a decade show minimal efforts toward formalization.

Despite these challenges, some scholars contend that a well-regulated informal economy is essential for sustainable economic growth. Consequently, policymakers continue to advocate for increased formalization to integrate informal firms into the global production networks of global supply chains, or global value chains (GVCs), which have expanded over the past two decades. To explore the persistence and implications of informality, this study's analysis is guided by a focused theoretical framework. This chapter details the core analytical perspectives drawn from Institutional Theory and the Legalist School of Thought, which are integrated through the overarching lens of behavioural agency and rational choice. While acknowledging the importance of Structuralist Theory for understanding the macro-level context, the core

empirical investigation of this thesis focuses on the actor-level decisions and institutional dynamics explained by the former theories. Section 2.2 will now elaborate on this focused theoretical framework.

2.2 Theoretical Framework for Strategic Informality

While the literature offers numerous perspectives to explain informality—from early Dualist and Modernisation models to structural explanations—this thesis adopts a focused, actor-centric theoretical framework to analyze the persistence of informality as a form of strategic economic behaviour. This framework is built on a **behavioural agency** perspective, which integrates the cost-benefit logic of **Rational Choice Theory (RCT)** with the contextual insights of **Institutional Theory** and the **Legalist School of Thought**. This integrated approach allows for a multi-layered understanding of *how* and *why* agro-food smallholders in Nigeria choose their position on the formality continuum. While the macro-level constraints highlighted by **Structuralist Theory** provide an important backdrop, our core analytical lens privileges the agency and decision-making of the smallholders themselves.

At its foundation, this study uses the lens of **behavioural agency**. This perspective acknowledges that smallholders are strategic agents who act purposefully to improve their livelihoods. Their decision-making follows the logic of **Rational Choice Theory (RCT)**, where they weigh the perceived costs and benefits of their actions to maximize their utility.

However, this rationality is "bounded" by real-world conditions. The behavioural agency perspective therefore incorporates insights from behavioural economics, recognizing that choices are influenced by cognitive factors (e.g., biases like status quo bias, risk aversion), social norms, and imperfect information. This explains why actors might remain in an "Informality Trap" even if formalization offers long-term benefits; the perceived immediate risks and costs, amplified by cognitive biases, outweigh uncertain future gains.

While behavioural agency explains the *process* of decision-making, Institutional and Legalist theories provide the specific *content* and *context* for those decisions.

- **Institutional Theory:** As articulated by North (1990), institutions are the "rules of the game" that shape human interaction. This theory is crucial for understanding how both formal institutions (e.g., property rights, contract law, regulatory bodies) and informal institutions (e.g., trust, social networks, community norms) create the landscape of incentives and transaction costs. In a context like Kaduna State, where formal institutions may be weak or unreliable, actors rationally turn to the more predictable

and accessible informal institutions of the "Informal Support Ecosystem" to conduct business.

- **The Legalist School of Thought:** This perspective, heavily influenced by De Soto (1989), directly addresses informality as a rational choice to escape the high costs imposed by the state. It posits that when the costs of formality—such as complex registration procedures, high taxes, and bureaucratic red tape—are prohibitive, it is an economically logical decision for entrepreneurs to operate informally. This lens is essential for analyzing the barriers to formalization cited by smallholders in this study.

Finally, this study acknowledges the insights of **Structuralist Theory** as providing the essential macro-level context. This perspective argues that widespread informality in developing countries is not just a matter of individual choice but is also a result of structural economic features, such as a surplus of labor that the formal sector cannot absorb and the strategies of formal firms to reduce costs by subcontracting to the informal sector. While this thesis does not empirically test the macro-structural claims, this perspective frames the background conditions of limited formal employment and economic precarity within which Nigerian smallholders exercise their behavioural agency.

By integrating these perspectives, the thesis is equipped to analyze informality not as a simple problem of non-compliance, but as a complex, strategic behaviour shaped by individual calculation, institutional realities, and overarching structural forces.

2.2.1 Institutional Theory

Institutional theory is a prominent theoretical lens in the social sciences that emphasises the role of institutions in shaping individual and organisational behaviour. The theory's roots can be traced back to the early 20th century, with contributions from scholars like Thorstein Veblen and John R. Commons. However, it gained significant traction in the 1970s and 1980s with the emergence of "new institutional economics" (NIE), spearheaded by scholars such as Douglass North and Oliver Williamson (Caballero & Soto-Oñate, 2015). Traditional economics has focused on understanding how markets work in a static environment. However, recent research has shown that the process of economic change is also important to consider. This is because institutions, which are the rules and norms that govern human behaviour, can change over time. According to North (2005), institutional change is essential for understanding how societies evolve. the author believed that a theory of institutional change was needed to make further

progress in social sciences, particularly economics. It is in this context that mainstream economics has begun to take a renewed interest in institutional change.

The renewed interest in institutional issues in economics has sparked a lively debate about what institutionalism is and who its proponents are (Rutherford, 1996). This has led to the identification of two main schools of thought: Original Institutional Economics (OIE), rooted in the works of Thorstein Veblen, Wesley Mitchell, John R. Commons, and Clarence Ayres; and New Institutional Economics (NIE), associated with the contributions of Ronald Coase, Oliver Williamson, and Douglass North. As a concept, Institutional Economics is a school of thought that emphasises the role of institutions, norms, and historical context in shaping economic behaviour (Filho, 2020). It is based on the idea that institutions, such as the government, the legal system, and the market, play a fundamental role in determining how resources are allocated and how economic activity takes place.

Institutional economists argue that Neoclassical economics, which is the dominant school of thought in economics, is too narrow in its focus on individual actors and markets. They argue that Neoclassical economics ignores the role of institutions and norms, which can have a significant impact on economic outcomes. For instance, the OIE which was the dominant school of thought in American economics during the early 20th century emphasised the importance of institutions, norms, and history in shaping economic behaviour.

The key assumptions of the Old Institutionalists are:

1. **Institutions matter:** Institutions, such as the government, the legal system, and the market, play a fundamental role in shaping economic behaviour. Consequently, the Old Institutionalists argued against the laissez-faire economic policies of their time, arguing that government intervention and regulation were necessary to address market failures and social injustices.
2. **Economic behaviour is not always rational:** People do not always act in their own best interests, and they are often influenced by factors such as culture, custom, and habit.
3. **History matters:** The past can help us to understand the present and to predict the future.
4. **Economic analysis should be interdisciplinary:** Economists should draw on insights from other disciplines, such as history, sociology, and political science, to understand the economy.

Unlike the OIE, the NIE argues that institutions matter, but they also argue that Neoclassical economics can be a useful tool for understanding how institutions work. Consequently, it introduced a more analytical framework while retaining a focus on institutions. It emphasised the importance of transaction costs, property rights, and contract theory in understanding economic behaviour. NIE also incorporated elements of game theory and sought to provide a more systematic and rigorous approach to analysing institutions. It aimed to develop testable theories that could explain how institutions influenced economic outcomes. The New Institutional Economics (NIE) adopts the Northian notion of institutions, which sees institutions as the rules that determine transaction costs and efficiency gains. This is the most common definition of institutions in NIE. Institutions are the rules of the game in a society, including both formal rules (such as laws and constitutions) and informal rules (such as conventions and norms). These rules are created by people and are enforced by people.

NIE argues that the traditional economic approach to human behaviour is flawed because it assumes that people are always rational and that they always act in their own self-interest. NIE argues that people are not always rational, and that they are often influenced by factors such as emotions, social norms, and imperfect information. NIE also argues that institutions play a role in shaping human behaviour. Institutions can encourage or discourage certain types of behaviour, and they can affect the efficiency of economic activity (Ostrom & Basurto, 2011).

The key assumptions of the New Institutional Economics (NIE) include:

1. **Institutions matter:** Institutions, such as the government, the legal system, and the market, play a fundamental role in shaping economic behaviour.
2. **Economic behaviour is not always rational:** People do not always act in their own best interests, and they are often influenced by factors such as emotions, social norms, and imperfect information.
3. **Bounded rationality:** NIE assumes that people are not always rational and that they make decisions based on incomplete information.
4. **Transaction costs matter:** Transaction costs are the costs of exchanging goods and services. NIE argues that institutions can reduce transaction costs and thereby increase economic efficiency.
5. **Norms matter:** NIE argues that norms, or shared expectations about how people should behave, can play a role in shaping economic behaviour.

The key differences between the Old and New perspectives are presented in Table 2.1:

Old Institutionalism	New Institutional Economics
It rejects the bases of Neo-Classical economics	It incorporated some elements of Neo-Classical economics
Holism	Methodological individualism
Relevance of coercion and power	Focus on free exchange
Habits are key for human behaviour and belief	Rational (bounded rationality) individual behaviour: choices

Table 2.1: Original and New Institutionalism: Basic Differences

From the above, it can be deduced that the core tenet of institutional theory is that institutions, encompassing both formal structures (laws, regulations) and informal conventions (norms, values), establish a framework of incentives and constraints that steer economic and social conduct (Salinas et al., 2023). Empirical studies across various disciplines have provided support for this. For instance, research has shown how institutional pressures can lead to isomorphism, where organisations adopt similar practices to gain legitimacy (DiMaggio & Powell, 1983). Additionally, studies have demonstrated how institutional entrepreneurs can actively shape and change institutional arrangements to create new opportunities (Lawrence et al., 2002).

In the context of the informal economy, research highlights how weak enforcement of formal institutions and conflicting institutional centres create opportunities for informal entrepreneurship (Webb et al., 2013). The complexity arising from "institutional ambiguity"—characterised by untrustworthy public information, opaque rules, and reliance on relation-based governance (Vallone, Elia, & Greve, 2023)—can exacerbate these conditions, pushing economic actors towards more predictable, albeit informal, arrangements due to elevated information-processing demands and uncertainty (Vallone et al., 2023).

Despite its analytical strength, institutional theory has been criticised for overemphasising institutions while neglecting individual agency and market dynamics, and for potentially overlooking power struggles and the dynamic nature of institutional change. Nevertheless, institutional theory provides a critical lens for understanding how formal and informal institutions shape informality in contexts such as Kaduna State. It helps explain how regulatory inefficiencies and institutional ambiguities create informal economic spaces, how informal entrepreneurs develop adaptive strategies to navigate institutional constraints, and how the

interplay between formal and informal rules determines the legitimacy and sustainability of informal activities.

2.2.2 Legalist School of Thought

The Legalist School of Thought posits that the informal economy emerges primarily due to excessive state regulations and the high costs associated with formal business operations. This perspective originated in the early 1970s, alongside the development of the concept of the "informal economy." Hernando de Soto's influential work, particularly his 1989 book "The Other Path," significantly shaped this school of thought. De Soto's research in Peru highlighted the cumbersome bureaucracy and substantial costs involved in formalising businesses, leading him to argue that informality is a rational choice for entrepreneurs seeking to avoid these burdens (Marinescu & Valimăreanu, 2019; Loayza, 1996). This perspective views the informal economy as a direct consequence of an overly restrictive and costly regulatory environment.

The Legalist School's core principle is that the size and persistence of the informal economy are directly tied to the stringency of a country's regulatory environment. The higher the costs of complying with regulations, taxes, and licensing requirements, the greater the incentive for individuals and businesses to operate informally. This perspective challenges the dualist view, which sees the informal economy as a distinct, underdeveloped sector. Instead, it emphasises the interconnectedness between the formal and informal economies and the role of institutional factors in shaping their dynamics (Marinescu & Valimăreanu, 2019). The Legalist School also acknowledges the potential benefits of the informal economy, viewing it as a source of entrepreneurship and innovation that can contribute to economic growth and development if given a more favourable regulatory environment (Webb et al., 2013). This highlights the potential dynamism and contribution of the informal economy, which is often overlooked in other theoretical perspectives.

The Legalist School has broadened its focus beyond regulatory burdens to include a wider array of institutional factors. The quality of governance, encompassing the rule of law, property rights protection, and effective contract enforcement, is now recognized as crucial in influencing the decision to operate formally or informally. Corruption and rent-seeking behaviour by government officials can further amplify the costs of formality, driving businesses into the informal sector. Thus, the Legalist School has evolved to consider the

broader institutional context within which economic activity occurs (Marinescu & Valimăreanu, 2019).

Empirical evidence supports the Legalist School's perspective. Research has demonstrated a strong negative correlation between institutional quality and the size of the informal economy. Countries with weaker governance, higher corruption levels, and less efficient regulatory systems tend to have larger informal sectors (Marinescu & Valimăreanu, 2019; Salinas et al., 2023). The empirical evidence provides robust support for the Legalist School's argument, highlighting the critical role of institutional factors in shaping the size and persistence of the informal economy. The seminal work by Djankov et al. (2002), which encompassed a study across 85 countries, revealed that heavier regulation of entry is strongly associated with a larger unofficial economy, thus lending credence to the Legalist School's perspective. The influence of regulatory frameworks on the informal economy is further underscored by the research of Ciccone and Papaioannou (2007), who examined the impact of product market regulations on the size of the informal sector in Europe and found a significant positive relationship. The empirical evidence thus provides compelling support for the Legalist School's argument, highlighting the critical role of institutional factors in shaping the size and persistence of the informal economy. The studies collectively demonstrate that enhancing institutional quality, through measures such as reducing regulatory burdens, improving governance, and combating corruption, can be an effective strategy to reduce informality and foster economic development.

The Legalist School provides valuable insights into the factors driving the informal economy, but it has also drawn criticism. Some contend that it overemphasises regulatory burdens while neglecting other contributors to informality, such as low productivity, skill shortages, and limited access to credit. Furthermore, the Legalist School's emphasis on reducing regulatory barriers may not fully address the complex and multifaceted nature of the informal economy, which is often intertwined with social and cultural norms (Marinescu & Valimăreanu, 2019). The study by Bennett and Raballand (2014) on informality in developing countries echoes this critique, arguing that focusing solely on reducing regulatory burdens may not be sufficient to address informality effectively. They highlight the importance of complementary policies that address other constraints faced by informal firms, such as access to finance and skills development. Consequently, a more holistic approach that considers both institutional and structural factors may be necessary to effectively combat informality.

The Legalist School aligns well with the central premise of this thesis, which explores the linkages between global value chains, informality, and development. By highlighting the role of institutional factors, particularly regulatory burdens and governance quality, in shaping the informal economy, the Legalist School provides a strong theoretical foundation for this study. In sum, the Legalist School's emphasis on excessive regulations and high costs of formality creating barriers to entry into the formal economy resonates with both Exclusion and Exit views. The exclusion view posits that individuals are forced into informality due to being excluded from the formal sector by these barriers (Perry et al., 2007). The study by Dumenu et al. (2023) further supports this, finding that cost and complexity of registration were key factors influencing informality in the Malawian baobab processing sector. On the other hand, the Exit view suggests that individuals voluntarily choose informality to avoid regulations and taxes, seeking a more advantageous economic position (Perry et al., 2007). This aligns with the Legalist perspective that informality can be a rational, cost-benefit-driven choice. Ogu (2013) echoes this sentiment, highlighting that individuals act rationally to maximise personal advantage. The empirical evidence from various studies supports the alignment between the Legalist School and the Exclusion and Exit views, highlighting the role of regulatory burdens and cost-benefit calculations in driving informal economic activity.

In this thesis, attempts were made to further strengthen the perspectives of the Legal School of Thought by fully capturing the influence of informal institutions and social norms on the persistence of informal economic activity and the associated implications on value capture in GVC. As highlighted by the study by La Porta and Shleifer (2014), the relationship between regulation and informality is complex and context-specific. They argue that while reducing regulatory burdens can be beneficial in some cases, it may not always lead to a significant reduction in informality, especially in countries with weak governance, institutional distrust, and enforcement mechanisms.

2.2.2 The Structuralist Theory

The Structuralist Theory posits that the informal economy is not merely a residual sector of underdeveloped economies but an integral and dynamic component of the modern capitalist system, particularly in the context of globalisation and economic restructuring. This perspective emerged in the late 1970s and 1980s, with key contributions from scholars such as Manuel Castells and Alejandro Portes (Castells & Portes, 1989). The theory challenges the traditional dualist view of the informal economy as a separate and marginal sector, instead,

emphasizing its interconnectedness and interdependence with the formal economy. The Structuralist Theory argues that the informal economy serves a functional role in the capitalist system, providing flexibility, adaptability, and low-cost labour that formal enterprises often rely on, particularly in times of economic downturns or structural shifts.

At its core, the Structuralist Theory contends that the informal economy is intrinsically linked to the formal economy through subcontracting and outsourcing arrangements. It argues that as globalisation intensifies competition, formal firms seek to reduce costs and enhance flexibility by subcontracting parts of their production process to informal enterprises. This creates a symbiotic, albeit often exploitative, relationship where the informal economy serves as a crucial source of low-cost labour and flexible production for the formal economy (Chen, 2005). The informal sector, in this view, is not simply a collection of marginalised activities but an essential part of the global production network, enabling formal firms to maintain competitiveness and adapt to changing market conditions. The empirical studies by Carr et al. (2000), Henderson & Smith (2009), and Mukim (2011) provide evidence for the prevalence of subcontracting and outsourcing linkages between formal and informal firms in various sectors, supporting the Structuralist perspective on the interconnectedness of the two economies.

The Structuralist Theory provides a valuable lens for analysing informal actors' participation in GVCs and the challenges they face in capturing value. The theory highlighted how informal actors often become integrated into GVCs through subcontracting and outsourcing arrangements, supplying low-cost labour and flexible production to formal enterprises. However, this integration can be exploitative, with informal actors facing significant barriers to upgrading and capturing a fair share of the value generated. The theory's emphasis on structural barriers and power imbalances within GVCs helps explain why informal actors often find themselves trapped in low-value-added activities with limited bargaining power. This can create a vicious cycle where informality persists, hindering economic development and social upgrading for these marginalised actors.

Early empirical studies lend credence to the Structuralist Theories arguments. For example, Carr et al. (2000) conducted a study in the clothing industry in Leicester, UK, and found a high degree of subcontracting between formal and informal firms. This outsourcing often involved low-skilled, labour-intensive tasks, highlighting the informal sector's role in providing low-cost labour and flexibility to formal enterprises, aligning with the Structuralist perspective. Similarly, Henderson & Smith (2009) examined the global garment industry and found that

outsourcing to informal firms, particularly in developing countries, was a prevalent practice driven by cost considerations and the need for flexible production.

Furthermore, Mukim (2011) studied the informal economy in Bangladesh and revealed extensive subcontracting linkages between formal and informal enterprises in the ready-made garment sector. This study underscored the informal sectors's critical function in enabling formal firms to compete in the global market by providing low-cost and adaptable production capacities. These empirical findings substantiate the Structuralist Theories emphasis on the interconnectedness between formal and informal economies through subcontracting and outsourcing, demonstrating the informal sector's functional role in the global capitalist system.

While the Structuralist theory has garnered significant empirical support, it has faced criticism. Webb et al. (2013) argue that the theory tends to overemphasise the exploitative nature of the relationship between formal and informal economies. Their research highlights the agency and resilience of informal entrepreneurs, suggesting that they can strategically leverage their position within GVCs to enhance their livelihoods and capture value, challenging the theory's focus on exclusion and vulnerability. Additionally, the theory has been criticised for its limited applicability to informal activities that are not directly linked to the formal economy through subcontracting or outsourcing arrangements.

Applied to this study, the Structuralist Theory offers a valuable lens for understanding the dynamics of the informal economy and its relationship with multinationals within in GVCs. The theory emphasises on the role of subcontracting and outsourcing in shaping the informal economy, which highlight the challenges informal actors faced by informal actors in accessing and capturing value within GVCs.

2.3 Review Methodology

This systematic literature review investigates the linkages between global value chains, informality, and development. This approach ensures a comprehensive and transparent evaluation of existing research, minimising bias and ensuring reliable conclusions. This section details the research design, search strategy, inclusion and exclusion criteria, and the literature search results.

2.3.1 Design and Search Strategy

This research employs a systematic literature review (SLR) following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model. This, according to Pati & Lorusso (2017), ensures a rigorous and transparent approach to evidence synthesis. The SLR includes a systematic search across multiple databases (EBSCO Business, ProQuest, JSTOR, Google Scholar, ScienceDirect, Taylor and Francis, Scopus) and grey literature sources. The search strategy, using keywords and phrases related to GVCs, informality, and development, aimed to capture a broad range of studies.

The SLR approach mitigates bias and provides a comprehensive overview of the evidence (Carrera-Rivera et al., 2022). Pre-defined inclusion and exclusion criteria ensured the selection of methodologically rigorous studies. Data extraction was standardised, and findings were synthesised thematically. The search identified relevant studies published between January 1, 2010, and July 31, 2024, from the selected databases, chosen for their extensive coverage of the research topic. The search strategy combined keywords and phrases for maximum sensitivity and specificity. The search was limited to English-language articles and empirical publications. Reference lists of included articles and grey literature sources (World Bank, IMF, and government reports) were also examined.

Theme	Key Words
Determinant Informality	of "Determinant of informality", "Persistence of Informality", "Informal Sector Persistence", "Informal Economy Persistence", "Reasons for Informality", "Causes of Informality", "Persistence", "Enduring", "Continued Existence", "Informal Sector", "Informal Economy", "Rational Explanation", "Economic Rationale", "Persistence", "Survival"
Informality Development	and "Informality", "Informal Sector", "Informal Economy", "Development", "Economic Growth", "Economic Development", "Poverty", "Inequality", "Impact on Development", "Effects on Development", "Relationship with Development", "Role of Informality", "Influence of Informality"
GVC Participation and Value Capture	"Global Value Chain", "GVC", "Participation", "Integration", "Engagement", "Value Capture", "Economic Gains", "Upgrading", "Developing Countries", "Emerging Economies", "Value Addition", "Upgrading", "Economic Benefits", "Informal Sector", "Informal Economy", "Challenges", "Opportunities"

Table 2.2: Search Terms and Keywords

Inclusion and Exclusion Criteria:

The literature search was limited to empirical publications in English, published between January 1, 2010, and July 31, 2024. Studies were included if they:

- Examined the relationship between global value chains, informality, and development.
- Employed empirical research methods (quantitative or qualitative).

Studies were excluded if they:

- were not published in English.
- were published outside the specified timeframe.
- did not address the relationship between the core concepts.
- were purely theoretical or conceptual without empirical findings.

2.3.2 Screening, Selection Process, and Data Analysis

A two-step screening process was used to ensure the selection of relevant and high-quality studies. First, titles and abstracts were assessed against the eligibility criteria. Second, the full texts of potentially eligible studies were retrieved and evaluated. A standardized form was used to collect relevant information from the included studies, ensuring consistency and accuracy. A narrative synthesis approach was then used to analyze the data, allowing for the integration of quantitative and qualitative findings to provide a comprehensive understanding of the relationship between informality, GVC participation, and development.

2.3.3 Search Results and Characteristics of Included Studies

The initial search yielded 198 articles. After removing duplicates and applying language criteria, 139 articles remained. Full-text screening further narrowed this down to 86 studies published between 2010 and 2024, with most (66.28%) published after 2020. This recent increase in publications suggests a growing interest in informality, possibly influenced by events like the COVID-19 pandemic.

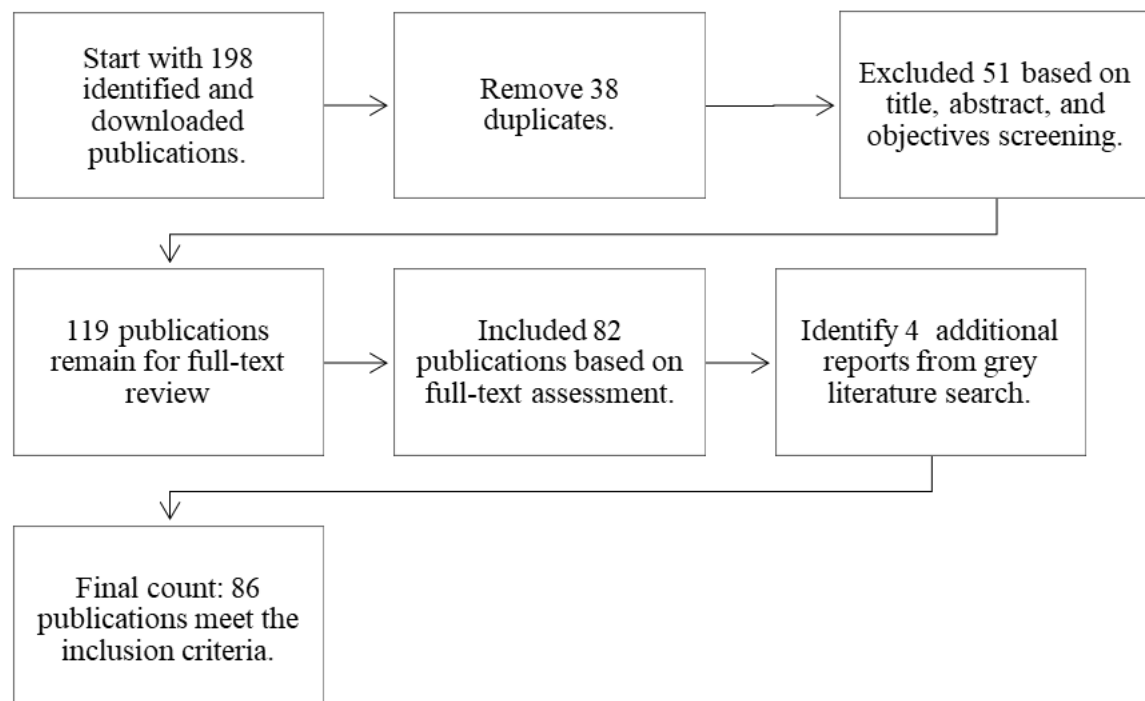


Figure 2.2: A flowchart characterising Selection Process of the Included Studies

2.4 Informality in GVCs: Determinants, Consequences, Informal Actor Strategies, and Implications for Upgrading and Value Capture

The interface between informality and Global Value Chains (GVCs) presents a complex terrain for economic actors, particularly in developing countries (DCs). This section delves into this complexity, examining informality not merely as a residual category but as a multifaceted phenomenon shaped by strategic choices, structural constraints, and institutional contexts. It explores the principal determinants that drive economic actors towards or entrench them within informal practices. Subsequently, it analyses the profound consequences of such informality on income generation, access to essential financial services like credit, and overall socio-economic well-being. Furthermore, the discussion investigates the implications of informality for effective participation in GVCs, focusing on the challenges and opportunities for upgrading and value capture. Crucially, this section also assesses the adaptive strategies and informal support mechanisms that actors develop and rely upon, which significantly shape the landscape of informal economic activities within the broader GVC framework.

2.4.1 Determinants of Informality and Its Implications for Income, Credit Access, and Well-Being

The persistence of informality, especially in low-income and developing countries (DCs), is a well-documented phenomenon, understood to be shaped by a confluence of economic, institutional, social, and structural factors. This subsection synthesises empirical research that has examined these drivers, critically evaluating their contributions and limitations in explaining the rationales behind continued informality and highlighting the resultant implications for income levels, access to credit, and overall well-being.

Understanding the Persistence and Rationales of Informality

A significant body of literature explores why informality endures. Some studies emphasise structural state dependence, where past informal employment significantly increases the likelihood of future informality. For instance, Akay and Khamis (2011) investigated the persistence of informality in the Ukrainian labour market, using panel data from the Ukrainian Longitudinal Monitoring Survey (2003, 2004, and 2007). Their analysis sought to distinguish between structural state dependence (where past informal employment increases the likelihood of continued informality) and spurious state dependence (where unobserved individual

characteristics explain informal employment). Using a dynamic panel data probit model with endogenous initial conditions, the study found strong evidence of structural state dependence, suggesting that previous informal employment significantly raises the probability of remaining in the informal sector. The findings imply that policy interventions targeting informality can have long-term effects on labour market dynamics, reinforcing the need for institutional reforms that enhance access to credit, improve income security, and facilitate transitions to formality.

While the empirical study by Akay and Khamis (2011) offers valuable insights into the persistence of informality in the Ukrainian labour market, it exhibits a gap in its applicability to the broader aim of explaining the rationality behind the persistence of informality, particularly in the context of developing economies and the agricultural sector. Specifically, the study primarily focuses on the impact of past informal employment experiences on current labour market outcomes. However, it does not consider the multifaceted nature of informality and the diverse rationales that drive individuals and businesses to operate in the informal sector. In particular, it overlooks the role of other factors such as perceived costs and benefits of formalisation, cognitive biases, and the influence of informal support ecosystems, which are central to understanding the persistence of informality.

Information asymmetry also plays a role in perpetuating certain informal practices. Mokhtari and Ashtari (2012) examined the role of information in reducing informal payments in the healthcare system of Moldova, a country in transition to a market economy. The study aimed to fill the void in understanding informal payments and provide evidence-based recommendations for reducing them. The research utilised a nationwide patient satisfaction survey of almost 20,000 patients. The analysis focused on the relationship between patients' knowledge of their rights and the prices of services and their likelihood of making informal payments. The study found that patients who were informed about their rights and the official prices of services were less likely to make informal payments. The authors concluded that providing information to patients is a cost-effective and minimally intrusive way to reduce corruption in the healthcare system. The study's relevance lies in its focus on the role of information asymmetry in perpetuating informal payments. It suggests that improving transparency and empowering patients can be effective strategies to combat corruption in the health sector. However, the study is limited to the healthcare sector in Moldova and may not be generalizable to other sectors or contexts. Additionally, the research could have further

explored the underlying power dynamics and institutional factors that contribute to the persistence of informal payments. Overall, while this study does not explicitly explain the rationality for the persistence of informality, it has highlighted the role of information asymmetry in perpetuating informal payments within the healthcare sector in Moldova.

The **exploitation of informal labour** offers another lens, as argued by Verbrugge (2015) in the context of artisanal and small-scale mining (ASM) in the Philippines. This study examined the persistence of informality in artisanal and small-scale mining (ASM) in the Southern Philippines, specifically in Compostela Valley province. The study challenged existing explanations that focused solely on legal and political barriers, arguing that informality also stems from the exploitation of informal labour. The research employed a qualitative approach, utilizing fieldwork and interviews with various stakeholders in the ASM sector. The study found that the expansion of ASM was driven by a transition from capital-intensive large-scale mining to a more flexible regime of accumulation built around the exploitation of informal labour. The author concluded that informality in ASM is not simply a matter of exclusion from the formal economy but also a deliberate strategy of exploitation by powerful actors. This study provided a critical examination, highlighting the role of exploitation and power relations in perpetuating informality within the artisanal and small-scale mining (ASM) sector in the Southern Philippines. Its primary focus on exploitation as a driving force behind informality is crucial in understanding the power dynamics within the ASM sector. Nevertheless, additional studies are required to enhance our understanding on the broader underlying factors explaining the rationality for the persistence of informality across different contexts, exploring the individual decision-making processes, perceived costs and benefits of formalisation, or the role of cognitive biases, which are central to understanding the persistence of informality in various sectors and contexts.

Many informal enterprises, as Rothenberg et al. (2016) found in Indonesia, make a **rational choice** to remain unregistered. The study aimed to evaluate competing theories about informality and identify the most suitable explanation for Indonesia's context. The research utilised a mixed-methods approach, combining quantitative data from the Survey of Micro and Small Enterprises (IMK) and the World Bank Enterprise Survey (WBES) with qualitative data from interviews with firm owners. The quantitative analysis focused on firm size, wages, productivity, manager education, market reach, and the impact of a one-stop-shop business registration program. The qualitative interviews provided deeper insights into the motivations

and challenges faced by informal firms. The study concluded that a combination of the rational exit and dual economy theories best explains the persistence of informality in Indonesia. Many informal firms choose to remain unregistered due to a lack of desire to expand, a focus on lower-tier markets, or tax avoidance. The authors recommend simplifying registration processes, enhancing the benefits of formality, and promoting economic growth and poverty reduction to address informality. The study is highly relevant as it examines the rational choices made by informal firms, highlighting that reducing registration costs alone may not be sufficient to encourage formalisation. However, it did not cover the implications of the broader institutional environment on informality.

It should be noted that while the study by Rothenberg et al. (2016) as reviewed above provides valuable insights into the persistence of informality in Indonesia, as it highlights the role of rational choice and the limitations of focusing solely on reducing registration costs, understanding the broader institutional environment on the persistence of informality is also critical. Put differently, the study acknowledges the importance of enhancing the benefits of formality, it does not consider the specific institutional factors that shape these benefits or hinder their realisation. The study misses the opportunity to explore the role of factors such as regulatory quality, contract enforcement, property rights protection, and access to justice in influencing the perceived costs and benefits of formalisation. The current thesis seeks to address this gap by explicitly examining the influence of institutional factors on the decision-making processes of informal actors and their ability to capture value within GVCs.

The **inherent logic and order within informal systems** are explored by Lejano and Del Bianco (2018) in a Brazilian favela. The study aimed to challenge the conventional view of informal settlements as unplanned and chaotic, proposing that they exhibit a complex logic grounded in practice. The research employed a mixed-methods approach, combining ethnographic interviews, participant-observer research, and analysis of social/cultural phenomena. The study focused on the site layout, spatial patterns, housing typologies, and the social processes driving settlement and construction. The analysis revealed that informal settlements exhibit patterns and order arising from social relationships and negotiations within the community. The study identified the characteristics of socio-policies (designs emerging from everyday interactions) and contextuality (adaptation to local conditions) in informal logic. The research concluded that informality constitutes a complex rationality, where design is relational rather than strictly rational. The study's relevance lies in its effort to legitimise the

forms and practices of informality, highlighting the adaptive and context-sensitive nature of informal logic. However, the research acknowledges the limitations of its case study approach and the need for further exploration of informality in diverse contexts.

Structural factors, such as historical inequality, also have long-term impacts. Gutiérrez-Romero (2021) investigated the long-term impact of inequality on the size of the informal economy. The study aimed to test the predictions of new dualistic models, which suggest that initial levels of inequality determine the persistence of informality. The research employed a panel random effects model and instrumental variable approach, utilising historical indicators of inequality and data on the informal economy across 138 countries. The analysis considered the Gini index from various years (1700-1992), business environment indicators (lending interest rate, ease of getting credit, cost of starting a business, total tax rate), and changes in inequality over time. The study found that past levels of inequality are the most significant predictors of the informal economy's size, while improvements in the business environment have a minor role. The research also identified evidence of club convergence, where countries with high initial inequality diverge from those with lower initial inequality or those that have implemented significant redistribution. The study concludes that initial conditions play a crucial role in determining the persistence of the dual economy, highlighting the importance of addressing long-lasting effects of inequality to reduce informality. The research is relevant as it provides empirical support for the predictions of new dualistic models and emphasises the need for redistributive policies to address informality effectively. However, the study acknowledges the limitations of using historical inequality indicators and the potential influence of other factors on the informal economy.

While Gutiérrez-Romero (2021) demonstrated the structural roots of informality, Kombe, Kyessi, Limbumba, and Osuteye (2022) examined how informal communities in Dar es Salaam, Tanzania, navigated external shocks, specifically the COVID-19 pandemic. Focusing on the low-income settlements of Ubungo Kisiwani and Hanna Nassif, the study employed an exploratory qualitative research design incorporating semi-structured questionnaires, focus group discussions (FGDs), and interviews with diverse community members, including local leaders and women's groups. Key variables included the economic impact of Tanzania's partial lockdown—such as income decline (10-50%), livelihood loss, and job retrenchment—as well as social consequences, including stigma, fear, and changes in social interaction. The findings revealed that overcrowded housing and inadequate sanitation posed challenges to health

guideline compliance. However, the study underscored the vital role of social capital and grassroots networks in mitigating these hardships. Community-led initiatives, often relying on pre-existing informal support systems, mobilized food and essential supplies for the most vulnerable, despite weak coordination with formal authorities. Furthermore, the study noted that the mixed-land-use characteristic of informal settlements enhanced resilience by reducing travel needs. While the pandemic exacerbated economic precarity, it also reinforced communal solidarity, highlighting the dual nature of informality as both a vulnerability and a mechanism for resilience.

Extending the discourse on informality to the housing market, Alam, Minca, and Uddin (2022) investigated the dynamics of informal shared housing in Greater Sydney, Australia, focusing on owner-occupiers of Bangladeshi origin. The study aimed to understand the motivations and challenges faced by these homeowners in initiating and managing informal shared housing arrangements. The research employed a qualitative approach, utilizing in-depth interviews and participant observation. The study found that the primary motivation for informal sharing was to supplement mortgage repayments and secure homeownership. However, the practice was also shaped by various perceived risks, including cultural, social, and regulatory concerns. The authors concluded that informality in shared housing is a complex phenomenon driven by economic necessity and mediated by cultural perceptions of risk. Overall, the study provides an analysis of the motivations and challenges within the housing market, driven by economic necessity and cultural perceptions of risk. Extending this view to include the broader economic considerations, such as the perceived costs and benefits of formalisation, or the influence of institutional factors, will further enhance our understanding of the persistence of informality in the wider economy.

Fechner (2022) examined the historical roots of labour market segmentation in sub-Saharan Africa, arguing that the gendered division between formal and informal sectors can be traced back to colonial legal segmentation. The study focused on the early colonial period (1890s-1930s) and analysed labour-related legislation in Belgian, British, French, German, and Portuguese colonies. The author employed a comparative law approach, focusing on the functional equivalence of legal norms across different colonial powers. The study found that colonial legislation systematically excluded or marginalised women and domestic labour relations, while prioritising the commodification of black African male labour for European employers. The author concluded that the "colonial exploitative legal employment standard"

established a gendered and racialized hierarchy in the labour market, contributing to the long-term persistence of informality. The study provides a historical analysis of the legal foundations of labour market segmentation, highlighting the role of colonialism in shaping contemporary informality. However, the study focused primarily on the early colonial period without recourse to how these historical patterns have interacted with contemporary economic and social factors to perpetuate informality in sub-Saharan Africa provides a critical gap.

The **role of government policies and state economy** in reproducing informality was highlighted by Habibi et al. (2022) in Iran. The study investigated the reproduction of urban informality in Iran, focusing on the interplay between government policies, the state economy, and technocracy. The study aimed to provide a comprehensive and critical overview of the factors contributing to the persistence of informal settlements in Iran. The research employed a critical and holistic approach, drawing on documents, sources, and statistics from official institutions. The study found that government policies and the state's monopoly over the economy play significant roles in reproducing poverty and informal settlements. The authors concluded that addressing urban informality in Iran requires political acceptance of informal life, reforming political and economic structures, and reducing income-class gaps. This work has provided a macro-level lens to the analysis of persistent informality in a context of a government-controlled environment like Iran. It has established that macro factors such as government policies and the state's role in the economy contribute to the reproduction of informality. While these structural factors are undoubtedly crucial, analysing micro-level decision-making processes of economic agents as well as the perceived costs and benefits that drive individuals and businesses to operate in the informal sector is equally important. In this thesis, attempts will be made to synthesise both macro and micro level factors that influence economic agents' decisions to remain informal.

Recent studies also focus on the **dynamics of informality within labour markets**. Villena-Roldán (2024) investigated the persistence of informality in Chile, focusing on worker flows and correcting for time aggregation bias. The study aimed to understand the duration of informality spells and the main factors driving individuals into and out of the informal sector. The author used a Markov chain representation of worker flows and applied a time-aggregation correction to weekly data from the Chilean National Employment Survey (ENE) for the period 2010-2023. The study found that informality persistence in Chile is relatively low, with an average duration of informal spells of approximately 3.5 months. The main contributor to

persistence was the flow from unemployment to informality, suggesting that informality serves as a temporary shelter from joblessness. The study also found that informality persistence is higher for females, young workers, and tertiary-educated individuals. The research concluded that informality in Chile is largely transitory, particularly for unskilled workers, and that policies aimed at reducing informality should be cautious, as it may serve as a coping mechanism for individuals facing unemployment. In sum, the study by Villena-Roldán (2024) provides a lens into the analysis of the dynamics of informality, focusing on the labour market and the role of unemployment in driving individuals into the informal sector. The gap lies in its lack of exploration into the broader motivations and rationales behind the persistence of informality beyond the context of unemployment.

Synthesising these diverse perspectives, it is evident that the decision to operate informally is multifaceted. It is influenced by path dependency (Akay & Khamis, 2011), exploitation (Verbrugge, 2015), rational cost-benefit analyses (Rothenberg et al., 2016), information asymmetries (Mokhtari & Ashtari, 2012), structural inequalities (Gutiérrez-Romero, 2021), historical legacies (Fechner, 2022), state policies (Habibi et al., 2022), and labour market dynamics (Villena-Roldán, 2024). Socio-demographic factors like population growth, unemployment, poverty, and low education levels are also consistently identified as key drivers (Narula, 2020; Quiros-Romero, Alexander, & Ribarsky, 2021; World Bank, 2021; ILO, 2021).

Implications of Informality for Income, Credit Access, and Well-Being

While the aforementioned studies illuminate various determinants, a critical gap persists in comprehensively understanding how informality directly shapes economic outcomes and well-being at the individual and household level, especially for agro-food smallholders in DCs. Much of the existing research focuses on macroeconomic factors or sector-specific barriers, often neglecting an integrated examination of informality's impact on income stability, access to formal credit, and broader socio-economic mobility.

Although some studies touch upon economic deprivation as a driver of informality, few empirically link the state of being informal to tangible well-being indicators like income volatility, financial exclusion, or overall quality of life for agricultural households. Furthermore, the literature has not sufficiently explored how these challenges manifest within GVC contexts, where agro-food smallholders often grapple with precarious market access, weak contract

enforcement, and financial insecurity. While the role of informal support systems in mitigating risks is acknowledged, it remains unclear whether these networks adequately compensate for the lack of formal financial inclusion or merely perpetuate a low-income equilibrium.

This study aims to address these gaps by examining the extent to which the degree of informality among agro-food smallholders in Kaduna State correlates with their income levels, access to credit, and overall well-being, even when controlling for their participation in GVCs. This leads to the first proposition:

P1: A higher degree of informality among agro-food smallholders is associated with lower levels of income, reduced access to credit, and lower overall well-being, even after controlling for participation in GVCs.

Perceived Costs versus Benefits of Formalisation

The persistence of informality is not only driven by economic deprivation but also by high costs of formalization, which serve as primary deterrents to formalization (Maksimov, Wang & Luo, 2017; Narula, 2020). These costs, according to the authors, range from lengthy and complex registration processes, bureaucracy and weaknesses of the supporting institutions, widespread corruption as informal operators connive with government personnel to circumvent the rules with a view to avoiding taxes. An early research work by Loayza (1996) averred that DCs are characterised by excessive taxes and unnecessary regulations imposed by governments amid weakening enforcement capability. As a result of these challenges, firms in those countries opt to produce in the informal sector after analysing the after-tax profits obtained from production in the formal sector.

The dynamics of informality are further illustrated by Maconachie and Conteh (2020), who investigated the reasons behind the persistent informality in the artisanal and small-scale mining (ASM) sector in Liberia, despite efforts to formalise it. The study aimed to understand why formalisation efforts have failed and argued that the persistence of informality needs to be understood as a rational strategy for those who profit from it. The research employed a qualitative approach, utilising multi-sited fieldwork in northwest Liberia and semi-structured interviews with government officials, policymakers, and donors in Monrovia. The study found

that the persistence of informality is driven by vested interests of elite actors who control decision-making in the sector. These actors benefit from the informal system through personalised revenue streams and informal agreements. The study concluded that successful formalisation efforts need to recognize and address the rationality of informality from the perspective of those who benefit from it. It also highlighted the need to link mining reforms to broader national and international extractive sector policy frameworks. This study is relevant as it highlights the role of vested interests and elite capture in perpetuating informality within the artisanal and small-scale mining (ASM) sector in Liberia. In other words, the study primarily focuses on the motivations and strategies of powerful actors. This is crucial in understanding the political-economic realities of informality. However, analysing the perspectives and rationales of the informal actors themselves would have further contributed to the persistence of informality at the micro-level.

Extending the analysis of informality beyond economic motivations, Johnson, Osuteye, Ndezi, and Makoba (2022) examined how co-producing knowledge about disaster risks in informal settlements could serve as an entry point for addressing urban inequalities in Dar es Salaam, Tanzania. Their study employed the "Action at the Frontline" (AFL) methodology in two informal settlements, Mtambani and Bonde La Mpunga, to assess how local risk perceptions translate into governance and policymaking. By integrating community-driven assessments into local governance structures, the study explored key themes such as disaster risk reduction (DRR), urban equality, and community participation. The methodology involved participatory research led by the Centre for Community Initiatives (CCI) in collaboration with the Tanzania Urban Poor Federation (TUPF) and local government officials. Data collection, conducted through focus groups and community workshops between April 2017 and June 2018, identified a broad spectrum of risks beyond environmental hazards, including crime, unemployment, and inadequate basic services. The findings demonstrated that early stakeholder engagement facilitated new dialogue spaces, legitimized community-generated data, and led to incremental governance reforms. These included improved local budgeting for disaster mitigation and enhanced civil society representation in municipal decision-making. The study concluded that addressing informality requires an integrated approach linking DRR with broader development strategies. It also emphasized the importance of sustained engagement between communities, NGOs, and local authorities to effectively tackle the complex challenges of informal settlement

Beyond these specific case studies, broader explanations for the persistence of informality in DCs highlight structural economic factors. These include a dependence on primary sectors such as agriculture, weak human capital, fragile policy frameworks, declining regulatory oversight, pervasive corruption, and an underdeveloped financial sector. The IMF (2021) notes that financial intermediation in most DCs remains at an early stage, limiting access to appropriate funds for informal sector expansion. Corruption further exacerbates the challenge, as the African Development Bank (2012) reports that it increases the cost of doing business, discouraging formalization. While economic motivations and rational choice theories are central to many discussions, recent literature has underscored the critical role of social norms, power dynamics, and institutional frameworks. This calls for a multidisciplinary approach that extends beyond traditional economic models to capture the interplay of these factors.

Conversely, a growing body of literature highlights the perceived benefits of informality, including flexibility, tax avoidance, and resilience during economic downturns, as reinforcing its persistence. Studies by Ulyssea (2018) and Bonnet, Vanek, and Alter Chen (2019) emphasize how the informal economy serves as a crucial livelihood source for marginalized populations, fosters entrepreneurship, and enhances economic adaptability. These studies argue that informality acts as a survival strategy and safety net, particularly in resource-constrained environments. From this perspective, informality is not merely a byproduct of economic underdevelopment but a dynamic force that reduces entry barriers for micro-enterprises and small businesses, fostering innovation and adaptability.

Early work of Cimoli, Primi, and Pugno (2006) examined the relationship between the informal sector and economic growth in Latin America. The authors constructed a two-sector model, distinguishing between the formal and informal sectors, to analyse the dynamics of output, productivity, and employment in the context of structural heterogeneity. The model highlighted the adverse effects of informality on overall economic performance, primarily through its impact on productivity and income distribution. The study argued that the persistence of informality in Latin America was linked to unfavourable specialisation patterns and a "low-quality" international trade profile, which hindered the formal sector's ability to absorb labour and generate sustained growth. The findings of this study resonate with the broader concerns about informality hindering economic growth and development.

However, the above perceived benefits come at a cost. Operating outside the legal and regulatory framework, the informal economy limits economic growth by reducing tax revenues

crucial for public service provision (Ulyssea, 2020). This lack of regulation also perpetuates inequality, as informal workers often lack social protections, benefits, and access to healthcare (Gutiérrez-Romero, 2021; Villena-Roldán, 2024). Moreover, the informal economy can be associated with illicit activities that undermine development and perpetuate corruption. Within Global Value Chains (GVCs), informality hinders economic and social upgrading, limiting access to technology, skills, and market opportunities, ultimately trapping workers in low-value-added activities with poor working conditions (Bhorat & Tarp, 2016; Bailey et al., 2018).

A key theme emerging from these studies is the potential of GVC participation to influence various aspects of the informal economy, including income levels, access to credit, and overall well-being. GVCs can provide informal actors with access to new markets, technologies, and knowledge, potentially leading to increased productivity, higher incomes, and improved living standards. Additionally, GVC participation can facilitate access to formal credit and financial services, as actors become more integrated into formal value chains and demonstrate greater creditworthiness. This increased access to credit can further enhance investment, innovation, and growth within the informal sector. However, it is important to acknowledge that the impacts of GVC participation on the informal economy are not always positive or evenly distributed. Several studies highlight the challenges faced by informal actors in GVCs, including exploitation, low wages, and precarious working conditions. Additionally, the benefits of GVC participation may be concentrated among certain actors or sectors, exacerbating existing inequalities.

Regarding the uneven distribution of gains from GVC, Bruhn (2014) evaluated the role of preferential trade agreements (PTAs) in the context of global value chains, focusing on the trade-offs between deep integration and policy autonomy for developing countries. The study utilised data from the UNCTAD-Eora GVC database and a new database on the design of trade agreements to analyse the implications of deep PTAs for GVC participation and value capture. The research found that deep PTAs, which include provisions beyond traditional trade barriers, can promote GVC participation and attract foreign direct investment by providing a framework for economic governance and signalling policy transparency and predictability. However, the study also highlighted the potential risks associated with deep PTAs, such as restrictions on policy autonomy and the potential for investor-state dispute settlement mechanisms to undermine development objectives. Bruhn concluded that developing countries should

carefully assess the pros and cons of PTA membership and prioritise agreements that allow for policy flexibility and support their efforts to upgrade within GVCs and capture greater value.

Goger et al. (2014) examined the dynamics of economic and social upgrading in African GVCs, specifically in the horticulture, apparel, and tourism sectors, to understand the conditions under which GVC participation translates into improved outcomes for workers and small producers. Their in-depth case studies in several African countries (Egypt, Kenya, Lesotho, Madagascar, Mauritius, Morocco, South Africa, and Uganda) revealed that upgrading and sharing the gains from GVC participation were limited in Africa, with economic upgrading being uneven across sectors and social upgrading even more so. The study identified several factors influencing upgrading outcomes, such as the bargaining position of weaker value chain participants, private governance, public policy, and institutional contexts, and highlighted emerging trends in African GVCs, including regionalization, formalisation, and consolidation of lead firm market power. The authors concluded that GVC participation alone is not sufficient to ensure inclusive growth and poverty reduction and recommended multi-faceted policy approaches to promote upgrading.

César and Falcone (2023) investigated the causal impact of export growth on local economic development in Chile. The authors exploited spatial and time variations in local exposure to export growth arising from past differences in industry specialisation across local labour markets and the evolution of tariffs and exports across industries. They employed a shift-share instrumental variable approach to identify the causal effect of export growth on various labour market outcomes, including labour informality, employment, wages, and monetary poverty. The study found that growing exports led to a significant reduction in labour informality and labour income gains in more exposed local markets. These effects were driven by job creation and wage growth in the formal sector and concentrated on senior skilled workers. Additionally, exposed locations experienced a relative decline in monetary poverty. The research concluded that export growth promoted local economic development through the creation of better-paid formal jobs. While the study did not directly focus on the informal economy as a whole, its findings are relevant to the implications of informality as it highlights the potential of export-led growth to reduce informality and improve labour market outcomes.

While some studies emphasize the barriers to formalization, including excessive bureaucracy, high tax burdens, and institutional inefficiencies (Loayza, 1996; Maksimov, Wang & Luo, 2017; Narula, 2020), they largely treat these factors as external constraints rather than

investigating how informal actors actively weigh the costs and benefits of formalization. Studies (Rothenberg et al. 2016; Ulyssea, 2018; Bonnet, Vanek, and Alter Chen, 2019) suggest that many firms remain informal due to a lack of desire to expand, but they do not examine whether perceived costs—such as regulatory compliance, taxation, and administrative complexity—outweigh the benefits of formality, such as access to credit and market opportunities. This is particularly relevant in the agricultural sector, where formalization may offer potential advantages, but these benefits remain inaccessible or uncertain for many informal actors.

Moreover, while some research highlights distrust in formal institutions and a reliance on informal networks, it remains unclear whether this distrust stems from a rational evaluation of formalization costs or simply a lack of awareness about its potential benefits. Empirical evidence is lacking on whether informal actors who perceive formalization as prohibitively costly are more likely to remain informal, even when participating in structured value chains. Addressing this gap, this study seeks to determine whether the perceived costs of formalization serve as a stronger predictor of continued informality than the perceived benefits. This leads to the following proposition:

P2: Perceived costs of formalization are a stronger predictor of continued informality among actors in GVCs than perceived benefits of formalization.

2.4.2 Institutional Quality and Informality

The quality of institutions plays a pivotal role in shaping the landscape of informality. In environments characterised by weak governance, ineffective regulatory frameworks, and inadequate contract enforcement, formal economic participation is often discouraged, fostering a reliance on informal mechanisms. The concept of "**institutional ambiguity**"—where opaque rules and unreliable formal systems necessitate reliance on informal, relationship-based governance (Vallone, Elia, & Greve, 2023)—is particularly relevant. Such ambiguity increases operational uncertainty and information-processing demands for firms, potentially reinforcing informality (Vallone et al., 2023). For Multinational Enterprises (MNEs) operating in GVCs, these challenges are amplified by microfoundational constraints related to **Bounded Reliability (BRel)**—the difficulty in monitoring behaviour and ensuring commitments across

dispersed, institutionally weak settings (Georgakakis, Wedell-Wedellsborg, Vallone, & Greve, 2023). These factors can elevate the perceived risks of formal engagement, pushing even GVC-oriented firms towards informal practices.

Empirical investigations offer further insights into the persistence of informality within specific contexts. For instance, Akay and Khamis (2011) explored this persistence within the Ukrainian labour market using panel data from the Ukrainian Longitudinal Monitoring Survey for the years 2003, 2004, and 2007. The study aimed to disentangle the effects of structural state dependence (due to past informal employment experiences) and spurious state dependence (due to unobserved individual characteristics) on the likelihood of being informally employed. The authors employed a dynamic panel data probit model with endogenous initial conditions, controlling for various socio-demographic and economic factors. The study found evidence of significant structural state dependence, indicating that past informal employment experiences increase the probability of current informal employment. The authors concluded that policies aimed at reducing informality may have long-lasting effects on the labour market.

While the empirical study by Akay and Khamis (2011) offers valuable insights into the persistence of informality in the Ukrainian labour market, it exhibits a gap in its applicability to the broader aim of explaining the rationality behind the persistence of informality, particularly in the context of developing economies and the agricultural sector. Specifically, the study primarily focuses on the impact of past informal employment experiences on current labour market outcomes. However, it does not consider the multifaceted nature of informality and the diverse rationales that drive individuals and businesses to operate in the informal sector. In particular, it overlooks the role of other factors such as perceived costs and benefits of formalisation, cognitive biases, and the influence of informal support ecosystems, which are central to understanding the persistence of informality.

Radnitz (2011) examined the interplay between informal politics and the state, drawing on four case studies: China, Saudi Arabia, Bulgaria, and Italy. The study aimed to understand how informal networks and institutions shape political and economic outcomes in contexts where formal institutions may be weak or ineffective. The author employed a qualitative approach, reviewing and synthesising findings from various studies on informal politics in these countries. The study found that informal politics can have both positive and negative consequences for the state. In some cases, informal networks can undermine state capacity and facilitate corruption, while in others, they can compensate for state deficiencies and provide essential

public goods. The author concluded that the relationship between informal politics and the state is complex and context-dependent, and that a deeper understanding of informality is crucial for effective policymaking and state-building. Overall, the study provides a valuable perspective on the role of informality in the political sphere. However, its exclusive focus on the political realm, neglecting the economic dimensions of informality is a gap. Moreover, it does not delve into the specific rationales and decision-making processes that drive individuals and businesses to operate in the informal economy.

In another study by Verbrugge (2015), an attempt was made to examine the persistence of informality in artisanal and small-scale mining (ASM) in the Southern Philippines, specifically in Compostela Valley province. The study challenged existing explanations that focused solely on legal and political barriers, arguing that informality also stems from the exploitation of informal labour. The research employed a qualitative approach, utilizing fieldwork and interviews with various stakeholders in the ASM sector. The study found that the expansion of ASM was driven by a transition from capital-intensive large-scale mining to a more flexible regime of accumulation built around the exploitation of informal labour. The author concluded that informality in ASM is not simply a matter of exclusion from the formal economy but also a deliberate strategy of exploitation by powerful actors. This study provided a critical examination, highlighting the role of exploitation and power relations in perpetuating informality within the artisanal and small-scale mining (ASM) sector in the Southern Philippines. Its primary focus on exploitation as a driving force behind informality is crucial in understanding the power dynamics within the ASM sector. Nevertheless, additional studies are required to enhance our understanding on the broader underlying factors explaining the rationality for the persistence of informality across different contexts, exploring the individual decision-making processes, perceived costs and benefits of formalisation, or the role of cognitive biases, which are central to understanding the persistence of informality in various sectors and contexts.

Gutiérrez-Romero (2021) investigated the long-term impact of inequality on the size of the informal economy. The study aimed to test the predictions of new dualistic models, which suggest that initial levels of inequality determine the persistence of informality. The research employed a panel random effects model and instrumental variable approach, utilising historical indicators of inequality and data on the informal economy across 138 countries. The analysis considered the Gini index from various years (1700-1992), business environment indicators

(lending interest rate, ease of getting credit, cost of starting a business, total tax rate), and changes in inequality over time. The study found that past levels of inequality are the most significant predictors of the informal economy's size, while improvements in the business environment have a minor role. The research also identified evidence of club convergence, where countries with high initial inequality diverge from those with lower initial inequality or those that have implemented significant redistribution. The study concludes that initial conditions play a crucial role in determining the persistence of the dual economy, highlighting the importance of addressing long-lasting effects of inequality to reduce informality. The research is relevant as it provides empirical support for the predictions of new dualistic models and emphasises the need for redistributive policies to address informality effectively. However, the study acknowledges the limitations of using historical inequality indicators and the potential influence of other factors on the informal economy.

Examining the deep-seated nature of informality, Fechner (2022) traced the historical roots of labour market segmentation in sub-Saharan Africa, arguing that the gendered division between formal and informal sectors can be traced back to colonial legal segmentation. The study focused on the early colonial period (1890s-1930s) and analysed labour-related legislation in Belgian, British, French, German, and Portuguese colonies. The author employed a comparative law approach, focusing on the functional equivalence of legal norms across different colonial powers. The study found that colonial legislation systematically excluded or marginalised women and domestic labour relations, while prioritising the commodification of black African male labour for European employers. The author concluded that the "colonial exploitative legal employment standard" established a gendered and racialized hierarchy in the labour market, contributing to the long-term persistence of informality. The study provides a historical analysis of the legal foundations of labour market segmentation, highlighting the role of colonialism in shaping contemporary informality. However, the study focused primarily on the early colonial period without recourse to how these historical patterns have interacted with contemporary economic and social factors to perpetuate informality in sub-Saharan Africa provides a critical gap.

Habibi et al. (2022) investigated the reproduction of urban informality in Iran, focusing on the interplay between government policies, the state economy, and technocracy. The study aimed to provide a comprehensive and critical overview of the factors contributing to the persistence of informal settlements in Iran. The research employed a critical and holistic approach, drawing

on documents, sources, and statistics from official institutions. The study found that government policies and the state's monopoly over the economy play significant roles in reproducing poverty and informal settlements. The authors concluded that addressing urban informality in Iran requires political acceptance of informal life, reforming political and economic structures, and reducing income-class gaps. This work has provided a macro-level lens to the analysis of persistent informality in a context of a government-controlled environment like Iran. It has established that macro factors such as government policies and the state's role in the economy contribute to the reproduction of informality. While these structural factors are undoubtedly crucial, analysing micro-level decision-making processes of economic agents as well as the perceived costs and benefits that drive individuals and businesses to operate in the informal sector is equally important. In this thesis, attempts will be made to synthesise both macro and micro level factors that influence economic agents' decisions to remain informal.

In an effort to complement macro-policy view, Vallone, Elia, & Greve (2023) examined how MNEs respond organizationally to "institutional ambiguity", environments characterized by reliance on informal rules and relationships by analyzing executive selection. To this end, it examined the complexity firms face when operating in environments with high "institutional ambiguity", defined by reliance on informal rules and relationships, makes formal operations challenging. In the study, the authors investigated how MNEs respond organizationally to different types of international environmental complexity through the selection of new executives. Framed by the concept of executive job demands, the study specifically aimed to understand how institutional ambiguity and economic sophistication, as distinct sources of country-level complexity stemming from foreign investments, influenced the hiring of executives with generalist versus specialist backgrounds. The empirical analysis was based on a sample of 478 executive appointments in 133 UK-based manufacturing firms between 2008 and 2018, covering subsidiaries across 72 countries. the study found that while economic sophistication tended to drive the hiring of specialists by UK MNEs, institutional ambiguity was associated with hiring generalists (though this effect was weaker when economic sophistication was also high). This research directly addressed ambiguity related to informality but focused on the MNE's internal response (hiring choices) rather than the broader nature or developmental impact of the informal economy itself within those ambiguous settings. It highlighted how MNEs cope organizationally but did not delve into the interaction between MNE strategies and the informal sector's role in development, leaving a gap regarding the direct

linkage between MNE presence in ambiguous/informal environments and host country development outcomes.

Rahmouni and Saizen (2024) investigated the implication of institutional informality in the historical urban evolution of Morocco, focusing on the cities of Fes and Oujda. The study employed a historical institutionalist approach to trace the historical evolution of these cities and analyse the interplay between formal policies and informal spatial and institutional urban practices. The research utilised archival research, policy analysis, and semi-structured interviews to understand the dynamics of urban development and the role of informality in shaping it. The study found that informality has been a persistent and influential force in the urban development of Morocco, often prevailing over formal planning strategies. The research highlighted the adaptive nature of informal institutions, which have evolved to accommodate and sometimes substitute formal institutions in response to changing circumstances. The study concluded that informality constitutes a complex rationality that needs to be recognized and integrated into urban planning practices. The primary focus of the study is on the macro-level interplay between formal policies and informal practices. However, its gap is in its lack of exploration into the micro-level decision-making processes and individual motivations that drive the adoption and perpetuation of informal practices within the urban context. The study does not delve into the perceived costs and benefits of formal versus informal practices from the perspective of individuals and businesses, which is crucial in understanding the rationality behind the persistence of informality at the grassroots level.

Further studies examine how institutional improvements facilitate upgrading and formalization. Shahbaz et al. (2023) highlight the role of institutional quality in shaping economic sustainability, finding that stronger governance structures correlate with lower levels of informality. However, their analysis remains at the macroeconomic level and does not capture the firm-level dynamics of informal actors. Similarly, César and Falcone (2023) demonstrate that regulatory enhancements accompanying export growth can incentivize formalization, particularly through structured compliance requirements. Nonetheless, these studies do not sufficiently address whether and how improved institutional quality directly enables informal actors to capture value within Global Value Chains (GVCs). This gap provides the foundation for the third proposition:

P3: Improved institutional quality (e.g., regulatory frameworks, support systems, and contract enforcement) is positively associated with reduced informality and increased upgrading among firms participating in GVCs.

2.4.3 Implication of Credit Access, Market Access, and Participation in GVCs for Value Capture

Limited access to formal credit and structured markets has been identified as a significant constraint preventing informal actors from transitioning to the formal economy and maximizing value capture. Studies suggest that financial sector inefficiencies contribute to the persistence of informality by restricting access to affordable credit, which in turn limits investment in productivity-enhancing activities.

The informal economy provides vital livelihoods for marginalized populations excluded from the formal sector due to poverty, lack of education, or limited job opportunities (Ulyssea, 2018; Bonnet, Vanek, & Alter Chen, 2019). It fosters entrepreneurship and innovation by reducing barriers to entry for micro-enterprises and small businesses. Furthermore, it enhances economic resilience during crises, acting as a safety net and providing alternative income sources for vulnerable populations. However, this flexibility comes at a cost. Operating outside the legal and regulatory framework limits economic growth by reducing tax revenues crucial for public service provision (Ulyssea, 2020). Informal workers often lack social protections, benefits, and access to healthcare (Gutiérrez-Romero, 2021; Villena-Roldán, 2024).

Within Global Value Chains (GVCs), informality hinders economic and social upgrading, limiting access to technology, skills, and market opportunities, ultimately trapping workers in low-value-added activities with poor working conditions (Bhorat & Tarp, 2016; Bailey et al., 2018). Empirical studies have further explored these implications. For instance, Cimoli, Primi, and Pugno (2006) examined the relationship between the informal sector and economic growth in Latin America. The authors constructed a two-sector model, distinguishing between the formal and informal sectors, to analyse the dynamics of output, productivity, and employment in the context of structural heterogeneity. The model highlighted the adverse effects of informality on overall economic performance, primarily through its impact on productivity and income distribution. The study argued that the persistence of informality in Latin America was

linked to unfavourable specialisation patterns and a "low-quality" international trade profile, which hindered the formal sector's ability to absorb labour and generate sustained growth. The findings of this study resonate with the broader concerns about informality hindering economic growth and development.

Building on this, Mondragón-Vélez, Peña, and Wills (2010) examined the relationship between labour market rigidities and informality in Colombia. The authors utilised data from the Colombian Household Survey for the period 1984-2006 and employed probit models to estimate the probability of being informal and the likelihood of transitioning between the formal and informal sectors. The study found that increases in non-wage costs and the minimum wage were associated with a higher probability of being informal, particularly for low-skilled workers. The research also revealed that the informal sector in Colombia was characterised by exclusion rather than voluntary participation, as evidenced by the lower wages and lack of social security benefits for informal workers. The study concluded that labour market rigidities played a significant role in driving informality in Colombia and recommended policies aimed at reducing these rigidities and promoting formalisation. This highlights the unintended consequences of labour market regulations and their potential role in driving informality.

Radnitz (2011) examined the interplay between informal politics and the state, drawing on four case studies: China, Saudi Arabia, Bulgaria, and Italy. The study aimed to understand how informal networks and institutions shape political and economic outcomes in contexts where formal institutions may be weak or ineffective. The author employed a qualitative approach, reviewing and synthesising findings from various studies on informal politics in these countries. The study found that informal politics can have both positive and negative consequences for the state. In some cases, informal networks can undermine state capacity and facilitate corruption, while in others, they can compensate for state deficiencies and provide essential public goods. The author concluded that the relationship between informal politics and the state is complex and context-dependent, and that a deeper understanding of informality is crucial for effective policymaking and state-building. Overall, the study provides a valuable perspective on the role of informality in the political sphere. However, its exclusive focus on the political realm, neglecting the economic dimensions of informality is a gap. Moreover, it does not delve into the specific rationales and decision-making processes that drive individuals and businesses to operate in the informal economy.

Shifting focus to agrarian structures, Oyvat (2016) explored the impact of land inequality on income inequality and urbanisation. The author developed a theoretical model that linked land inequality to income disparities in both urban and rural sectors. The model suggested that high land inequality can lead to increased income inequality in urban areas by creating a surplus labour pool that drives down wages. The study utilised cross-country datasets to empirically investigate the relationship between land inequality, urbanisation levels, and income inequality. The findings supported the theoretical model, indicating that land inequality significantly impacts urbanisation levels and income inequality in both urban and overall contexts. The study also found that over-urbanization, a phenomenon where urban population growth outpaces industrial development, can exacerbate income inequality. The research concluded that policymakers should consider the broader implications of agrarian policies, as land reforms and support for agro-food smallholders can contribute to reducing urban income inequality and poverty in the long run. While this study did not explicitly address the informal economy, it underscores the interconnectedness of various factors influencing development and the potential for future research to explore the mediating role of informality.

D'Erasmus (2016) examined the relationship between credit conditions and the size of the formal sector in Brazil. The author developed a general equilibrium model with endogenous formal and informal sectors to assess the impact of reduced financial intermediation costs on credit availability and formalisation. The model predicted that a decrease in intermediation costs would lead to an increase in the credit-to-output ratio and the proportion of formal workers. The study calibrated the model using firm-level data and aggregate statistics from Brazil in the early 2000s and then simulated a reduction in intermediation costs based on observed changes between 2003 and 2010. The results showed that the reduction in costs led to a substantial increase in credit to GDP and the formal labour force, consistent with the empirical evidence. The study concluded that policies aimed at improving the efficiency of financial intermediaries and reducing their funding costs can be effective in promoting formalisation and economic development. This highlights the importance of financial sector development in facilitating formalisation, a theme relevant to this thesis which will further explore the role of informal credit ecosystems.

Costamagna, Idrovo Carlier, and Mendi (2019) examined the long-term effects of initial informality on firms' innovation strategies, specifically focusing on the use of technology licensing. The authors utilised firm-level data from the World Bank's Enterprise Surveys

conducted in several Latin American countries between 2006 and 2017. The study employed probit models to estimate the probability of firms using licensed technology, considering their initial informality status and other firm characteristics. The research found that formal firms that began informally were less likely to use licensed technology, suggesting the existence of persistent effects of initial informality on firms' innovation behaviour. The study also found that the negative effect of initial informality was more pronounced among downstream firms, those selling directly to final consumers. The research concluded that initial informality could act as a barrier to technology adoption, even after firms formalise, highlighting the importance of considering the long-run implications of informality when designing policies to promote innovation and productivity growth. This reinforces the importance of addressing informality early on to foster a more dynamic and innovative economy.

In their 2020 study, Gutiérrez-Romero investigated the long-lasting effects of historical inequality on the size of the informal economy and the potential for club convergence. The study utilised a comprehensive panel dataset covering 138 countries over the 1991-2015 period and combined it with historical inequality indicators. The research found a strong positive association between past levels of inequality and the size of the informal economy. Interestingly, the study also found that improvements in the business environment had a negligible impact on reducing informality, challenging the conventional focus on such reforms. The study concluded that addressing the long-lasting effects of inequality is crucial for reducing the size of the informal economy and promoting convergence towards a more formalised and equitable economic structure. This research provided valuable insights into the persistent nature of informality and its connection to historical inequality, highlighting the limitations of focusing solely on business environment reforms to address this issue.

Özgür, Elgin, and Elveren (2020) broadened the scope by examining the association between informality and various sustainable development indicators. The study utilised an annual cross-country panel dataset covering 160 economies from 1950 to 2016. The study employed panel fixed-effects regressions and panel cointegration techniques to analyse the relationship between informality and a wide range of sustainable development indicators, including health-related, economic, environmental, education, and social variables. The findings revealed that the size of the informal sector was negatively associated with GDP per capita, CO2 emissions per capita, education, educational attainment, life expectancy, and access to safe drinking water, while positively associated with female labour force participation rate, poverty rates, mortality

rates, and air pollution. The study also found that the empirical associations significantly interacted with GDP per capita, indicating that the effect of a larger informal sector was stronger in developing economies. The research concluded that the informal sector had a detrimental effect on sustainable development and recommended that policymakers pay greater attention to the informal sector when designing economic and social policies. This underscores the multifaceted nature of informality and its diverse impacts on development.

Lahura and Vargas (2021) investigated the empirical relationship between informality and financial development and inclusion. The study utilised a panel dataset of 152 countries from 1991 to 2017, employing various indicators of financial development (e.g., credit to GDP ratio) and financial inclusion (e.g., number of bank accounts per capita). The authors employed panel cointegration techniques and causality tests to analyse the long-run relationship between the variables. The study found a negative long-run relationship between informality and several financial development and inclusion indicators, suggesting that improving access to and use of financial services can help reduce informality. The authors concluded that policies promoting financial development and inclusion can contribute to reducing informality and fostering economic growth. This highlights the importance of financial inclusion in promoting formalisation and economic growth.

In a different dimension, Shahbaz et al. (2023) examined the effects of informality, institutional quality, and renewable energy consumption on the ecological footprint of emerging economies in Europe and Asia. The study utilised the PMG-ARDL approach to analyze panel data from 2002 to 2018. The findings highlighted differences between the two groups of countries, indicating greater heterogeneity in the impact of the studied variables. In European emerging countries, informality was found to have a positive and significant long-run effect on the ecological footprint, while the effect was negative in Asian emerging countries. Institutional quality variables also exhibited varying impacts on environmental quality across the two groups. The study concluded that policymakers should consider concerted measures to address institutional vulnerabilities and reduce informality to mitigate environmental risks. The research contributed to the understanding of the complex relationship between informality, institutional quality, and environmental sustainability in emerging economies. However, the study did not explicitly address the potential influence of the informal economy on development outcomes beyond its environmental impact.

Furthermore, César and Falcone (2023) investigated the causal impact of export growth on local economic development in Chile. The authors exploited spatial and time variations in local exposure to export growth arising from past differences in industry specialisation across local labour markets and the evolution of tariffs and exports across industries. They employed a shift-share instrumental variable approach to identify the causal effect of export growth on various labour market outcomes, including labour informality, employment, wages, and monetary poverty. The study found that growing exports led to a significant reduction in labour informality and labour income gains in more exposed local markets. These effects were driven by job creation and wage growth in the formal sector and concentrated on senior skilled workers. Additionally, exposed locations experienced a relative decline in monetary poverty. The research concluded that export growth promoted local economic development through the creation of better-paid formal jobs. While the study did not directly focus on the informal economy as a whole, its findings are relevant to the implications of informality as it highlights the potential of export-led growth to reduce informality and improve labour market outcomes.

Echoing the works of Lahura and Vargas (2021), and Capasso, Ohnsorge, & Yu (2022), Sever and Yücel (2023) investigated the impact of the informal economy on financial development convergence across countries. The study utilised panel data from 156 countries between 1991 and 2017, employing credit as a share of GDP to measure financial development and model-based estimates from Medina and Schneider (2018, 2020) to gauge the size of the informal economy. The authors employed a panel regression approach with fixed effects as their baseline specification. The study's key finding was that higher levels of informality hinder financial development convergence. This suggests that policies aimed at reducing informality could play a crucial role in helping countries with developing financial systems catch up with their more developed counterparts, ultimately contributing to narrowing income inequality across nations.

Shifting the focus to the interplay between poverty and informality, Bolarinwa and Simatele (2023) investigated the bi-directional causality between poverty and informality in 40 Sub-Saharan African countries between 1991 and 2018. The authors employed a System Generalised Method of Moments-Panel Vector Autoregression (SGMM-PVAR) framework to analyse the relationship between poverty and informality, considering the heterogeneity of the relationship across different income levels. The findings revealed that the direction of causality between poverty and informality depended on the country's income level. In low-income

countries, a bi-directional causality was observed, while in middle-income countries, causality ran from poverty to informality. The study concluded that the relationship between poverty and informality in Sub-Saharan Africa was complex and mediated by income levels, suggesting that a certain level of informality might be desirable, especially in low-income countries. Overall, the study suggests that the role and desirability of informality may differ depending on a country's economic context.

In a more related study, Assis et al. (2023) investigated the influence of informality on a local agri-food supply chain in Brazil. The authors conducted 15 semi-structured interviews with various stakeholders in the mariculture supply chain in the Greater Florianópolis region. The study aimed to understand the role of trust among stakeholders, but the topic of informality emerged spontaneously in 9 of the 15 interviews. The findings revealed that informality was prevalent in the Brazilian supply chain, hindering its organisation and creating unfair competition. The study also found a correlation between the level of education of entrepreneurs and the size and legalisation of their businesses. Factors such as lack of adequate supervision and cultural aspects were identified as contributing to the persistence of informality. The research concluded that informality negatively impacts the development and sustainability of the supply chain and recommended further qualitative and quantitative studies to explore solutions and policy implications. This micro-level analysis provides valuable insights into the challenges posed by informality within specific sectors and its detrimental effects on supply chain organisation, competitiveness, and sustainability.

Furthermore, Sever and Yücel (2024) investigated the impact of the informal economy on the convergence of financial development across countries. The authors utilised panel data from 156 countries over the period 1991-2017 and employed a fixed-effects panel regression approach to examine the relationship between informality and financial development convergence, measured by credit as a share of GDP. The study found that financial development tended to converge across countries over time, particularly when informality was lower. However, as the size of the informal economy increased, financial development convergence weakened and could even turn into divergence. The research concluded that policies addressing informality could help countries with lower levels of financial development catch up with those with more developed financial systems. The study's focus on the dynamic relationship between informality and financial development convergence offered a valuable contribution to the literature. However, it did not delve into the specific channels through which

informality affects financial development, leaving room for further investigation into the underlying mechanisms. The findings of this study are relevant to the theme of informality and development as they highlight the potential negative consequences of informality on a crucial aspect of development - financial development. The study suggests that reducing informality can facilitate financial development convergence, which, in turn, can promote economic growth and reduce income inequality across countries.

Rahmouni and Saizen (2024) investigated the implication of institutional informality in the historical urban evolution of Morocco, focusing on the cities of Fes and Oujda. The study employed a historical institutionalist approach to trace the historical evolution of these cities and analyse the interplay between formal policies and informal spatial and institutional urban practices. The research utilised archival research, policy analysis, and semi-structured interviews to understand the dynamics of urban development and the role of informality in shaping it. The study found that informality has been a persistent and influential force in the urban development of Morocco, often prevailing over formal planning strategies. The research highlighted the adaptive nature of informal institutions, which have evolved to accommodate and sometimes substitute formal institutions in response to changing circumstances. The study concluded that informality constitutes a complex rationality that needs to be recognized and integrated into urban planning practices. The primary focus of the study is on the macro-level interplay between formal policies and informal practices. However, its gap is in its lack of exploration into the micro-level decision-making processes and individual motivations that drive the adoption and perpetuation of informal practices within the urban context. The study does not delve into the perceived costs and benefits of formal versus informal practices from the perspective of individuals and businesses, which is crucial in understanding the rationality behind the persistence of informality at the grassroots level.

Synthesising these diverse perspectives, the literature on informality reveals diverse implications for development. While the prevailing view emphasises the negative consequences of informality, recent research also recognizes its potential positive role in providing livelihoods and fostering resilience, particularly in contexts with weak formal institutions. This underscores the need for context-specific policy approaches that recognize both the potential benefits and drawbacks of informality in the pursuit of sustainable and inclusive development.

While the literature on informality reveals diverse implications for development, its influence extends further, impacting GVC participation and value capture. Early research by Chan (2013) highlighted the prevalence of informality within horticultural and commodity value chains, where informal workers often constitute the majority of the workforce. This study emphasised the vulnerability of these workers to market fluctuations and persistent gender disparities in working conditions and benefits. Ultimately, Chan concluded that while GVC participation can offer opportunities for income generation and livelihood improvement, it also presents significant challenges for informal workers, including precarious employment, low wages, and limited social protection.

Expanding on the analysis of GVCs, Banga (2013) examined the measurement and distribution of gains in GVCs, highlighting the limitations of traditional trade data in capturing the net value-added gains from international production fragmentation. The study used the OECD-WTO Trade in Value-Added (TiVA) database to estimate domestic and foreign value-added content in gross exports for 58 countries. The findings revealed that the difference between gross exports and value-added exports, reflecting foreign value-added content, varied significantly across countries, with newly industrialised countries exhibiting the highest shares. The study also found that the share of services value-added exports in global value-added exports increased faster than that of manufactured products. The research emphasised the importance of considering both forward linkages (domestic value-added exports entering other countries' exports) and backward linkages (foreign value-added in gross exports) to assess the net gains from GVC participation. The study concluded that high participation in GVCs does not necessarily guarantee higher gains and that developing countries may face challenges in maximising gains due to the concentration of GVCs in high-tech industries and the dominance of services in value-added contribution to exports of developed countries. The research recommended that policymakers focus on 'gainfully linking into GVCs' in identified industries where the country can derive net positive domestic value-added gains. However, the study did not explicitly explore the dynamic nature of GVC participation or GVC-related gains.

Further exploring the complexities of GVC participation, Bruhn (2014) evaluated the role of preferential trade agreements (PTAs) in the context of global value chains, focusing on the trade-offs between deep integration and policy autonomy for developing countries. The study utilised data from the UNCTAD-Eora GVC database and a new database on the design of trade agreements to analyse the implications of deep PTAs for GVC participation and value capture.

The research found that deep PTAs, which include provisions beyond traditional trade barriers, can promote GVC participation and attract foreign direct investment by providing a framework for economic governance and signalling policy transparency and predictability. However, the study also highlighted the potential risks associated with deep PTAs, such as restrictions on policy autonomy and the potential for investor-state dispute settlement mechanisms to undermine development objectives. Bruhn concluded that developing countries should carefully assess the pros and cons of PTA membership and prioritise agreements that allow for policy flexibility and support their efforts to upgrade within GVCs and capture greater value.

Goger et al. (2014) examined the dynamics of economic and social upgrading in African GVCs, specifically in the horticulture, apparel, and tourism sectors, to understand the conditions under which GVC participation translates into improved outcomes for workers and small producers. Their in-depth case studies in several African countries (Egypt, Kenya, Lesotho, Madagascar, Mauritius, Morocco, South Africa, and Uganda) revealed that upgrading and sharing the gains from GVC participation were limited in Africa, with economic upgrading being uneven across sectors and social upgrading even more so. The study identified several factors influencing upgrading outcomes, such as the bargaining position of weaker value chain participants, private governance, public policy, and institutional contexts, and highlighted emerging trends in African GVCs, including regionalization, formalisation, and consolidation of lead firm market power. The authors concluded that GVC participation alone is not sufficient to ensure inclusive growth and poverty reduction and recommended multi-faceted policy approaches to promote upgrading.

Building on this, Cusolito, Safadi, and Taglioni (2016) examined the barriers faced by small and medium enterprises (SMEs) and low-income countries in participating in and benefiting from GVCs. The study highlighted the heterogeneity and unevenness of GVC participation across and within countries, with SMEs primarily contributing indirectly to exports through backward linkages. The authors argue that a "whole of the value chain" approach is needed to promote more inclusive GVCs, involving trade, investment, and domestic policy reforms. The research emphasises the importance of investing in people, skills, and innovation to enable SMEs and low-income countries to move up the value chain and capture greater value. The study's findings underscore the need for targeted policy interventions to address the specific challenges faced by SMEs and low-income countries in GVC integration. The research also

highlights the importance of data collection and analysis to better understand the dynamics of GVC participation and inform policymaking.

In India, BIRTHAL et al. (2016) evaluated agro-food smallholders' choices of value chains and their financing mechanisms in Punjab using survey data from 612 households and econometric models. The findings indicated that formal value chains, driven by cooperatives, multinational companies, and private domestic processors, were dominant in the milk market, accounting for 69% of total milk sales. Small dairy agro-food smallholders were more associated with informal value chains but were not excluded from formal ones. The study also found that the performance of different value chains in terms of productivity and profitability was comparable, with no significant difference in milk prices offered by formal and informal buyers. The research concluded that the value chain approach could improve access to finance for agro-food smallholders, recommending innovative financial products and contract-based financing mechanisms. However, the study did not explicitly explore the role of GVC participation in influencing the overall development of the dairy sector or the potential impact of GVCs on rural livelihoods and poverty reduction.

BANGA (2017) investigated the impact of linking into GVCs on employment in India between 1995 and 2011. The study employed fixed effects and Generalised Method of Moments (GMM) estimations to analyse the employment impact of foreign value-added in output, foreign value-added in exports (backward linkages), and domestic value-added in exports of intermediate goods and services (forward linkages). The research utilised data from the Annual Survey of Industries (ASI), the World Input-Output Database (WIOD), and the Trade in Value Added (TiVA) database. The study found that backward linkages negatively impacted employment in India, while forward linkages did not have a statistically significant impact. The research concluded that the impact of GVC participation on employment is complex and depends on the nature of linkages.

Gyeke-Dako et al. (2017) examined Ghana's participation in global value chains (GVCs) and its impact on employment. The study utilised both quantitative and qualitative data, with the former obtained from an enterprise survey of firms registered with the Association of Ghana Industries (AGI) and the National Board for Small Scale Industries (NBSSI), and the latter collected through case studies of exporting firms in the textile, garment, and agri-food sectors. The quantitative analysis employed econometric techniques, including a random-effects ordered probit model and a multinomial probit model, to investigate the determinants of export

frequency and the relationship between exporting and employment quality. The qualitative analysis utilised the frameworks of Gereffi (2005) and Lakhani et al. (2013) to examine how firms' integration into GVCs influences their employment strategies and the quality of employment. The study found that Ghana had limited participation in GVCs, primarily exporting primary products with minimal value addition. The research also revealed that larger, older, foreign-owned firms, and those with higher sales per worker and process innovation were more likely to export frequently. Additionally, exporting firms were found to offer better employment quality, as measured by the provision of decent work characteristics such as contracts, paid leave, medical insurance, and pensions. The qualitative analysis further suggested that firms integrated into GVCs with governance structures characterised by lead firms were more likely to have employment strategies that improve the quality of employment compared to firms without such links. The study concluded that while GVC participation can enhance employment quality, Ghana's limited participation and the dominance of less favourable governance structures pose challenges for maximising the employment benefits of GVC integration. The research recommended policies aimed at promoting value addition in the manufacturing sector and strengthening the enforcement of national labour legislation to improve the quality of employment.

Dollar and Kidder (2017) investigated the role of institutional quality in influencing GVC participation, focusing on the importance of strong institutions for enabling firms to engage in complex, contract-intensive production processes. The study used industry-level data on GVC participation and country-level measures of institutional quality for 41 countries from 1996 to 2011. The findings revealed that industries more sensitive to institutions, such as those producing differentiated and customised products, exhibited higher participation in complex GVCs in countries with better institutions. The research also highlighted the importance of local institutions in China, demonstrating that firms in cities with better contract enforcement, less government intervention, efficient customs processes, and greater access to credit were more likely to participate in GVCs. The study concluded that institutional quality is a crucial determinant of GVC participation and economic development, particularly in contract-intensive industries. The authors recommended that policymakers focus on improving economic institutions and reducing transaction costs to facilitate firms' integration into GVCs. However, the study did not explicitly explore the distributional effects of GVC participation or the potential impact of GVCs on income inequality and social upgrading.

Brumm, Georgiadis, Gräß, and Trottner (2019) investigated the relationship between GVCP and current account imbalances. The study aimed to establish a causal link between increased GVCP and changes in a country's current account balance. The authors used data from the World Input-Output Database (WIOD) and the IMF's External Balance Assessment (EBA) model to analyse the impact of GVCP on current account balances for a sample of countries. Panel data regression was employed. The findings revealed that economies with higher GVCP tend to exhibit larger current account surpluses or lower deficits. The study concluded that GVCP is a significant factor influencing current account balances and should be considered in any analysis of external imbalances. The research, however, did not delve into the specific mechanisms through which GVCP affects economic development or the distribution of value capture within global value chains.

Long, Helble, and Trang (2019) investigated the impacts of GVC integration on formal and informal employment in Vietnam using the Vietnam Household Living Standard Surveys and the OECD's Trade in Value Added database. The study employed a fixed-effects estimator to examine the relationship between GVC engagement and the share of formal employment at the provincial level and a probit estimator to analyse the likelihood of being a former employee at the individual level. The research found a positive relationship between the level of GVC engagement and the share of formal employment at the provincial level. However, the study also revealed that the impact of GVC participation on formal employment varies depending on the position in the GVC, with backward participation having a more positive effect than forward participation. At the individual level, the study found that provincial GVC engagement is positively correlated with the likelihood of being formally employed, but the effect is indirect and mediated through the local labour market. The research concluded that while GVC integration can contribute to increased formal employment, its impact is contingent on the nature of GVC participation and the characteristics of the local labor market.

Meagher (2019) adopted a qualitative approach to investigate the impact of GVCs on informal workers in Africa, focusing on South African farmworkers and Moroccan argan oil producers. The study highlighted the complex and often contradictory effects of GVC integration on vulnerable workers. In South Africa, the liberalisation of agricultural markets and the integration into global value chains led to increased casualization, outsourcing, and the use of labour brokers, resulting in greater precarity and lower wages for many farmworkers. In Morocco, the integration of women into the global argan oil value chain through cooperatives

led to increased control over their labour by global firms and limited improvements in their economic well-being. The study concluded that GVC participation does not necessarily benefit marginalised workers and can even exacerbate their vulnerability. The research emphasised the need to consider the specific mechanisms through which GVCs interact with local institutional contexts and power structures to understand their impact on informal workers. The study also highlighted the role of intermediaries, such as labor brokers and cooperatives, in shaping the terms of GVC integration for informal workers and the potential for these intermediaries to perpetuate exploitative labour practices. A gap in this research is the lack of quantitative data to support the qualitative findings, which could limit the generalizability of the conclusions. However, the study's in-depth analysis of specific cases provides valuable insights into the complexities of GVC integration and its impact on informal workers.

Narula (2019) examined the consequences of enforcing higher labour standards within developing country value chains, particularly in the context of a dual economy with both formal and informal sectors. The study focused on the apparel industry in Bangladesh, drawing on interviews and field observations to understand how multinational enterprises (MNEs) have responded to pressures for improved labour practices following the Rana Plaza disaster in 2013. The research found that MNEs have adopted a "cascading compliance" approach, transferring the responsibility for monitoring and enforcing labour standards to their tier 1 suppliers, who in turn are expected to ensure compliance further down the supply chain. This approach, coupled with a partial re-internalization of previously outsourced activities and increased automation, has led to the exclusion of many informal actors from GVCs, particularly women and unskilled workers. The study concluded that while efforts to improve labour standards are laudable, they can have unintended negative consequences for the most vulnerable segments of the population in developing countries. The research highlights the need for a deeper understanding of the relationship between labour standards, GVC participation, and development, and calls for policies that balance the need for compliance with the need for inclusive growth and employment generation.

Carballa et al. (2020) examined the relationship between GVC participation and development patterns at the country level. The study aimed to account for the diversity and interdependence of development through a cross-country analysis for 51 countries between 1995 and 2008. The authors introduced new macroeconomic indicators of GVC participation and economic gains based on a theoretically consistent definition of GVCs. They also employed principal

component analysis and cluster analysis to identify a variety of interdependent development patterns related to GVC participation. The findings revealed three distinct patterns of socio-economic development associated with different degrees and modes of GVC participation: a social upgrading mirage, the reproduction of the core, and unequal growth. The study concluded that there is no single story concerning the relationship between GVC participation and development outcomes and that development patterns in GVCs need to be understood as constitutive parts of a global process of uneven development. The research, however, did not delve into the specific policy implications or recommendations for promoting more inclusive and equitable GVC participation and upgrading.

Chena and Noguera (2020) investigated the relationship between GVC integration and informality in Argentina between 2004 and 2015. The study employed a panel data model with fixed effects, utilising data from the Encuesta Permanente de Hogares (EPH) and the Trade in Value Added (TiVA) database. The research found a significant and positive relationship between increased GVC participation and the growth of informality, both in terms of unregistered jobs and the informal economy. However, the study also revealed that informality decreases when the proportion of domestic value-added incorporated in total exports increases, suggesting that the nature of GVC insertion matters for its impact on informality. This suggests that policies aimed at improving the position of local firms in GVCs and increasing domestic value-added can mitigate the negative impact of GVCs on informality and promote more inclusive development.

In another study, Fernandes, Kee, and Winkler (2020) conducted a comprehensive cross-country study examining the determinants of GVC participation using a panel dataset covering over 100 countries over three decades. The study employed instrumental variables (IV) and difference-in-difference estimations to address endogeneity concerns. The findings revealed that factor endowments, geography, political stability, trade policies, foreign direct investment inflows, and domestic industrial capacity significantly influence GVC participation. The study concluded that these factors have a more substantial impact on GVC participation than on traditional exports. The research indirectly contributes to the understanding of the link between GVCP and development by highlighting the factors that enable countries to integrate into GVCs, which can lead to increased trade, productivity gains, and economic growth. The study also emphasises the importance of addressing endogeneity concerns in empirical research on GVCs.

Pahl and Timmer (2020) investigated the long-run effects of GVC participation on economic upgrading, focusing on productivity growth and employment generation in the formal manufacturing sector. The study utilised a novel dataset combining information on formal manufacturing employment and value-added with national input-output tables, covering 58 countries between 1970 and 2008. The research employed econometric analysis to examine the relationship between GVC participation and the growth of employment and labour productivity in exports. The findings revealed strong evidence for a positive association between GVC participation and labour productivity growth, particularly for countries further away from the productivity frontier. However, the study found no evidence of a positive effect on employment generation. The research concluded that GVC participation can stimulate productivity growth but may not necessarily lead to increased employment in the formal manufacturing sector, highlighting the potential trade-offs associated with GVC integration. The research suggests that while GVC integration can offer opportunities for productivity enhancement and economic growth, it is essential to consider its potential impact on employment and implement complementary policies to ensure inclusive development.

Ihalainen et al. (2021) examined the relationship between women's participation in agricultural value chains and their empowerment, drawing on a critical review of the literature. The study aimed to understand how and under what conditions participation in agricultural value chains can advance or constrain women's empowerment. The research focused on various agricultural value chains across different regions, analysing the impact of women's participation on their agency at individual, household, and collective levels, as well as on broader structural changes towards gender equality. The findings revealed a complex and often contradictory relationship between value chain participation and women's empowerment. While participation can lead to increased income, skills, and decision-making power, it can also result in greater vulnerability, exploitation, and time poverty. The study concluded that the empowerment effects of value chain participation are contingent on various factors, including the nature of the value chain, gender relations and norms, and the specific interventions implemented to promote women's empowerment. The research indirectly contributes to the understanding of the link between GVCP and development by highlighting the importance of considering gender dynamics and empowerment in value chain analysis and interventions. The study also emphasises the need for a context-specific approach to promoting women's empowerment through value chain participation.

Pleticha (2021) investigated the heterogeneous effects of GVC participation on value added, considering the role of functional specialisation. The study utilised data for 35 industries in 40 countries from 2000 to 2011, sourced from the World Input-Output Database (WIOD) and functional specialisation data collected by Timmer et al. (2019). The research employed a Cobb-Douglas production function framework, incorporating measures of GVC participation (foreign value-added share) and functional specialisation (R&D, fabrication, and marketing). The study found that the benefits of GVC participation are not evenly distributed and depend on the functional specialisation of the industry and its GVC partners. Specifically, participation in R&D-related GVCs was found to be particularly beneficial for fabrication-oriented industries and low-developed countries. The study concluded that functional specialisation plays a crucial role in determining how the gains from GVC participation are distributed, and any analysis of GVC participation would be incomplete without considering the functional specialisation of the participants. The research contributes to the understanding of the link between GVCP and development by highlighting the importance of functional specialisation in shaping the distribution of value added within GVCs. The study also suggests that developing countries and fabrication-oriented industries can benefit significantly from participating in GVCs with R&D-focused partners, potentially leading to technological upgrading and economic development. The research, however, did not explicitly explore the dynamic nature of functional upgrading or the potential impact of GVC participation on income distribution across different groups of individuals.

Kordalska and Olczyk (2021) examined the causal relationship between forward linkages from domestic services to manufacturing and a country's participation/position in global value chains (GVCs) in selected Central and Eastern European economies between 2000 and 2014. The study employed a panel Granger causality test to investigate this relationship. The authors observed a polarisation pattern: the Baltic countries and the Czech Republic strengthened their positions and participation in GVCs through strong linkages between the financial sector and manufacturing. In contrast, Poland, Hungary, and Slovakia exhibited solid linkages between transportation services and manufacturing. The study also found that the reverse relationship, where GVC participation and position influence forward linkages, was also significant. While the study did not explicitly explore the connection between GVC participation and development or value capture, its findings indirectly contribute to the theme. The research highlights the importance of strong domestic linkages between services and manufacturing in enhancing a country's participation and position in GVCs. This suggests that developing robust

service sectors and fostering their integration with manufacturing can be a crucial pathway for countries to upgrade within GVCs and capture greater value, contributing to their overall development.

Colovic, Misganaw, and Assefa (2022) examined the impact of a firm's initial informal status on its subsequent participation in GVCs, utilising World Bank Enterprise Survey data from 112 emerging and developing economies. The study employed imprinting theory to hypothesise that firms originating in the informal sector would be less likely to engage in direct GVC participation and more likely to participate indirectly as suppliers to direct exporters. The authors employed multilevel mixed-effect logistic regression to test their hypotheses, controlling for various firm-level and macro-level factors. The empirical results supported their hypotheses, indicating a persistent "liability of informality" that influences firms' GVC participation even after formalisation. While the study did not directly investigate the connection between GVC participation and value capture, its findings indirectly shed light on the potential challenges faced by firms transitioning from informality to formality in upgrading within GVCs and capturing greater value, which can have implications for their growth and contribution to national development.

Lai, Nguyen, and Bayhaqi (2022) examined the relationship between foreign direct investment (FDI), GVC participation, and economic upgrading in the APEC region. The study employed a social network analysis approach to identify key players in the global FDI network and utilised skyline analysis to understand the industrial base and economic diversity of China, Indonesia, and Vietnam. The research found that economies with a central position in the FDI network also tended to be hubs in the global trade network, suggesting that GVC participation can attract investment. The case studies of China, Indonesia, and Vietnam revealed that self-sufficiency levels in various economic sectors influence GVC participation. The study concluded that GVC participation provides opportunities for developing economies to achieve industrialization and economic upgrading, but the upgrading process is complex and influenced by factors such as technological capability and sectoral focus. The research indirectly contributes to the understanding of the link between GVCP and value capture by highlighting the potential benefits of GVC participation for economic upgrading and industrialization, which are key drivers of development. Stendahl, Tippmann, and Yakhlef (2022) explored how multinational corporations (MNCs) facilitate lateral collaboration across subsidiaries during the creation of new organisational practices, particularly in contexts where traditional

coordination mechanisms relying on frequent interpersonal interactions may be less feasible. The research employed a longitudinal case study approach, focusing on the development and implementation of a new performance management practice in a European MNC's business unit in the construction industry. The study found that the MNC successfully fostered lateral collaboration and knowledge creation without relying heavily on direct interaction among subsidiaries. Instead, the company adopted an improvisational approach, characterised by a continuous cycle of generation and implementation moments, guided by a loose "script" provided by headquarters. The emergence of "lateral knowledge" among subsidiaries, facilitated by a shared digital platform, played a crucial role in enabling subsidiaries to understand each other's contextual needs and interests, thereby promoting cooperation and the development of a standardised practice that was sensitive to local requirements. The study concluded that MNCs can effectively leverage lateral collaboration and innovation in a less space-time sensitive manner by adopting an improvisational approach and utilising shared technological artefacts to foster the emergence of lateral knowledge. However, the study focuses on a single case study in the construction industry, which may limit the generalizability of the findings to other industries and contexts.

Tian, Dietzenbacher, and Jong-A-Pin (2022) examined the effects of GVC participation on industrial upgrading using panel data from the World Input-Output Database for 40 countries and 34 industries from 1995 to 2011. The study measured GVC participation from backward and forward linkages and used three dimensions of industrial upgrading as dependent variables: process, product, and skill upgrading. The findings revealed that an increase in GVC participation increased industrial upgrading in product and skill upgrading. However, backward participation had a positive effect on process upgrading, while forward participation had no significant effect. The study concluded that GVC integration benefits industrial upgrading for both developed and developing countries, with backward participation being more beneficial for developing countries and forward participation for developed countries. The research highlighted the importance of GVC participation for industrial upgrading but acknowledged the potential heterogeneity of effects across countries and industries. However, the study did not explicitly address the potential impact of GVC participation on income inequality and social mobility.

O'Higgins, Andreeva, and Aramburu (2022) conducted a longitudinal case study of a Spanish professional service firm's internationalisation process in three Latin American countries over

21 years. The study aimed to explore how and why foreign operation mode combinations change over time, drawing on the knowledge-based view (KBV) of the firm. The research utilised a combination of semi-structured interviews, online video recordings, and archival data to trace the evolution of the firm's operation mode combinations and the underlying knowledge processes. The findings revealed that the firm combined different operation modes to enable multiple knowledge processes simultaneously, and that these combinations changed in response to evolving knowledge needs and priorities. The study concluded that operation mode combinations are created to facilitate various knowledge processes, some of which may be finite or entail changes to the firm's knowledge base. As the firm's knowledge needs evolve throughout the internationalisation process, so do its operation mode combinations. The research contributes to the understanding of the link between GVCP and development by highlighting the role of knowledge management in shaping firms' internationalisation strategies and operation mode choices. However, the study's focus on a single professional service firm and its specific context may limit the generalizability of the findings to other industries and types of firms.

In Nigeria, Adeoti et al. (2022) examined the employment and innovation effects of GVC participation, focusing on the pharmaceutical, petrochemical, and food and beverage industries. The study utilised a mixed-methods approach, combining primary data collected through a firm-level survey with secondary data from the World Development Indicators and UNCTAD-EORA databases. The research employed logistic regression, instrumental variable regression, and dynamic ordinary least squares techniques to analyse the data. The findings revealed that while Nigeria's overall participation in GVCs remains low, firm-level participation is driven by factors such as firm size, capacity utilisation, access to credit, and technology adoption. The study also found that GVC participation has a positive and statistically significant effect on employment but a positive but statistically insignificant effect on innovation. The authors concluded that Nigeria has the potential to benefit from GVC participation, but policies aimed at promoting technology adoption, improving access to finance, and enhancing the business environment are crucial for fostering greater GVC integration and reaping its associated benefits. The study's focus on Nigeria and its specific manufacturing sub-sectors provides valuable insights into the challenges and opportunities faced by developing countries in integrating into GVCs and their implications for employment and innovation. The research also highlights the importance of considering firm-level factors in understanding the dynamics of GVC participation and its impact on development.

Guschanski and Onaran (2023) examined the impact of GVC participation on the labour share in seven emerging economies between 1995 and 2014. The study employed industry-level panel data from global input-output tables and utilised difference-GMM and instrumental variables estimators to address endogeneity concerns. The research found that GVC participation, particularly offshoring from advanced to emerging economies, negatively affects the labour share, especially for medium-skilled workers in manufacturing industries. The study concluded that GVC integration can lead to a decline in the labour share due to changes in the relative bargaining power between capital and labour, highlighting the distributional implications of GVC participation. The research contributes to the understanding of the link between GVCP and development by emphasising the potential negative consequences of GVC integration for income distribution, particularly in emerging economies. The study also underscores the importance of considering the impact of GVCs on different skill groups and the role of labour market institutions in mediating the distributional effects of globalisation.

Mundt, Savin, Cantner, Inoue, and Vannuccini (2023) analysed how the productivity of countries, adjusted for participation in GVCs, affects their output growth in manufacturing sectors. The study utilised multinational input-output data from the World Input-Output Database (WIOD) and employed parametric and non-parametric methods to investigate the relationship between productivity and growth, considering both idiosyncratic and value-chain productivity measures. The research found that value-chain linkages are critical to the productivity-growth nexus and help explain cross-country differences in sectoral output growth rates compared to the situation where these linkages are ignored. The study concluded that GVC participation can outweigh disadvantages in productive performance at the individual country level and that market reallocation, driven by GVCs, is a more important driver of productivity change than individual technological improvement. The study's findings are relevant to the theme of GVCP and development as they highlight the potential for GVC participation to enhance economic growth, even for countries with relatively lower individual productivity levels. The research suggests that GVC integration can provide opportunities for countries to benefit from the productivity spillovers and knowledge transfers associated with participation in global production networks.

Yue Mingyang et al. (2023) explored the impact of a country's position in Global Value Chains (GVCs) on employment levels, using panel data from 56 industries across 42 countries between 2000 and 2014. The study employed a three-dimensional fixed effects model and instrumental

variable (IV) 2SLS estimation to address potential endogeneity. The research found that improving a country's position in GVCs leads to a significant increase in employment, with this effect being more pronounced in developing countries. The study also uncovered that developed countries primarily enhance employment through improvements in their forward GVC position (i.e., increasing the proportion of intermediate product exports), while developing countries achieve this mainly by reducing their backward GVC position (i.e., substituting imported intermediate products with domestically produced ones). Additionally, the research identified a potential crowding-out effect in developed countries, where employment tends to concentrate in industries with higher GVC positions at the expense of other industries. The study concluded that enhancing GVC position is beneficial for employment growth, particularly in developing countries, and suggested that countries should formulate GVC participation and employment policies accordingly. The study's gap, however, lies in its reliance on data up to 2014, which may not fully capture the impact of more recent technological advancements and global economic shifts on the relationship between GVC participation and employment.

Calatayud and Rochina Barrachina (2023) examined the determinants and effects of GVC participation on manufacturing firms in Sub-Saharan Africa, using firm-level data from the World Bank Enterprise Survey for 18 countries from 2005 to 2018. The study employed various measures of GVC participation, including indicators of the extensive and intensive margins and backward and forward integration. The findings indicated that good infrastructure, quality institutions, and security positively influenced GVC participation, while lack of access to finance, the presence of an informal sector, and high trade costs discouraged participation. The research also revealed that GVC participation had positive effects on firm performance, including innovation, productivity, wages, and employment. The study concluded that GVC participation can benefit firms in Sub-Saharan Africa, but addressing business environment challenges is crucial for enhancing participation and maximising gains. The authors recommended policies focusing on improving infrastructure, access to finance, and the formalisation of the economy. However, the study acknowledged the limitations of its findings, including the potential influence of other factors, such as firm-specific capabilities and global market conditions, on GVC participation and performance outcomes.

Guha-Khasnobis et al. (2023) examined the impact of GVC participation and position on employment and skill composition in India from 1990 to 2015. The study used Arellano-Bond

GMM dynamic panel estimation to analyse the effects of backward and forward linkages, GVC participation index, and upstreamness index on employment and labour quality. The findings revealed that while sector expansion did not lead to significant employment creation, stronger backward linkages had a labour-displacing effect, and stronger forward linkages created employment opportunities, primarily for unskilled workers. The research also showed that downstream sectors generated more employment, while upstream sectors were more skill-intensive. The study concluded that the impact of GVC participation on employment varies depending on the sector's position in the value chain and the skill level of the workforce. The authors recommended that policymakers consider these factors when formulating policies aimed at promoting employment generation and skill development. However, the study is limited by recent data availability.

Fotié and Mbratana (2024) investigated the non-linear effect of development levels on informality across 150 countries from 1996 to 2017. Their study aimed to understand how the level of development influences the size of the informal economy. They used panel quantile regression with fixed effects, incorporating a non-monotonic function of informality, and conducted sensitivity analyses to ensure the robustness of their findings. The study revealed an inverted-N-shaped relationship between the size of the informal economy and GDP per capita, suggesting an initial decline in informality followed by an increase and then a subsequent decrease as per capita income rises. The authors concluded that the non-linear effect of development on informality was heterogeneous across the conditional distribution of informality. Although the study did not directly examine Global Value Chain Participation, its findings on the complex relationship between development and informality are relevant. The research suggests that the level of development can influence the size and dynamics of the informal economy, which, in turn, can affect a country's ability to participate in and capture value from global value chains. As countries develop and their economies become more formalised, they may be better positioned to engage in global production networks and enhance their value capture. However, the study did not directly address the role of GVCP in influencing informality or the potential impact of GVCP on the transition from informal to formal economic activities.

Tadesse and White (2024) examined the impact of immigrants on trade in value-added (TiVA), focusing on how the value-added generated in immigrants' home countries is embedded in their host countries' exports. Using a panel dataset covering 38 OECD member host countries and

64 immigrant home countries from 2000 to 2018, the study employed a random intercept and random slope mixed-effects model. The findings indicated that immigrants significantly enhance TiVA from their home countries, contributing to their host countries' exports across various sectors, including manufacturing, agriculture, and services. The study concluded that immigrants facilitate trade sophistication by promoting specialization and upward movement in the value chain, generating economic benefits for both home and host countries. The authors recommended that policymakers consider the trade advantages of immigration when formulating immigration and trade policies. However, the study did not examine the specific mechanisms through which immigrants influence TiVA or the role of immigrant networks in knowledge transfer and technological spillovers within GVCs.

The reviewed literature on GVC participation and value capture highlights the complexity of this relationship, particularly for informal actors in developing economies. While GVCs present opportunities such as expanded market access, technology transfer, and skill enhancement, these benefits are often constrained by structural challenges. Research underscores that persistent informality in many developing countries limits their ability to fully engage in and benefit from GVCs. The prevalence of low-value-added activities, weak bargaining power, and restricted access to critical resources frequently results in informal actors capturing only a small share of GVC-generated value.

Institutional factors play a crucial role in shaping GVC participation and value capture. Strong institutions—characterized by effective governance, transparent regulations, and efficient contract enforcement—are essential for fostering an enabling environment that promotes GVC integration and equitable distribution of gains. Additionally, Costamagna et al. (2019) found that firms originating in the informal sector were less likely to adopt advanced technology, suggesting that the long-term effects of informality can persist even after formalization, limiting value capture. These led to the development of the fourth proposition.

P4: Access to formal credit and markets mediates the relationship between GVC participation and value capture for informal actors.

Based on the above review, the study identified four propositions as represented in Table 2.3 below

S/N	Proposition
P1	A higher degree of informality among agro-food smallholders is associated with lower levels of income, reduced access to credit, and lower overall well-being, even after controlling for participation in GVCs.
P2	Perceived costs of formalization are a stronger predictor of continued informality among actors in GVCs than perceived benefits of formalization.
P3	Improved institutional quality (e.g., regulatory frameworks, support systems, and contract enforcement) is positively associated with reduced informality and increased upgrading among firms participating in GVCs.
P4	Access to formal credit and markets mediates the relationship between GVC participation and value capture for informal actors.

Table 2.3: Summary Table of Study Propositions

2.4.4 Informal Support Ecosystem

Building on the identified propositions, it is evident that informality in developing countries is shaped by multiple interrelated factors, including access to credit, institutional quality, and the perceived costs and benefits of formalization. While these structural and economic factors are crucial for understanding informality, they do not fully capture the adaptive strategies that informal actors employ to navigate challenges. A critical yet often overlooked dimension is the role of informal support ecosystems, which serve as a buffer against economic uncertainty and institutional constraints. Although existing studies have acknowledged specific elements of informal systems like informal credit mechanisms (e.g. *esusu*), there has been limited analysis of how these systems collectively contribute to the persistence of informality, contributing to a gap in the literature. These ecosystems, comprising social networks, informal financial structures, and information-sharing platforms, play a pivotal role in supporting informal livelihoods.

To better understand the role of informal support ecosystems, it is essential to examine existing research that explores different aspects of these systems. While some studies have analyzed the impact of social networks and informal financial mechanisms, a comprehensive evaluation of how these elements interact to sustain informality remains scarce. This subsection reviews key

studies that touch upon various aspects of informal support ecosystems, highlighting their findings and identifying gaps that this study seeks to address.

For instance, Evans (2016) examined the relationship between social capital and the shadow economy, highlighting the ambivalent nature of social capital in influencing both positive and negative outcomes within the informal economy. The study utilised a conceptual framework based on Pierre Bourdieu's notion of social capital as access to durable networks of resources. The research drew on a review of previous studies on the informal economy and social capital in disadvantaged neighbourhoods and the European context. The findings revealed that social capital serves as a source of both resilience and repression in the shadow economy. While it enables coping and survival strategies for marginalised groups, it also facilitates the operations of criminal networks and the exploitation of vulnerable labour by powerful actors. The study concluded that the role of social capital in the shadow economy is complex and context-dependent, and its impact can be both positive and negative depending on the specific circumstances.

Beyond economic networks, informality also extends into social and educational settings. Kloss (2018) examined the Peachtown Elementary School, a progressive school in Aurora, New York, to understand how it uses informality and hierarchy to provide an alternative to traditional public schools. The study employed a qualitative approach, involving observations and interviews with teachers, students, parents, and alumni. The research found that Peachtown's informal and heterarchical learning environment, characterised by a lack of standardised tests, multi-age classrooms, and student-led projects, fosters a sense of community, encourages critical thinking, and empowers students to take ownership of their learning. The school was described as operating "more like a family" and successfully resisting the pervasive culture of high-stakes testing. The study concluded that the Peachtown model offers a viable alternative to the standardised and test-driven approach prevalent in many public schools.

Similarly, Bhan and Gajera (2018) examined the ways that information flows through informal economic systems in East Africa, specifically conducting ethnographic fieldwork at the border of Kenya and Uganda. They sought to understand the concept of the "value web" – an economic microsystem comprising a "value creator" (a key micro-entrepreneur) and their established network of customers, suppliers, and service providers – as a node within the trading ecosystem. Using both ethnographic and human-centered design methods, the study found that these economic systems are complex, with various levels of formal and informal structures. These

include formal value chains, hierarchies of power, women traders' self-help groups, subsistence agro-food smallholders, value webs, and mentoring. The study concluded that these various structures interact to create complex economic systems and highlighted the diversity of actors within the informal economy, emphasizing the need to design interventions that effectively address their needs by targeting the entire "value web" rather than individual traders. The study, however, as noted in its own framing, focused primarily on mapping the ecosystem and identifying users for interventions. Consequently, it did not explore in depth the specific mechanisms through which these informal support ecosystems (like the value web itself) function to build resilience and adaptability among informal traders, nor the detailed interplay of the different support elements within these webs.

Another dimension of informality is seen in the transport sector. Rekhviashvili and Sgibnev (2020) investigated the persistence of informal transport, specifically the marshrutka system (shared minibuses) in Bishkek, Kyrgyzstan, and Tbilisi, Georgia. The study aimed to challenge the dominant view of informal transport as solely market-driven and to highlight its social embeddedness. The authors employed a Polanyian institutionalist framework, which emphasises the interplay between markets and social embeddedness in shaping economic practices. The research utilised fieldwork, including interviews with drivers, operating companies, and authorities, and participant observation, building on a critical reading of existing literature. The study found that the marshrutka system, despite being for-profit, is deeply and "horizontally embedded" in social norms and institutions, involving reciprocity, mutuality, and sharing, as well as personalized and non-economic considerations in its operations. The authors concluded that informal transport is not simply a product of market forces but is shaped by complex social relationships and negotiations, with local ties providing a degree of stability and security. It should be noted that this study is insightful as it highlights the social embeddedness of informal transport, challenging the market-centric view of informal transport.

Overall, this subsection has highlighted the diverse ways in which informal support ecosystems function to provide resilience and adaptability for actors within the informal economy. While the reviewed studies offer valuable insights into specific aspects of these ecosystems, such as the role of social capital, informal learning environments, information flows within "value webs", and social embeddedness in informal transport, a comprehensive understanding of the various components (social, financial, informational), how these components operate and

interact synergistically, and their collective impact on the persistence and nature of informality remains limited. This thesis aims to address these gaps by analysing informal support ecosystems in the context of Kaduna State, Nigeria. By employing a mixed-methods approach that combines quantitative and qualitative data, this research identifies the various components and provides a deeper understanding of how these ecosystems function and their implications for development.

2.5 Conceptual Framework

The conceptual framework of this study adopts a **behavioural agency perspective**, integrating the cost-benefit logic of **Rational Choice Theory** with the contextual factors defined by **Institutional Theory** and the **Legalist School of Thought**, and is complemented by findings from the empirical literature reviewed. Informality in developing economies is a multifaceted and strategic phenomenon, deeply intertwined with global economic dynamics and integration processes (La Porta & Shleifer, 2014; Narula, 2019). While globalization—particularly through Global Value Chains (GVCs)—has created opportunities for economic growth and development, these benefits are unevenly distributed (Montalbano & Nenci, 2020). As a result, many economic actors adopt hybrid practices that blend formal and informal elements, enabling them to navigate constraints and exploit opportunities effectively.

The persistence of informality is often tied to its perceived short-term benefits, such as cost savings, adaptability, and reduced regulatory burdens. Informal enterprises avoid expenses associated with compliance, taxation, and formalization, allowing them to allocate resources toward core activities (De Soto, 1989; Chen, 2012). This flexibility enables informal actors to respond swiftly to market fluctuations and capitalize on niche opportunities, making informality a rational choice in environments with weak institutional support (Maksimov, Wang & Luo, 2017). In contrast, formalization offers long-term advantages, including access to credit, legal protections, and GVC participation, which can drive productivity and growth (Narula, 2020; Montalbano & Nenci, 2020). Formal structures also enhance credibility and visibility, fostering trust among stakeholders and enabling access to larger markets and institutional resources (North, 1990; Rothenberg et al., 2016). While informality provides immediate flexibility, formalization facilitates scalability and economic stability.

Emerging trends such as digitalization and globalized production have further shaped the interplay between formality and informality. Digital platforms have expanded opportunities for informal activities, particularly in personal services, transportation, and online retail (Chen, 2012; Soundararajan, 2016; Ennen & Heilker, 2020; Jan, 2024). At the same time, global supply chains have intensified subcontracting and outsourcing to informal enterprises, embedding informality within GVCs (Meagher, 2013). These trends underscore the fluid and evolving nature of informality and its entanglement with formal systems. However, empirical research often treats informality as a binary construct rather than a spectrum, underscoring the significance of this study's continuum-based approach.

Understanding the persistence of informality requires a comprehensive framework that considers:

- i. **Its strategic dimension** – how individuals and businesses deliberately engage in informal practices to gain a competitive edge.
- ii. **The influence of informal support ecosystems** – the social networks, financial mechanisms, and institutional arrangements that enable informal enterprises to survive and thrive.
- iii. **The fluidity between formal and informal activities** - recognizing that informality exists along a spectrum rather than as a rigid binary.

Institutional Theory highlights how economic behaviour is shaped by formal and informal rules, norms, and practices. Weak regulatory frameworks, high transaction costs, and distrust in formal institutions often drive actors to remain informal (North, 1990). This decision-making process, viewed through a Rational Choice Theory lens, involves actors weighing perceived costs and benefits. However, these choices are made under conditions of Bounded Rationality (BRat), where actors have limited capacity to process all relevant information about complex international or institutional environments (Georgakakis, Wedell-Wedellsborg, Vallone, & Greve, 2023). Empirical studies support this view, showing that informal actors frequently evaluate the costs of formalization—such as compliance burdens and financial obligations—against its potential benefits, often based on incomplete information or cognitive biases (Maksimov, Wang & Luo, 2017; Rothenberg et al., 2016; Narula, 2020). In many developing countries, the perceived costs of formalization outweigh the perceived benefits, leading to a

reliance on informal systems with lower entry barriers and greater flexibility (Georgakakis et al., 2023).

This study's conceptual framework is built upon this continuum-based perspective, allowing for a more granular analysis of how informal actors engage with GVCs. This approach posits that formality and informality are not rigid, dichotomous categories but rather represent fluid positions along a spectrum of economic participation. Such a perspective allows for a more granular analysis of how informal actors engage with their economic environment, including GVCs, and captures the diverse strategies they adopt to navigate institutional constraints and economic opportunities.

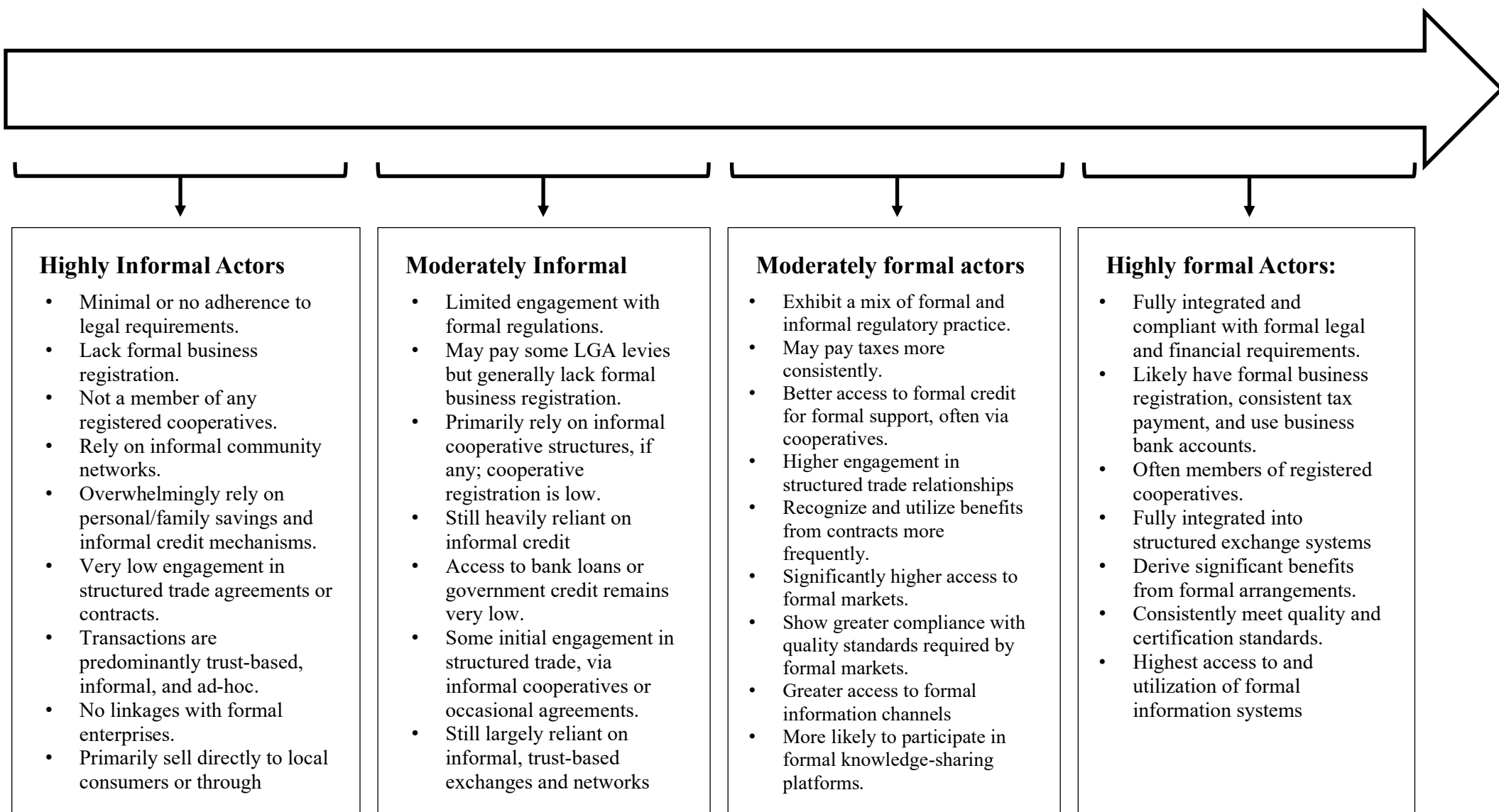


Figure 2.3: Formality-Informality Continuum

Figure 2.2 illustrates the Formality-Informality Continuum, a central concept in this study that moves beyond binary classifications of economic activity. It recognizes that economic actors strategically position themselves and engage in a mix of formal and informal practices based on their unique circumstances, capabilities, and the institutional context in which they operate.¹ This positioning is dynamic, not static; actors can, and often do, shift along this continuum in response to changing internal and external factors.

The decision-making process influencing an actor's position is shaped by several interconnected drivers:

- **Economic Calculus:** A rational, albeit bounded, assessment of the perceived costs (e.g., financial, time, bureaucratic hurdles of compliance) versus the perceived benefits (e.g., access to formal credit, markets, legal protection) of engaging with formal systems.
- **Institutional Environment & Governance:** The quality, accessibility, and trustworthiness of formal institutions. Factors such as perceived corruption, regulatory predictability, efficiency of contract enforcement, and land tenure security significantly influence actors' willingness to formalize.
- **Informal Support Ecosystem (ISE):** The availability and strength of informal networks, trust-based credit mechanisms, and community-based support systems. A robust ISE can provide essential resources and resilience, potentially reducing the perceived need for formal engagement.
- **Cognitive & Behavioral Influences:** Psychological factors such as risk aversion, status quo bias (inertia), reliance on anecdotal evidence (availability heuristic), and cultural norms regarding formal versus informal practices.

Along this continuum, distinct Actor Profiles can be identified, representing common strategic adaptations:

- **Highly Informal Actors:** Exhibit minimal adherence to formal regulations and rely heavily on the ISE for credit, market access, and information. Their economic activities are typically localized and may involve ad-hoc transactions.
- **Moderately Informal Actors:** Show nascent or selective engagement with formal structures (e.g., paying certain levies, participating in informal cooperatives that have

some formal linkages). The ISE remains central, but tentative connections to formal credit or markets may exist.

- **Moderately Formal Actors:** Adopt a hybrid strategy, consistently utilizing some formal structures (e.g., registered cooperatives, formal contracts with buyers) while still leveraging informal networks. They generally have improved, though not always complete, access to formal credit, markets, and information.
- **Highly Formal Actors:** Are fully compliant with formal regulations, leverage formal financial and contractual systems, and are consistently integrated into structured markets, often meeting quality and traceability standards required for GVC participation.

This continuum approach underscores the adaptive and strategic nature of informality, driven by a complex interplay of structural constraints, institutional environments, and individual agency. It provides a framework for understanding not just *why* informality persists, but *how* different actors navigate their economic realities.

Dimensions of the Continuum

To enhance analytical clarity and policy relevance, this study conceptualizes informality not as a binary condition but as a **strategic continuum**, shaped by institutional, financial, and market-based factors. This continuum is organized around two interrelated categories: **structural enablers** (which create the conditions for formal engagement) and **market outcomes** (which reflect the degree of formal integration). This dual framework distinguishes between the causes and effects of formalization, providing a grounded basis for analyzing actors' positioning along the informality-formality spectrum.

A. Structural Enablers (Causes)

1. Formal Regulatory Compliance:

This dimension captures actors' adherence to legal requirements such as business registration, licensing, and taxation. Compliance with formal regulations is often associated with legitimacy, legal protections, and access to government support, which can enhance business sustainability and integration into formal markets (Djankov et al.,

2002; Perry et al., 2007). However, the costs of compliance—including registration fees, tax obligations, and bureaucratic inefficiencies—pose significant barriers, particularly in weak institutional contexts (La Porta & Shleifer, 2014). Studies have shown that in many developing countries, entrepreneurs deliberately avoid formal registration due to high transaction costs and unpredictable enforcement of regulations (De Soto, 1989; Rothenberg et al., 2016).

Research by Kanbur (2017) highlights that the rigidity of legal and tax systems in low-income economies exacerbates informality, as small-scale actors opt out of formal registration to maintain flexibility and minimize costs. Additionally, informal firms often face discriminatory enforcement of regulations, where compliance costs disproportionately affect smaller enterprises, further discouraging formalization (Williams & Kedir, 2018). This underscores the role of institutional inefficiencies in perpetuating informality, as businesses weigh the economic benefits of non-compliance against the constraints of formalization.

However, formal regulatory compliance also presents long-term advantages. Registered businesses can access government grants, institutional credit, and legal protections, which enhance their market competitiveness and value capture in GVCs (Narula, 2020; Montalbano & Nenci, 2020). Moreover, studies suggest that regulatory simplification and targeted policy incentives can encourage informal actors to transition towards formalization (Bruhn, 2011). Thus, while compliance presents short-term financial constraints, it serves as a critical enabler for economic upgrading in the long run..

2. **Access to Formal Credit:** Access to formal credit is a key determinant of business growth, enabling enterprises to scale operations, invest in technology, and mitigate financial risks. Formal financial institutions such as banks, microfinance institutions, and cooperative lending schemes provide structured financial services that enhance business stability and long-term planning (Beck & Demirgüç-Kunt, 2008). However, access to formal credit remains a significant challenge for informal actors, primarily due to stringent collateral requirements, high interest rates, and financial illiteracy (Banerjee & Duflo, 2014).

Empirical studies indicate that collateral constraints are one of the largest barriers to credit access in developing economies (Beck, 2007; de Mel et al., 2008). Small-scale informal businesses often lack tangible assets or legal documentation required for

securing loans, forcing them to rely on informal credit mechanisms such as moneylenders, rotating savings and credit associations (ROSCAs), and family networks (Morduch, 1999). These informal credit sources, while accessible, typically offer higher interest rates and shorter repayment periods, exacerbating financial vulnerabilities (Meagher, 2011).

Furthermore, financial literacy plays a crucial role in determining access to credit. Studies have shown that low financial knowledge and unfamiliarity with banking procedures deter informal actors from seeking formal credit options (Bruhn & Love, 2014; Karlan et al., 2016). The exclusion from formal credit markets reinforces informality, as businesses that operate outside financial institutions struggle to access capital for expansion and value chain integration (Narula, 2020).

Policies aimed at improving financial inclusion, such as mobile banking, credit guarantee schemes, and microfinance programs, have shown potential in bridging the gap for informal actors. The rise of fintech solutions and digital lending platforms has expanded opportunities for credit access, particularly in Africa and South Asia, where traditional banking infrastructure is weak (Jack & Suri, 2014).

Despite these advancements, significant disparities persist. Informal actors continue to face institutional bias and exclusion, limiting their ability to formalize and integrate into structured financial ecosystems (Ayyagari, Demirgüç-Kunt & Maksimovic, 2010). Addressing these barriers is crucial for fostering inclusive economic development and enhancing participation in GVCs. By incorporating Access to Formal Credit as a structural enabler, this study highlights the critical role of financial access in shaping economic informality and provides a foundation for analyzing policy interventions aimed at reducing barriers to formality.

3. **Formal Exchange Arrangements:** Formal exchange arrangements refer to structured transactions governed by legally binding contracts that provide security, predictability, and accountability in economic exchanges. These arrangements are particularly crucial in Global Value Chains (GVCs), where trust, compliance, and enforceable agreements determine market participation (Gereffi, Humphrey & Sturgeon, 2005). Contracts establish clear obligations between transacting parties, reducing risks associated with opportunistic behavior and payment defaults (Williamson, 1985).

Despite these advantages, participation in formal exchange arrangements remains limited among informal actors due to institutional distrust, financial constraints, and lack of legal literacy (Meagher, 2011; Perry et al., 2007). In many developing economies, small-scale businesses operate through verbal agreements or informal credit transactions, which, while flexible, offer little protection against disputes or breaches (Fafchamps, 2004). The lack of formal contracts weakens bargaining power and limits access to structured supply chains, reinforcing informality (Narula, 2020).

Empirical studies show that contract enforcement plays a crucial role in shaping formal exchange arrangements. Weak judicial systems and lengthy dispute resolution processes deter informal actors from engaging in formal contracts (North, 1990). Research by Macchiavello & Morjaria (2015) on coffee cooperatives in Rwanda found that trust-based relationships often substitute for formal contracts, but these arrangements are vulnerable to external shocks and market volatility.

Furthermore, studies highlight that asymmetric power dynamics in GVCs often place informal suppliers at a disadvantage, where larger firms dictate terms with minimal contractual safeguards for smaller actors (Gibbon & Ponte, 2005). This imbalance discourages informal enterprises from entering structured agreements, further restricting their access to high-value markets (Kaplinsky & Morris, 2001).

Policy interventions aimed at enhancing legal literacy, simplifying contract enforcement, and incentivizing formal agreements could encourage greater participation in structured transactions (Bruhn, 2011). The emergence of digital smart contracts and blockchain-based verification systems presents new opportunities for informal actors to engage in secure and transparent exchange arrangements (Davidson, De Filippi & Potts, 2018).

By considering Formal Exchange Arrangements as a structural enabler, this study highlights the institutional and economic barriers that prevent informal actors from transitioning into more stable contractual relationships, ultimately limiting their integration into formal economic structures and GVCs.

B. Market Outcomes (Effects)

While structural enablers establish the conditions that influence an actor's position on the formality continuum, market outcomes represent the tangible effects of

formalization on economic participation. These outcomes reflect the degree to which actors successfully leverage formal structures to enhance their economic opportunities, expand market reach, and improve financial stability (Kaplinsky & Morris, 2001). Informal actors who transition toward greater formalization tend to benefit from increased access to structured markets, financial services, and institutional support mechanisms (Narula, 2020; Perry et al., 2007).

Market outcomes in this study are conceptualized through two key dimensions: formal market access and formal information access. These dimensions capture the extent to which economic actors transition from informal to structured economic participation, reflecting the tangible benefits of formalization. Formal market access represents an actor's ability to participate in regulated trade networks, including export markets, institutional procurement systems, and structured value chains. Meanwhile, formal information access refers to an actor's ability to engage with formal knowledge networks, digital platforms, and structured industry data sources, which enhance decision-making and competitiveness. Both dimensions serve as outcomes of prior institutional and transactional engagements, meaning they depend on pre-existing enablers such as contractual security, regulatory compliance, and financial integration (Narula, 2020; Meagher, 2011).

A critical distinction must be made between formal market access (an effect) and formal exchange arrangements (a cause). While formal market access describes the resulting participation in structured markets, formal exchange arrangements refer to the transactional mechanisms (such as contracts, payment systems, and enforceable agreements) that enable market participation. This distinction aligns with empirical studies (Djankov et al., 2002; Perry et al., 2007) and Global Value Chain (GVC) theory, which emphasize that entry into formal markets is contingent on compliance with institutional governance structures, certification standards, and contractual obligations (Gereffi, Humphrey & Sturgeon, 2005). Without these structural enablers, informal actors remain excluded from high-value markets, reinforcing the persistence of informality in global production systems. By framing formal market access as an effect, this study highlights the structural barriers that shape economic inclusion and the institutional pathways necessary for informal actors to integrate into formal economies. The two dimensions under Market outcomes are briefly presented below.

4. **Formal Market Access:** Formal market access represents participation in structured, organized, and regulated markets, including export platforms, certified retail chains, and government-backed procurement programs. Engaging in formal markets offers significant benefits, such as higher returns, business stability, and access to larger consumer bases (Kaplinsky & Morris, 2001; Narula, 2020). However, the transition from informal to formal markets is often hindered by multiple barriers, leading many economic actors to remain within unregulated local markets (Montalbano & Nenci, 2020).

One of the primary barriers to formal market access is compliance with regulatory and quality standards. Many formal markets impose certification requirements, hygiene and safety regulations, and standardized labeling laws, which informal enterprises often struggle to meet due to high compliance costs, lack of technical expertise, and limited institutional support (Perry et al., 2007). Studies indicate that regulatory burdens disproportionately affect small and informal businesses, reinforcing their exclusion from higher-value markets (Djankov et al., 2002; La Porta & Shleifer, 2014).

Furthermore, informal actors frequently face supply chain constraints, such as inconsistent product quality, irregular supply volumes, and limited logistics infrastructure. These factors reduce their competitiveness and ability to integrate into formalized supply networks and international trade agreements (Gereffi, Humphrey & Sturgeon, 2005). Research by Meagher (2011) highlights that limited access to formal distribution channels forces many informal businesses to rely on local, fragmented markets with fewer growth opportunities.

Despite these challenges, policy interventions such as market linkage programs, business formalization incentives, and cooperative models have shown potential in facilitating the transition from informal to formal markets. The introduction of inclusive value chain initiatives, where larger corporations integrate small-scale suppliers through targeted support programs, has been effective in some regions (Narula, 2020). Additionally, e-commerce platforms and digital trade channels offer alternative pathways for informal actors to access broader consumer bases without undergoing full formalization (Montalbano & Nenci, 2020).

By analyzing Formal Market Access as a market outcome, this study highlights the structural barriers preventing informal actors from accessing high-value markets and the policy mechanisms needed to support their integration into formal economic systems.

5. **Information Access:** Access to timely and accurate information is a critical determinant of market competitiveness and economic decision-making (World Bank, 2020). Formal information systems, such as government trade reports, digital financial platforms, and business support networks, provide structured channels for disseminating market trends, regulatory updates, and technological advancements (Jensen, 2007). These systems enhance transparency, reduce transaction costs, and improve the ability of firms to anticipate shifts in demand and supply (Stiglitz, 2002). However, informal actors, who often operate outside institutionalized structures, lack access to these formal information networks, relying instead on community networks, social interactions, and word-of-mouth communication (Meagher, 2011).

The reliance on informal information-sharing mechanisms creates asymmetries in market participation, limiting the ability of informal actors to negotiate prices, anticipate policy shifts, or access new business opportunities (McKenzie & Woodruff, 2014). Empirical studies show that limited access to structured information channels constrains the ability of informal firms to scale their operations and integrate into formal markets (Perry et al., 2007; Narula, 2020). For example, research by Aker & Mbiti (2010) in African agricultural markets found that producers with access to mobile-based price information were able to increase revenues by negotiating better deals, while those without such access remained vulnerable to price exploitation. This highlights the critical role of formal information channels in reducing market inefficiencies and improving decision-making among economic actors.

Furthermore, information asymmetry affects financial inclusion and credit access, as financial institutions rely on documented financial histories and creditworthiness indicators to assess risk (Beck, Demirgüç-Kunt & Pería, 2008). Informal entrepreneurs who lack access to formalized financial information systems are often excluded from credit opportunities, reinforcing their dependence on informal lending structures with higher costs and limited scalability (Grimm, Knorringa & Lay, 2012). This dynamic perpetuates market segmentation, where only actors embedded in formal networks can access institutional credit and expand their businesses.

Policymakers and development practitioners have sought to bridge this gap by leveraging digital platforms and ICT-based interventions to enhance formal information access among informal actors. Initiatives such as mobile-based agricultural extension services, digital financial literacy programs, and open-access trade data platforms have shown promise in reducing information asymmetries and facilitating informal actors' transition to formal markets (Donovan, 2012). However, challenges remain in ensuring widespread adoption, particularly among low-income actors with limited digital literacy (FAO, 2019). Addressing these barriers requires comprehensive policy approaches that combine technological solutions with institutional capacity building and regulatory frameworks that incentivize informal actors to engage with structured information systems (World Bank, 2020).

Strategic Navigation of the Continuum

Actors do not passively occupy positions on the informality-formality spectrum; rather, they navigate it strategically based on institutional incentives, perceived risks, and economic calculus. Informality often provides short-term benefits—such as cost avoidance and regulatory flexibility - especially in contexts marked by institutional weakness or extractive governance (Perry et al., 2007). However, the long-term benefits of formalization—legal protections, access to finance, and integration into structured markets—make it an aspirational goal for many, albeit difficult to attain.

In the absence of robust state support, **informal support ecosystems**—including family networks, producer associations, and community-based cooperatives—play a critical role in mitigating vulnerability and facilitating economic participation (Grimm et al., 2012; Meagher, 2011). While these systems increase resilience, they may also entrench actors in informality by limiting exposure to formal mechanisms of growth and risk protection (Narula, 2020).

Participation in **Global Value Chains (GVCs)** offers a powerful incentive for formalization, as buyers often require documentation, quality standards, and traceability. Yet, integration into GVCs is not without complexity. Firms, especially MNEs, must balance local responsiveness with global compliance standards, often within high-ambiguity institutional contexts (Georgakakis et al., 2023). Inclusive GVC integration thus depends not only on firm-level

strategies but also on the presence of supportive institutional infrastructures and targeted policy interventions (Montalbano & Nenci, 2020).

Applying the Framework

The continuum-based model advanced in this study emphasizes that formality and informality are not fixed categories but dynamic positions shaped by context and choice. By distinguishing between structural enablers and market outcomes, it captures the layered realities of informal actors and the institutional barriers that constrain or enable their transition toward formality. This framing moves beyond normative binaries, offering a pragmatic, evidence-based approach to designing interventions that support inclusive economic transformation.

This framework is visually represented in **Figure 2.3: Dimensions of the Strategic Informality Continuum**.

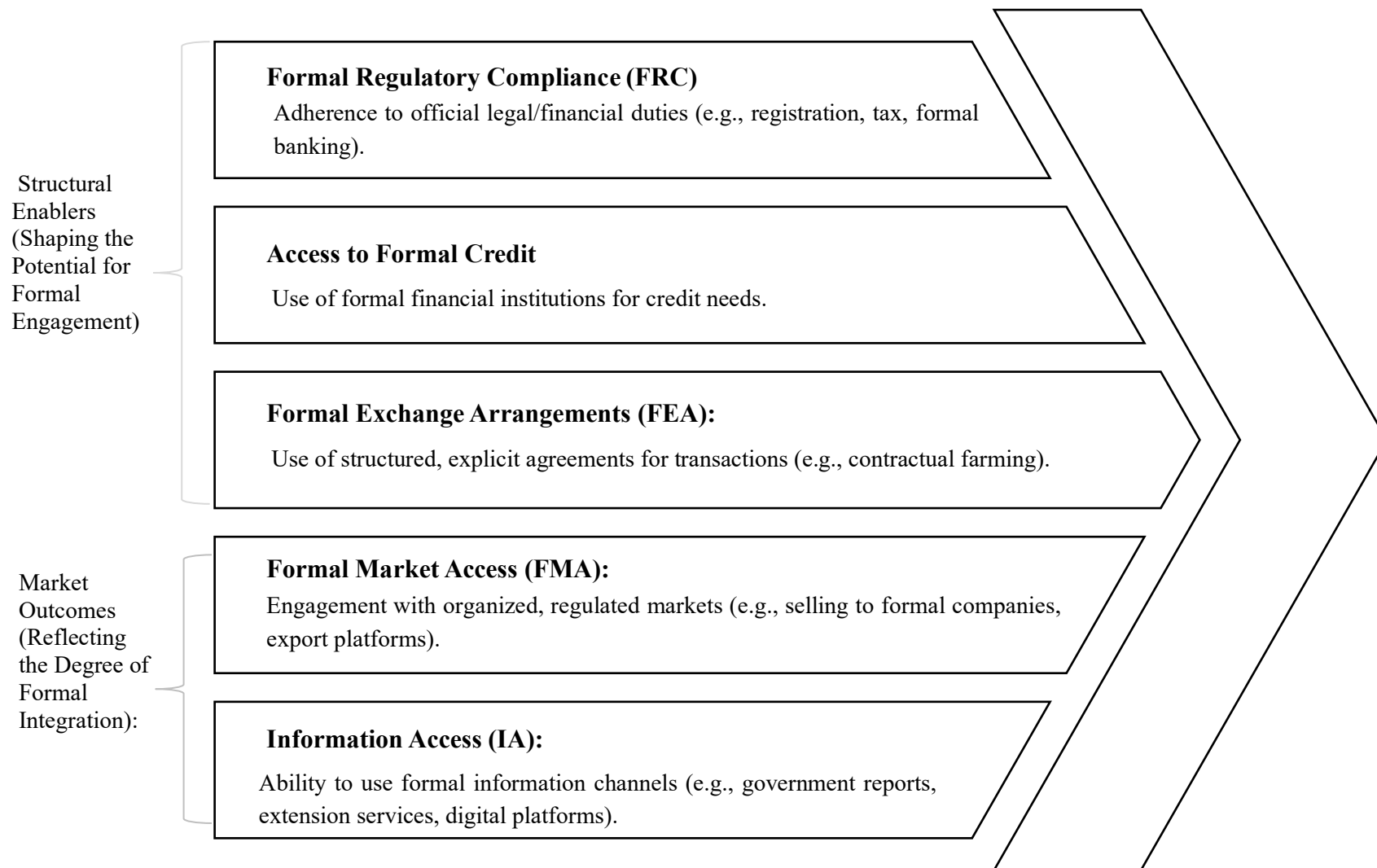


Figure 2.3: Dimensions of the Strategic Informality Continuum

In view of these dynamics, the conceptual model guiding this study is presented in Figure 2.4 below.

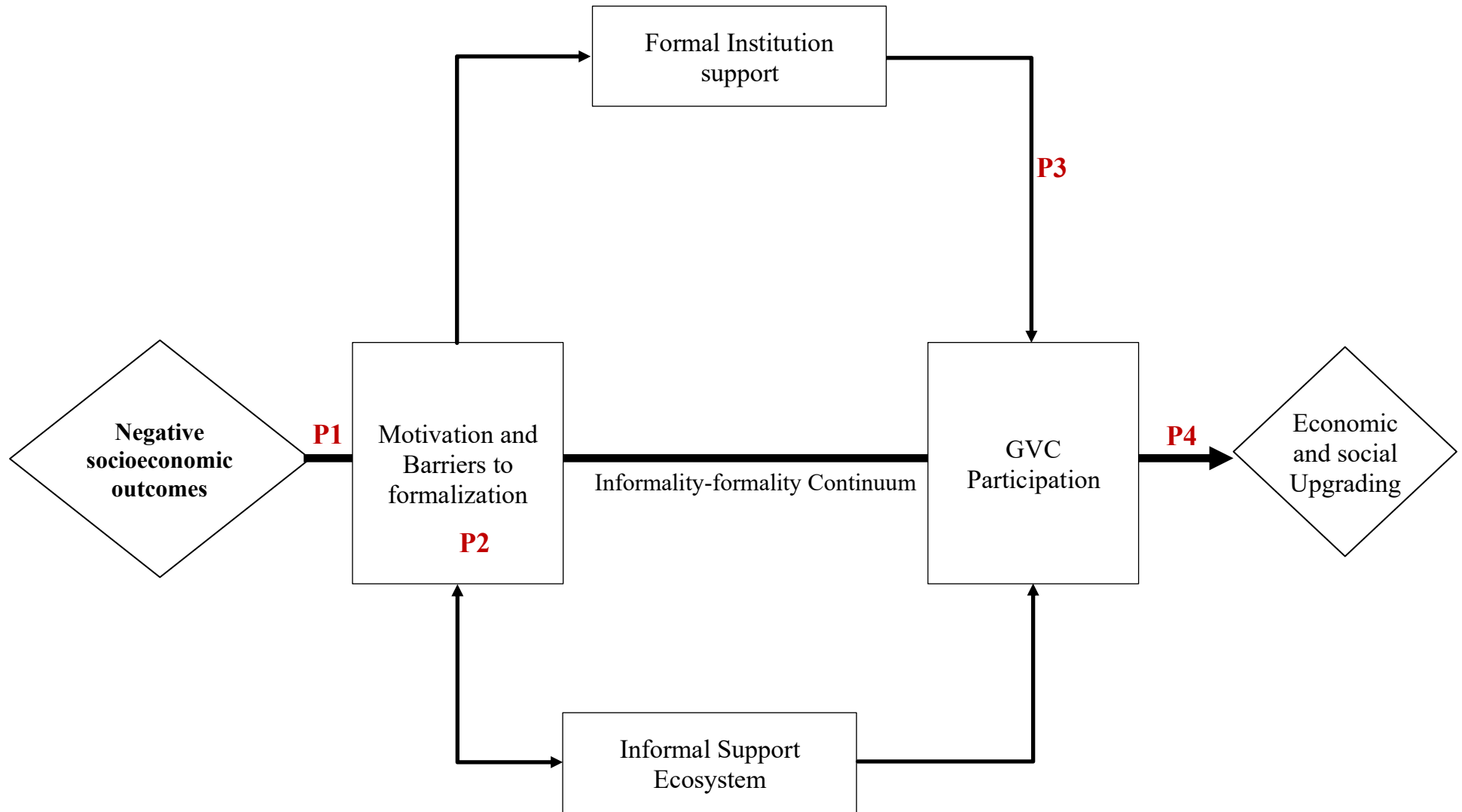


Figure 2.4: Conceptual Model of the Link between Informality, GVC, and Value Capture

The conceptual framework illustrated in **Figure 2.4** is built around several interconnected structural components that define how informal actors navigate economic upgrading. These components represent distinct institutional and economic domains that interact dynamically through both enabling and constraining mechanisms.

1. The Formality–Informality Continuum (Central Axis)

At the heart of the framework lies a continuum, representing the spectrum between high informality and high formality. As previously conceptualised, the continuum acknowledges that actors are not strictly informal or formal, but strategically positioned along a range of compliance, institutional engagement, and market access. It should be noted that the continuum is not a linear path as depicted, nor is it deterministic. Actors move fluidly or selectively based on their capabilities, institutional incentives, and perceived risks. This continuum is the main channel through which actors progress from negative socioeconomic outcomes to economic and social upgrading. It connects the left-hand side (conditions of economic vulnerability under informality) to the right-hand side (economic and social upgrading associated with greater formalization and GVC integration).

2. Informal Support Ecosystem (ISE) – Bottom Layer Moderator

Beneath the continuum lies the Informal Support Ecosystem (ISE) - a critical structural layer made up of non-state, community-based, or traditional institutions that:

- Provide risk mitigation, such as informal credit (ROSCAs), information sharing, and collective labor,
- Function as substitutes for formal institutions in contexts of institutional voids,
- Act as moderators of formalization decisions, shaping whether actors perceive formal engagement as beneficial or necessary.

The ISE exerts bidirectional influence:

- It supports survival and resilience in the absence of formal support (thus reducing pressure to formalize),
- But it also has limited capacity to enable scaling or upgrading, potentially trapping actors in low-value informal cycles.

The ISE influences both ends of the continuum—supporting survival on the informal side but offering diminishing returns toward formal upgrading.

3. Formal Institutions – Top Layer Enabler

Above the continuum sits the Formal Institutional Support layer—comprising regulatory agencies, financial institutions, legal frameworks, certification bodies, and extension services.

This layer functions as:

- A systemic enabler of mobility along the continuum,
- A structural precondition for accessing formal markets and integrating into GVCs,
- A signal of trustworthiness that shapes the cost-benefit calculus of formalization.

Strong formal institutions reduce transaction costs, increase predictability, and provide necessary tools for engaging in higher-value economic relationships. This institutional layer intersects directly with the midpoint of the continuum, where actors evaluate whether formalization is accessible, worthwhile, and aligned with their strategic goals.

4. Global Value Chain (GVC) Participation – Midstream Opportunity Structure

GVCs represent a structured opportunity space where producers can access higher-value markets, technical knowledge, and economies of scale. However, participation in GVCs is not automatic; it is conditional upon the ability to meet compliance standards, demonstrate reliability, and engage with formalized systems. In this sense, GVCs serve as a pressure point within the model: they both incentivize formalization (e.g., through price premiums or contract security) and simultaneously exclude those who lack the institutional tools or financial capital to meet entry requirements. The GVC node in the model therefore serves as a strategic inflection point—it is a potential pathway out of informality, but only for those who can navigate the structural filters surrounding it.

This structural architecture sets the stage for the model's four interrelated propositions (P1–P4), which articulate the logic of movement across the continuum. Proposition 1 posits that actors embedded in informal systems often experience adverse socioeconomic outcomes such as income volatility, market exclusion, and limited scalability. These conditions generate internal pressure to explore pathways toward formalization. However, as Proposition 2 suggests, this motivation is filtered through a complex calculus of perceived costs, risks, and institutional trust. Many informal actors remain constrained not by ignorance of formal opportunities, but by rational concerns over corruption, enforcement bias, or the rigidity of regulatory systems. At the same time, the availability of support through the informal ecosystem can reduce the perceived urgency to formalize. These actors are thus caught in a

cycle of constrained mobility: motivated to change, but without credible or accessible pathways to do so.

Proposition 3 introduces the mediating role of formal institutional support. Where such institutions are functional, inclusive, and adaptive, they lower entry barriers and enable actors to engage with GVCs. Formal institutions serve as critical gatekeepers, translating the desire for upgrading into viable action. Without them, even motivated actors with strong entrepreneurial capacity may be unable to cross the threshold into higher-value markets. In the presence of enabling institutions, actors can access structured finance, technical assistance, legal protections, and certified market channels—all of which are preconditions for sustained GVC integration. However, as articulated in Proposition 4, GVC participation alone does not guarantee socioeconomic upgrading. The model explicitly frames this relationship as mediated by access to formal market channels and credit. That is, actors who enter GVCs without financial flexibility or reliable market access may become locked into subordinate positions within the chain—relegated to supplying raw inputs without gaining exposure to higher-value segments or product upgrading.

The interplay between GVCs, institutional support, and informal ecosystems therefore determines whether upgrading outcomes are realized. The informal support ecosystem, while essential for short-term survival, cannot deliver the scale of investment, compliance infrastructure, or institutional legitimacy required to compete in formal markets. This limitation was empirically illustrated by Kombe et al. (2022), whose study of informal communities in Dar es Salaam during the COVID-19 pandemic revealed both the resilience and the structural constraints of informal support. Community-led initiatives provided food, basic supplies, and emotional support in the face of widespread job losses and state inaction. Yet, these efforts remained subsistence-oriented and lacked the capacity to facilitate economic recovery or mobility. The Kombe et al. study confirms that while informal support ecosystems are indispensable in moments of crisis, they are not sufficient for enabling transformative development.

Taken together, the model articulates a deeper understanding of how informal actors strategically navigate institutional conditions. Informality is neither wholly dysfunctional nor merely transitional—it can be adaptive, resilient, and in some cases, rational. However, its developmental potential is limited unless actors are supported by institutions that reduce the costs of formality and reward compliance with meaningful opportunities. The framework thus

challenges simplistic formalization agendas that focus only on registration or enforcement. Instead, it argues for a systems-oriented approach: one that strengthens formal institutions, acknowledges the functional role of informal systems, and builds bridges between the two. Only through such a coordinated framework can informal actors move along the continuum toward productive engagement in GVCs and ultimately realize the potential for economic and social upgrading.

2.5 Research Gaps

The above review covers a wide range of studies that touch upon the determinants, implications, and informal support ecosystem sustaining the persistence of informality (Ufere & Gaskin, 2021; Ohnsorge & Shu, 2022). The review also acknowledges the role of institutional factors, such as weak regulatory frameworks and limited access to formal institutions, in shaping the informal economy. While informal support ecosystems play a vital role in providing resilience and adaptability for actors operating outside formal structures, the literature offers limited empirical exploration of their components and functions. Most existing studies focus on the broader dynamics of informality but fail to analyze how informal networks, credit mechanisms, and social capital collectively mitigate risks and sustain informal economic activity. This study will contribute to filling this gap by providing a comprehensive analysis of these ecosystems, including their various components and how they function to support informal economic activity.

Secondly, a wide range of scholars (Banga, 2014; Kummritz et al., 2017; Carballa, Durand, & Knauss, 2020; Fernandes, Kee, & Winkler, 2020) has explored the uneven distribution of gains within GVCs, where informal actors in developing economies often find themselves at the lower end of the value chain, capturing a disproportionately small share of the value added (Banga, 2014; Kummritz et al., 2017; Carballa, Durand, & Knauss, 2020; Fernandes, Kee, & Winkler, 2020). This disparity arises from various factors, including limited access to resources, technology, and markets, as well as weak bargaining power and institutional constraints (De Blasis, 2020; Narula & van der Straaten, 2021). The existing literature, while acknowledging this challenge, offers limited insights into the impact of informality on value capture within global value chains (GVCs). Also, less attention has been given to how informal actors can overcome the barriers and effectively capture and leverage value within GVCs for their development. The thesis aims to address this critical gap by conducting an in-depth exploration

of the drivers and mechanisms of value capture in the context of informal economies participating in GVCs. The study will go beyond merely identifying the challenges faced by informal actors and will delve into examining how informality affects the ability of actors to participate in and capture value from GVCs. The research will also examine the role of institutional support, such as access to finance, technology, and market information, in facilitating upgrading and development within GVCs.

Another significant gap lies in the insufficient exploration of the formality-informality continuum as a framework for understanding transitions between formal and informal systems. While the continuum acknowledges that economic activities exist along a spectrum, rather than as distinct sectors, there is limited empirical investigation into how actors navigate this spectrum and the implications for their participation in global value chains (GVCs). This study **applies** the formality-informality continuum as a conceptual and analytical framework, offering novel insights into how informal actors transition, adapt, or persist within this continuum. The research will examine the interplay of institutional support, market access, and value chain integration, providing a more nuanced understanding of the dynamics shaping informal actors' economic activities.

Furthermore, despite the complexity of informality, existing studies (Goger et al., 2014; Bruhn, 2014; Ulyssea, 2020; Gutiérrez-Romero, 2021; Villena-Roldán, 2024; César and Falcone, 2023) have not paid much attention to its implications for development outcomes while controlling for GVC participation. This is crucial because GVC participation can significantly influence various development outcomes, such as income levels, access to credit, and overall well-being. This gap is crucial because understanding these implications can provide a more comprehensive view of how informality influences economic development. This study will contribute to the existing literature by analyzing the implications of informality on development outcomes while explicitly controlling for GVC participation. It is also critical to understand the relative importance of perceived costs versus perceived benefits in driving continued informality. If individuals and businesses primarily operate informally due to high formalization costs (e.g., bureaucratic hurdles, taxes, regulations), then policies aimed at reducing these costs, such as streamlining registration processes or offering tax incentives, are likely to be more effective.

Conversely, if the perceived benefits of informality (e.g., avoiding taxes and regulations, flexibility) outweigh the perceived costs (e.g., lack of social protection, limited access to credit),

then policies must focus on enhancing the benefits of formalization, such as providing social security benefits or facilitating access to finance for formal businesses. By understanding these dynamics, policymakers can design targeted interventions that effectively incentivize formalization. Against this backdrop, this study will close these gaps by analyzing the impact of informality on development outcomes while explicitly controlling for GVC participation. Additionally, it examines the relative importance of perceived costs versus perceived benefits in sustaining informality. For instance, if high formalization costs (e.g., bureaucratic hurdles, taxes, or regulatory compliance) drive continued informality, policies aimed at reducing these barriers—such as streamlining registration processes or offering tax incentives—may be more effective. Conversely, if the perceived benefits of informality (e.g., tax avoidance, regulatory flexibility) outweigh its costs (e.g., lack of social protection, limited access to credit), then policies must focus on enhancing the advantages of formalization, such as providing social security benefits or improving access to finance for formal businesses.

Finally, some of the studies reviewed above acknowledge the impact of institutional quality on the dynamics of informality and the ability of firms to upgrade within GVCs has been highlighted in various studies. For instance, Dollar and Kidder (2017) emphasise the importance of strong institutions in enabling firms to engage in complex, contract-intensive production processes, which are often associated with higher value-added activities within GVCs. Similarly, Charlot, Malherbet, and Terra (2015) demonstrate through their theoretical model that reducing product market regulations, a key aspect of institutional quality, can lead to a decrease in informality. The review also acknowledges the role of institutions in influencing the relationship between informality and other development outcomes, such as business cycle volatility, as explored by Shapiro (2015). Despite the above, little is known on the specific mechanisms through which institutional quality affects informality and upgrading within GVCs. This thesis aims to address this gap by conducting a detailed analysis of how various institutional factors, including regulatory frameworks, support systems, and contract enforcement, influence the decision of firms to operate formally or informally and their ability to upgrade within GVCs. The research will examine how the quality of institutions affects the perceived costs and benefits of formalisation for businesses, their access to resources and markets, and their ability to engage in value-adding activities within GVCs.

In view of the above, this study, combining qualitative and quantitative methods, seeks to address the identified research gaps, making a significant contribution to the understanding of

informality, GVC participation, and development in developing economies. The insights generated from this study will inform policy interventions and development strategies aimed at promoting inclusive and sustainable economic growth in regions with significant informal economies.

Chapter 3: **RESEARCH DESIGN AND METHODOLOGY**

3.1 Description of Study Locations and Rationale

The study was conducted in Kaduna State, Nigeria, chosen for its strategic position within the broader economic landscape of developing countries. As Africa's most populous nation, Nigeria spans 909,890 square kilometres (349,246 square miles) (NBS, 2019). Its geographical diversity, ranging from coastal plains in the south to savannas in the north and tropical forests in the east, supports a variety of ecosystems. These ecosystems facilitate agriculture, industry, and human settlement, reflecting the structural diversity typical of many developing countries. This section establishes the context for the study, highlighting the geopolitical and economic significance of Nigeria as a representative developing economy. It also provides an in-depth analysis of Kaduna State, the specific location of the study, emphasizing its agricultural landscape, economic activities, and the prevalence of informality. The rationale for selecting Kaduna State as the research site is discussed, emphasizing its suitability as a microcosm of broader economic challenges and opportunities in developing countries.

3.1.1 Nigeria's Geopolitical and Economic Context

In terms of economic growth, Nigeria's GDP (current USD) rose from \$140.92 billion in 1995 to an estimated \$363.85 billion in 2023, a trend that mirrors growth patterns seen across developing economies. South Africa's GDP increased from \$171.7 billion to \$380.70 billion, India's from \$360.3 billion to \$3,567.6 billion, Indonesia's from \$202.1 billion to \$1,371.2 billion, and Kenya's from \$9 billion to \$108.04 billion (World Bank, 2023). A sectoral analysis of GDP revealed that Nigeria's GDP composition was largely driven by the services sector, which accounted for 52.93% of total GDP, followed by industry at 24.10% and agriculture at 22.97% respectively. Of the total agricultural contribution, 89.7% was from crop production (NBS, 2023).

3.1.2 Population Dynamics and Demographic Trends

Nigeria's population has been increasing rapidly, reaching approximately 223.8 million by mid-2023, similar to other large developing nations, such as India (1,428.6 million), Indonesia (278.7 million), South Africa (60.7 million), and Kenya (55.1 million) (Population Reference Bureau, 2023). Like many developing countries, Nigeria is marked by high birth rates, with Nigeria's at 37 per 1,000 population. Death rates were also high at 12 per 1,000 in Nigeria compared to 6 per 1,000 in India and Indonesia (Population Reference Bureau, 2023). These demographic trends are indicative of shared developmental challenges, such as youth unemployment and poverty reduction. This is further evidenced by the low per capita income (PCI). Nigeria's PCI in 2020 stood at \$2,075, similar to India's \$1,916 and slightly above averages for Sub Saharan Africa and Asia (without high income countries (World Bank, 2023). These values fall below the high- income category, underscoring similar social services. Challenges shared by these countries. Poverty rates also align with this trend: Nigeria's rate is 39.7% and Kenya's is 38.5% (World Bank, 2024).

3.1.3 Income Distribution and Inequality

Income distribution data further highlight structural inequalities that characterize many developing economies. The data in Table 3.1 consistently reveals a skewed income distribution across the selected developing countries, where a disproportionate share of the total income is concentrated within the top 20% of earners. For instance, in Nigeria, the top 20% of earners capture a substantial 74.193% of the total income, leaving a meager 1.295% for the bottom 20%. Similarly, South Africa's top 20% hold 58.391% of the income, while the bottom 20% receive only 2.85%. This pattern of income concentration in the higher percentiles is further exemplified by India's top 20% holding 71.242% and Angola's top 20% holding 68.324% of their respective national incomes. While the disparity varies in magnitude across these countries, the overarching trend indicates a significant income gap between the top earners and the rest of the population in developing economies. Overall, this concentration of wealth within the highest percentiles exacerbates informality, limits social mobility, and underscores the persistent challenges of inequality across developing economies. These disparities are linked to inadequate institutional frameworks and limited access to economic opportunities for the majority of the population. This aligns with Narula and van der Straaten's (2019) observation

that the benefits of foreign direct investment are often unevenly distributed within host countries, contributing to persistent inequalities.

Country	Bottom 10%	Bottom 20%	Top 10%	Top 20%
Nigeria	0.392	1.295	58.329	74.193
Egypt	1.535	4.976	31.127	45.007
South Africa	0.849	2.85	41.016	58.391
India	0.599	1.783	52.783	71.242
Malaysia	0.991	3.234	31.046	44.8
Indonesia	0.361	1.426	38.361	52.054
Turkey	0.976	3.473	27.201	44.339
Angola	0.638	2.07	52.455	68.324
China	0.932	3.502	31.882	48.273
Brazil	1.04	3.494	40.182	56.144

Table 3.1: Income Distribution in Selected Developing Countries (2020)

Source: International Labour Organization (2022)

3.1.4 Foreign Direct Investment Flows

Before delving into GVC participation, it is essential to consider Nigeria's foreign direct investment (FDI) and trade flows, which provide critical context. Table 3.2 highlights that FDI inflows to Nigeria have been consistently lower than those to Egypt and South Africa, underscoring Nigeria's struggle to attract significant foreign investments. For instance, while Egypt's FDI inflows surged from \$1.2 billion in 1986 to \$9.8 billion in 2023, Nigeria's grew only modestly, from \$193.2 million to \$1.87 billion during the same period. In contrast, South Africa's FDI inflows, though initially negative, rebounded to \$3.44 billion by 2023. This disparity not only reflects Nigeria's limited appeal to international investors but also highlights broader structural challenges within Sub-Saharan Africa (SSA), where only a few countries successfully attract substantial FDI.

Country Name	1986	1990	2023
Egypt, Arab Rep.	1,217,428,571.43	734,000,000.00	9,840,600,000.00
Nigeria	193,214,907.53	587,882,970.63	1,872,520,530.05
South Africa	(50,487,073.70)	(75,722,412.12)	3,442,331,506.39
Others	(744,681,434.01)	(406,222,755.67)	10,801,007,723.09

Table 3.2: Foreign direct investment, net inflows (BoP, current US\$) to SSA

Source: World Bank Development Indicator (2023)

3.1.5 Trade Structure and Global Value Chain Participation

Trade flows in Nigeria vividly highlight the dominance of primary commodities, with minimal exports of manufactured goods and processed agricultural products. This pattern, typical of many Sub-Saharan African (SSA) nations, underscores the region's reliance on raw material exports and persistent struggles with export diversification and industrial upgrading. As shown in Table 3.3, Nigeria's trade flows are heavily skewed toward raw material exports, particularly fuels, which accounted for an overwhelming 90.73% of total exports in 2022. However, despite the country's vast agricultural potential, the sector contributed only 3.66% of total exports in Q4 2023, indicating a limited role in Nigeria's external trade portfolio (NBS, 2024). Furthermore, the majority of agricultural exports remain unprocessed, reinforcing Nigeria's low value addition and limited integration into high-value Global Value Chain (GVC) segments (Meagher, 2011; Narula, 2020).

This persistent trade imbalance, characterized by high dependency on raw material exports and a weak industrial base, leaves Nigeria vulnerable to global commodity price fluctuations and external supply shocks. Addressing these structural challenges requires investment in agro-processing, enhanced value chain integration, and policies that promote industrial diversification, enabling Nigeria to leverage its agricultural sector for greater economic resilience and competitiveness.

Product Group	Export (US\$ Thousand)	Import (US\$ Thousand)	Export Product Share (%)	Import Product Share (%)
Capital goods	832,252.61	12,257,958.22	1.31	20.2
Consumer goods	7,796,935.40	30,982,513.61	12.29	51.07
Intermediate goods	3,314,939.39	12,037,678.41	5.23	19.84
Raw materials	51,463,518.98	3,772,813.15	81.15	6.22
Animal	55,572.96	1,283,217.49	0.09	2.12
Chemicals	1,997,960.14	4,744,866.83	3.15	7.82
Food Products	964,769.67	2,294,890.31	1.52	3.78
Footwear	12,503.40	55,917.29	0.02	0.09
Fuels	57,536,128.60	24,010,509.63	90.73	39.57
Hides and Skins	86,899.39	160,790.30	0.14	0.27
Mach and Elec	20,850.24	10,350,037.24	0.03	17.06
Metals	580,542.38	2,156,037.25	0.92	3.55
Minerals	185,085.56	265,464.86	0.29	0.44
Miscellaneous	2,547.39	3,140,525.85	0	5.18
Plastic or Rubber	128,919.48	2,613,525.45	0.2	4.31
Stone and Glass	180,309.98	284,987.44	0.28	0.47
Textiles and Clothing	24,299.42	841,089.79	0.04	1.39
Transportation	863,289.14	3,661,676.20	1.36	6.04
Vegetable	769,950.77	3,557,420.74	1.21	5.86
Wood	7,082.86	1,250,425.70	0.01	2.06

Table 3.3: Nigeria's Trade Structure by Product Group, 2022

Source: World Bank. (2022)

Furthermore, Nigeria's integration into global value chains (GVCs) also reveals significant limitations. According to OECD data (2024), the foreign value-added content of Nigeria's final demand stood at 12.2%, reflecting a reliance on primary product exports, similar to Kenya (18.7%) and India (13.7%), but lower than South Africa (30.1%). Additionally, Nigeria's domestic value addition to exports is alarmingly low, contributing just 2.1% of GDP. This shortfall is symptomatic of deep-seated structural challenges, including infrastructure deficits, limited industrialization, and a heavy dependence on oil, which accounted for over 90% of Nigeria's exports in 2022. These vulnerabilities not only expose the country to global commodity price fluctuations but also constrain its capacity to engage in higher-value GVC activities, thereby limiting its economic diversification efforts.

3.1.6 The Agricultural Sector and Informality

Agriculture, despite being a cornerstone of Nigeria's economy, exemplifies the challenges of underutilization and informality that restrict broader economic transformation. Over the decades, agriculture has consistently contributed significantly to GDP, ranging from 25.74% in 1995 to 23.2% in 2023 (NBS, 2023). However, this economic significance contrasts sharply with the sector's structural weaknesses. Underinvestment in modern farming techniques, infrastructure, and value chain development has hindered productivity improvements and market integration. At the same time, informality remains deeply entrenched, with 99.65% of employment in the sector classified as informal (ILO, 2023). While underinvestment limits access to critical resources and technologies, informality persists due to structural constraints such as smallholder fragmentation, weak institutional linkages, and limited access to formal financial and market systems. These interconnected but distinct challenges collectively restrict the sector's ability to engage competitively in Global Value Chains (GVCs), where success depends on quality standards, economies of scale, and formal market participation. The dominance of informal agricultural structures reflects broader economic and institutional inefficiencies that must be addressed to unlock the sector's full potential (Elgin et al., 2021).

	GVC participation (% of GDP)	backward (% of GDP)	GVC participation (% of GDP)	forward (% of GDP)
Nigeria	0.002		0.003	
India	3.420		3.200	
Indonesia	3.072		3.566	
Africa	2.079		5.879	
Latin America and Caribbean	4.501		4.300	
Asia (no high inc.)	3.292		7.380	
High income (no LAC)	10.656		8.230	

Table 3.4: Total backward and forward global value chain (GVC) participation, 2020 (% of GDP)

Source: World Integrated Trade Solution. (2023) <https://wits.worldbank.org/gvc/gvc-output-disaggregated.html>

Addressing these systemic constraints is essential for unlocking agriculture's potential and enhancing Nigeria's GVC participation. Moving away from subsistence farming requires investments in infrastructure, access to finance, and institutional support to enable the sector to

transition from informality to formalized, competitive structures. These efforts would enable Nigeria to leverage its abundant arable land and favourable climate more effectively, fostering higher-value activities such as agro-processing and export-oriented production.

A key measure of Nigeria's integration into global trade networks is its Pure Backward GVC Participation (GVCPB) and Pure Forward GVC Participation (GVCPF) indicators, developed by Borin, Mancini, and Taglioni (2021). These indicators quantify the extent to which a country is embedded in international production networks:

- Pure Backward GVC Participation (GVCPB) measures the share of a country's imported inputs used in its exports. A high GVCPB suggests strong integration into foreign supply chains, where domestic producers rely on imported raw materials, machinery, or technology to manufacture goods that are subsequently exported.
- Pure Forward GVC Participation (GVCPF) captures the proportion of domestic value-added embedded in foreign exports. This reflects the extent to which locally produced raw materials or intermediate goods are used by other countries in their exports, highlighting a country's role as a supplier of inputs to global industries.

In the case of Nigeria, low GVCPB in agriculture suggests that its exported farm products rely primarily on domestically sourced inputs, often without significant foreign technological or capital investment. Meanwhile, a relatively high GVCPF in raw commodities—such as cocoa, sesame seeds, and cashew nuts—indicates that Nigeria plays a primary role as a supplier of unprocessed agricultural goods to other economies, which then add value before exporting the final products. This dynamic reinforces Nigeria's position as a low-value participant in GVCs, where the benefits of technological spillovers, industrial upgrading, and job creation are concentrated elsewhere in the value chain.

To improve its position in GVCs, Nigeria must shift from being a supplier of raw materials toward higher-value activities by investing in processing capacity, certification programs, logistics, and market integration strategies. Reducing the dominance of informal agricultural structures will not only enhance productivity and export competitiveness but also strengthen linkages between domestic and global markets. By addressing these constraints, Nigeria can increase its GVCPB through improved access to international technology and inputs while simultaneously enhancing its GVCPF by exporting more processed agricultural goods with higher value retention.

Ultimately, a more structured and technology-driven agricultural sector will allow Nigeria to achieve a diversified and resilient economy, better positioned to navigate global trade complexities and reduce vulnerabilities associated with its current raw commodity-dependent trade structure.

3.1.7 Kaduna State

Kaduna State, in the northwestern region of Nigeria, reflects key national economic characteristics. The Northwest region, which comprises 7 States (Sokoto, Kebbi, Zamfara, Katsina, Kaduna, Kano and Jigawa) accounts for 24.33% of Nigeria's population. Spanning 42,481 square kilometres (16,594 square miles), Kaduna's landscape of savannas, grasslands, and rocky hills provides a foundation for a substantial agricultural sector, which contributed 36.7% of the state's GDP (Kaduna State Bureau of Statistics, 2017). The state's economic potential is bolstered by mineral resources, including gold and iron ore, and its agricultural base supports staple crops such as vegetables, maize, rice, and guinea corn, largely produced by agro-food smallholders who face obstacles such as limited irrigation and restricted access to credit.



Figure 3.1: Nigeria Map showing Kaduna State

Source: National Bureau of Statistics Annual Abstract (2019)

With a population around 8,252,366, Kaduna reflects Nigeria's demographic trends, with a youth-dominated age structure and a high informal sector involvement, particularly in agriculture (Kaduna State Bureau of Statistics, 2017; National Population Commission and National Bureau of Statistics, 2017). Agriculture employs over 80% of the population but remains predominantly informal, constraining the state's potential to leverage GVC participation effectively. Agro-food smallholders constitute over 1.3 million farming households with access to 2.94 million hectares of farmland (Kaduna State Bureau of Statistics, 2017). About 63% of the lands used for farming in Kaduna State are inherited. Tomato cultivation is a major agricultural activity in the State, and the sector employs 42.4% of the state's population (Kaduna State Bureau of Statistics, 2017). The State hosts multinational agribusinesses like Olam Nigeria and Tomato Jos, whose outgrower schemes engage agro-food smallholders, providing both challenges and opportunities for improving informal actors' GVC participation.

The prevalence of informality in Kaduna State is a significant barrier to economic and social development, as it limits the government's ability to generate revenue, enforce regulations, and provide public services. There is no reliable data on the size of the informal sector. However, the limited tax revenue of USD 23.01 million in 2022 may suggest a large informal sector (NBS, 2023).

Despite the presence of large agribusiness firms, Kaduna struggles with high poverty rates, with 57% of residents under 17 and 47% of those 18 and above living below the poverty line (National Bureau of Statistics, 2022). Informal actors in Kaduna State have developed informal support ecosystems to sustain their livelihoods. Informal actors in Kaduna have established support networks that help sustain their livelihoods in the absence of robust formal institutions. These informal ecosystems, essential for economic resilience, mirror the findings of the World Governance Indicators (WGI) which highlight low scores for regulatory quality, rule of law, and control of corruption across many developing nations. In 2022, Nigeria scored -1.10 on the WGI for rule of law, with South Africa at -0.32, India at -0.32, Indonesia at -0.43, and Kenya at -0.76, illustrating the widespread governance challenges faced by these countries, including issues with corruption control (World Bank, 2023). Specifically, as shown in Table 3.5, Nigeria's 2022 percentile rank for control of corruption is a mere 6.6, signifying that its performance in curbing corruption is worse than 93.4% of countries worldwide. Those for other developing nations like South Africa (30.7), India (32.1), and Indonesia (26.9), indicating a deep-rooted problem compared to developed countries like France, Germany, and the UK with percentile rank of 84.29%, 90.95%, and 88.57% respectively.

Furthermore, Nigeria's regulatory quality is ranked at a dismal 5.2 percentile, reflecting weak government effectiveness in formulating and implementing sound policies. This stifles private sector growth and discourages investment, further exacerbating economic challenges. The rule of law, a cornerstone of stable societies, also fares poorly in Nigeria with a 12.3 percentile rank. This points to inconsistencies in law enforcement, limited access to justice, and a lack of accountability, creating an environment where corruption can thrive and hindering equitable development. These low WGI scores underscore the systemic governance issues that plague Nigeria and many other developing nations. They highlight the urgent need for comprehensive reforms to strengthen institutions, promote transparency, and ensure accountability. In the absence of such reforms, informal solutions, like the support networks developed by actors in

Kaduna, will continue to be vital for survival and resilience, but cannot be a substitute for effective governance.

WGI	Country Name	2010	2022
Control of Corruption: Percentile Rank, Lower Bound of 90% Confidence Interval	China	21.9	48.1
	India	28.1	32.1
	Indonesia	16.2	26.9
	Kenya	11.9	17.9
	Nigeria	4.3	6.6
	South Africa	52.9	30.7
Regulatory Quality: Percentile Rank, Lower Bound of 90% Confidence Interval	China	28.7	21.2
	India	26.3	39.2
	Indonesia	26.3	47.6
	Kenya	38.8	26.4
	Nigeria	18.2	5.2
	South Africa	54.6	31.6
Rule of Law: Percentile Rank, Lower Bound of 90% Confidence Interval	China	28.9	41.0
	India	46.9	47.6
	Indonesia	20.4	37.7
	Kenya	10.9	30.2
	Nigeria	5.7	12.3
	South Africa	50.2	44.3

Table 3.5 Governance Indicators Across Selected Developing Countries (2010 and 2022)

World Governance Indicators (WGI), World Bank (2023).

Kaduna State, therefore, provides a compelling case study for understanding the interplay between informality, GVC participation, and development in a developing economy context. Its large agricultural sector, diverse economic actors, and high informality offer valuable insights into the barriers and opportunities for inclusive growth and sustainable development. By examining the specific challenges and opportunities in Kaduna, we can draw lessons applicable to other similar economies globally, informing strategies to promote formalisation and enhance GVC engagement for improved livelihoods and economic development.

3.2 Discussion of Research Philosophy and Approach

The selection of an appropriate research philosophy and approach is fundamental in any scholarly investigation, as it significantly shapes the entire research process, from initial conceptualization and design to data collection, analysis, interpretation, and ultimately the dissemination of findings (Saunders et al., 2015). The research philosophy reflects the foundational beliefs and assumptions held by the researcher regarding the nature of reality

(ontology), the nature and acquisition of knowledge (epistemology), and the role of values in the research process (axiology) (Ponterotto, 2005). Ensuring alignment between the research approach and philosophy is essential for maintaining the coherence and integrity of the research endeavor (Ponterotto, 2005; Saunders et al., 2015). This section discusses the research philosophy and approach adopted in this thesis, providing a rationale for their selection and exploring their implications for the study's design and implementation. The research approach encompasses the overall strategy and plan for the study, dictating the specific methods and techniques used for data collection and analysis.

3.2.1 Research Philosophy

As previously defined, research philosophy is seen as the underlying beliefs that guide research practice, encompassing how research should be conducted, what can be known, and the relationship between the researcher and the knowledge they seek (Creswell, 2013; Leavy, 2014). Lim (2023) further describes the philosophy of science as a navigational framework for scientific inquiry, guiding researchers in understanding reality (ontology), the nature of knowledge and its acquisition (epistemology), strategies for seeking truth (methodology), recognizing biases (axiology), and communicating findings (rhetoric). Thus, research philosophy encompasses the foundational beliefs and assumptions that underpin the research process, including ontological, epistemological, axiological, and methodological perspectives that inform researchers in the pursuit of knowledge and understanding of the social world.

Choosing a research philosophy is an integral part of the research process that profoundly shapes the study's direction, methodology, and interpretation of findings. The chosen philosophy underpins the researcher's assumptions and beliefs about the nature of reality (ontology), the nature of knowledge and how it is acquired (epistemology), and the role of values in the research process (axiology) (Ponterotto, 2005; Creswell & Plano Clark, 2007). In this thesis, the pragmatic research philosophy is employed, aligning it with the mixed-method approach.

Pragmatism, as a research philosophy, distinguishes itself by its problem-centred orientation and its focus on the practical consequences of research (Cherryholmes, 1992; Leavy, 2014; Lim, 2023). It rejects the rigid adherence to a single reality or truth. It acknowledges the existence of multiple realities and the potential for diverse interpretations (Creswell & Plano Clark, 2007). This philosophical stance resonates with the nature of the research problem of

the thesis, which seeks to understand the relationship between informality, GVCs, and economic development. As noted by Mauthner (2020), the vast array of research philosophies within the social sciences can be bewildering, and pragmatism offers a way to navigate this complexity by focusing on "what works" in addressing the research problem.

In contrast to the more rigid ontological and epistemological stances of positivism and constructivism/interpretivism, pragmatism distinguishes itself by its inherent flexibility as it does not prescribe a specific ontology or epistemology (Creswell & Plano Clark, 2007). Instead, it embraces methodological pluralism, allowing for the flexible combination of different research methods and theoretical perspectives to best address the research questions at hand (Creswell & Plano Clark, 2007). This flexibility is crucial in investigating a phenomenon like informality, which operates at the intersection of individual experiences, social structures, and economic systems. As highlighted by scholars such as Mkansi and Acheampong (2012), and Creswell (2013), pragmatism is characterised by its advocacy for a "non-singular reality ontology" and a "relational epistemology." This philosophical stance acknowledges the subjective nature of reality and emphasises that knowledge is co-constructed through the dynamic interaction between the researchers.

Applied to this study, the pragmatic philosophy's relational ontology acknowledges that the reality of informality in DCs within GVCs context is not fixed or objective, but rather is shaped by the interactions and interpretations of various actors, including informal workers, formal businesses, and policymakers. The research aims to understand these multiple realities through the lens of the actors themselves, recognizing that their subjective experiences and perspectives are crucial in understanding the dynamics of the study constructs (informality, GVC participation, and development). The relational epistemology of pragmatism further emphasises the importance of the researcher's interaction with the research participants in co-constructing knowledge. In this study, the researcher will engage in in-depth interviews and focus group discussions with informal actors to understand their perspectives. This interactive process of knowledge generation is central to the pragmatic approach, as it allows for a deeper understanding of the research problem.

Pragmatism as the chosen research philosophy for this thesis is predicated on several reasons. First, it aligns seamlessly with the mixed methods research approach, allowing for the integration of both qualitative and quantitative data. This methodological pluralism is essential for capturing the multifaceted nature of the study's core constructs, which encompasses both

subjective experiences and objective economic realities. Second, pragmatism's emphasis on the practical consequences of research ensures that the findings are not confined to theoretical abstractions but are translated into actionable insights that can inform policy and practice. Third, its openness to diverse research methods and theoretical perspectives provides the flexibility needed to navigate the complexities of the research problem. Finally, pragmatism acknowledges the subjective and value-laden nature of research, encouraging reflexivity and transparency in the research process, thereby enhancing the credibility and trustworthiness of the findings.

In conclusion, the pragmatic research philosophy, with its problem-centred orientation, methodological pluralism, and emphasis on practical consequences, provides a robust and adaptable framework for this study. It enables a comprehensive investigation of the complex relationship between informality, GVC participation, and development, ensuring that the findings are both theoretically sound and practically relevant.

3.2.2 Research Approach

To navigate the complexities in the study of phenomena such as informality, GVC participation, and development, studies (Mkansi & Acheampong, 2012; Creswell, 2014; Leavy, 2014; Okesina, 2020) have recommended the use of an adaptable research approach. As a concept, a research approach, as Saunders et al. (2015) articulate, serves as the overarching blueprint that guides the research process. Insights from studies such as Crotty (1998), Kemmis & Wilkinson (1998), Mertens (2009), Lorenz (2010), Creswell & Plano (2011) and Leavy (2014), describe research approach as the overarching philosophical and theoretical foundation that underpins the entire research endeavour. It encompasses the researcher's worldview, beliefs about the nature of reality (ontology), and how knowledge is generated and validated (epistemology) (Lorenz, 2010; Creswell & Plano, 2011; and Leavy, 2014). The research approach guides the overall direction of the study and influences the choice of specific strategies and methods. In essence, it's the "why" and "how" of the research, shaped by the researcher's fundamental assumptions and the research questions at hand (Kemmis & Wilkinson, 1998).

It is important to state that research approach, research method, and research strategy are distinct yet related concepts. As presented above, the research approach embodies the researcher's worldview, epistemological stance, and the general direction of inquiry, outlining

how the research will be conducted (Saunders et al. 2015). In contrast, research strategy focuses on the general way the researcher aims to address the research problems and achieve the research objectives. It emphasises the problem-solving orientation of research and its alignment with the broader research goals (Newman and Benz, 1998). Newman and Benz (1998) use the terms "strategies" and "approaches" interchangeably, suggesting that research strategies can be viewed as broad methodological choices guided by specific philosophical underpinnings. Applied to this study, the decision to adopt a mixed-methods approach is a strategic choice reflecting the researcher's ontological and epistemological stance.

Research Methods, on the other hand, are the specific techniques and tools employed to collect and analyse data within the framework of the research strategy. Saunders et al. (2009) highlight various data collection methods, such as surveys, experiments, observations, and case studies, as examples of research strategies. In the context of the current study, the explanatory sequential mixed methods design encompasses both qualitative methods (e.g., interviews, focus groups) and quantitative methods (e.g., surveys, statistical analysis), each serving a distinct purpose in addressing the research questions. In essence, the research approach is the overarching plan, the research strategy is the general path towards achieving the research objectives, and the research methods are the specific tools used to navigate that path.

Within social science research, various approaches have been developed to cater to different research objectives and philosophical underpinnings. Creswell (2014) broadly classifies these approaches into three main categories, although other classifications exist, some including additional approaches like action research and case study research (Chege & Otieno, 2020). The three primary approaches are:

- i. **Quantitative Research:** Rooted in positivism, this approach seeks to uncover objective truths and causal relationships through the systematic collection and statistical analysis of numerical data. It emphasizes measurement, control, and generalizability, often employing surveys and experiments to test hypotheses and establish patterns (Creswell, 2014).
- ii. **Qualitative Research:** Grounded in interpretivism or constructivism, this approach aims to explore and understand the subjective meanings and experiences of individuals within their social contexts. It values depth, richness, and contextuality, utilising methods such as interviews, observations, and

document analysis to generate insights (Denzin & Lincoln, 2011; Creswell, 2014).

- iii. **Mixed Methods Research:** This approach combines elements of both quantitative and qualitative research, aiming to leverage the strengths of each to provide a more comprehensive understanding of the research problem (Creswell & Plano Clark, 2011). It allows for the integration of different types of data and analysis techniques, offering a more holistic perspective on the phenomenon under investigation

This study adopts a mixed methods approach, combining quantitative and qualitative methods of data collection and analysis (Quant- Qual sequence). This specific mixed methods design involves an initial quantitative phase followed by a qualitative phase to reinforce the quantitative insights (Creswell & Plano Clark, 2011). The quantitative phase utilises surveys to gather data from a larger sample of agro-food smallholders, enabling the quantification and generalisation of the qualitative findings. The subsequent qualitative phase employs in-depth interviews and focus group discussions to capture the lived experiences and perspectives of informal actors within GVCs in Kaduna State.

The choice of this mixed methods approach is underpinned by three key considerations: first, the multifaceted and often obscured nature of informality (often referred to as shadow economy) necessitates an approach that can effectively navigate these complexities. The explanatory sequential design, as Creswell and Plano Clark (2011) suggest, is particularly valuable when the phenomenon under study is under-researched or when existing theories do not adequately explain it. Secondly, there is a need for contextual understanding and generalisation. Lastly, the integration of quantitative and qualitative data enhances the validity and generalizability of the findings, while also preserving the richness and contextual depth of the qualitative exploration. This aligns with the view of mixed methods research as a pragmatic approach that capitalises on the strengths of both qualitative and quantitative research (Cherryholmes, 1992; Creswell & Plano Clark, 2007).

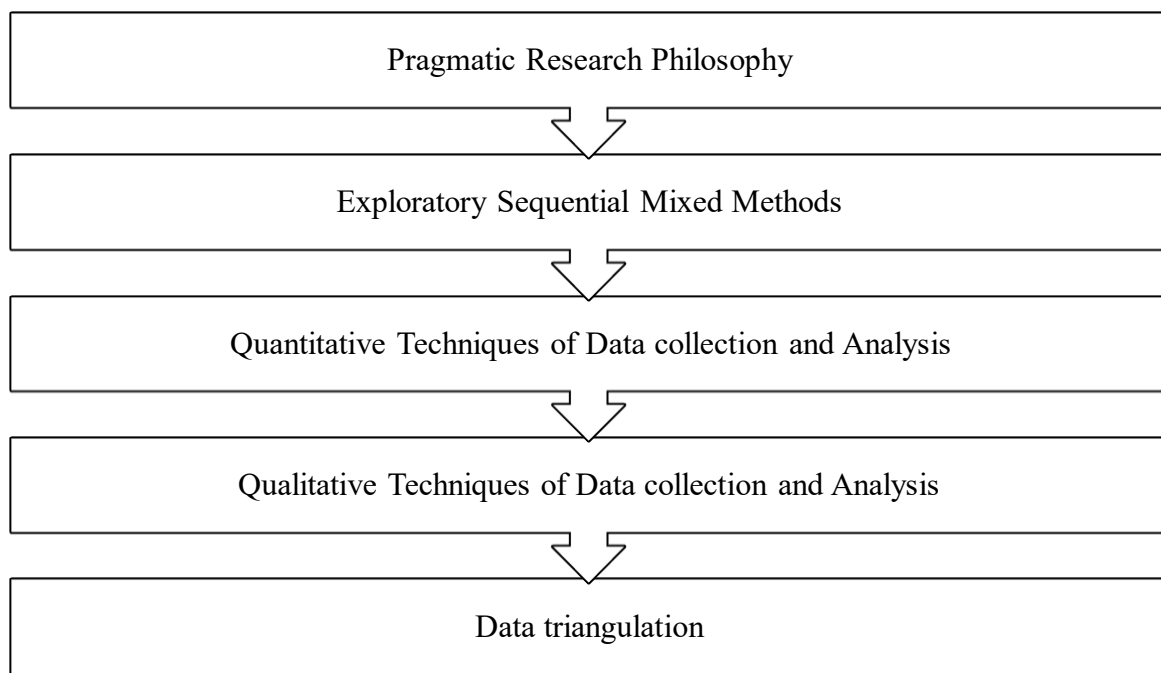


Figure 3.2: Research Philosophy and Approach

3.3 Discussion on Access and Ethical Considerations

Gaining access to informal actors and sensitive information presented challenges due to the inherent secrecy of the informal sector and participants' concerns about potential exposure to taxation and regulatory scrutiny. To address this, a multifaceted approach was adopted. Trust and rapport were established with participants through open communication about the research's aims and potential benefits for the informal sector, coupled with assurances of strict confidentiality and anonymity. Collaboration with key government agencies and community leaders in Kaduna State was also instrumental in fostering trust and facilitating access to informal communities. Additionally, snowball sampling proved effective in reaching individuals who were otherwise difficult to locate due to the covert nature of their activities.

Participation in the study was strictly voluntary, and anonymity was ensured through the use of assigned study numbers and secure data management practices. In cases where complete anonymity was not feasible, only the minimum necessary personal information was collected, and access to this data was restricted solely to the research team.

Prior to any research activities, participants were thoroughly briefed about the study's background, objectives, and their rights, including privacy and confidentiality. The informed consent process was conducted in Hausa, Pidgin, or English, based on the participant's

preference, and involved a detailed explanation of the study and the opportunity to ask questions. Written consent was obtained, and participants were provided with copies of the consent forms.

Ethical considerations were embedded throughout the research design and execution. The study adhered to the ethical guidelines of the University of Reading's Institutional Review Board (IRB), the National Health Research Ethics Committee (NHREC) in Nigeria, and other relevant professional bodies.

3.4 Sample Selection, Rationale, and Approach to Data Collection and Analysis

3.4.1 Sample Selection and Rationale

As previously mentioned, the thesis employed an explanatory sequential mixed-methods (QUAN → qual) design. This approach commenced with a quantitative survey phase to establish broad patterns and test propositions, followed by a qualitative phase to explore, contextualize, and add depth to the quantitative findings. This approach was deemed most suitable to capture the multifaceted nature of informality within the agricultural sector in Kaduna State, Nigeria.

The target population for this study encompassed two distinct groups. The first group comprises informal actors within the agricultural sector in Kaduna State. This group primarily consisted of agro-food smallholders, with a particular focus on those engaged in outgrower schemes or directly supplying their produce to larger agribusinesses. These individuals and their enterprises often operate outside the formal regulatory framework, making them central to understanding the dynamics of informality in the agricultural value chain. The second group is made up of key stakeholders involved in agricultural development and GVCs. The group included representatives from government agencies (MDAs) responsible for agricultural policy and development, non-governmental organisations (NGOs) working in the agricultural sector, and multinational agribusinesses operating in Kaduna State. These stakeholders possess valuable insights into the broader context of informality, GVC participation, and development within the region.

A multi-staged sampling procedure was employed for the sample selection, each tailored to the specific phase of the thesis. These include probabilistic and non-probabilistic sampling methods such as convenience sampling, random sampling, stratified random sampling, and

snowball sampling. Probabilistic sampling, such as stratified random sampling, allows for a representative selection of agro-food smallholders across different subgroups, capturing variations in their experiences and participation levels. Non-probabilistic sampling, including snowball sampling, is essential for reaching hard-to-access agro-food smallholders and uncovering hidden networks within rural communities.

The random sampling approach incorporated both simple random sampling and stratified sampling. Simple random sampling is a fundamental method that ensures each individual in the population has an equal probability of being chosen, promoting unbiased representation. Stratified sampling, on the other hand, involves dividing the population into distinct, non-overlapping subgroups based on characteristics that may influence the variable being studied, followed by random selection from these subgroups to ensure proportionality and improve the representativeness of the sample.

Stratified sampling was particularly employed to achieve an accurate representation of the sampled community, allowing for the exploration of variations in gender, age, GVC participation and other relevant factors.

The snowball sampling technique was employed due to the specific characteristics of the target population (agro-food smallholders) and their involvement in global value chains (GVC). Agro-food smallholders, especially those in rural areas, present challenges for conventional sampling methods because of their dispersed distribution, diverse levels of participation in GVCs, and reliance on informal networks. This method leverages existing social connections to identify participants who may be difficult to locate through traditional approaches, capturing valuable experiences and insights that might otherwise be overlooked. Furthermore, snowball sampling facilitates trust-building, as agro-food smallholders are more inclined to discuss their practices and experiences when referred by trusted peers.

Combining these techniques enhances the robustness of the study, ensuring that a broad range of perspectives is captured and providing deeper insights into the complexities of farmer participation in GVCs.

3.4.2 Pilot Study

A pilot study is a preliminary, small-scale version of a research project conducted to test and refine specific research tools before the main study (Lewis-Beck et al., 2004). Beyond

evaluating data collection methods, pilot studies are valuable for improving the overall validity of the research (Marshall and Rossman, 2011). They involve preliminary interviews and tests to fine-tune survey instruments like questionnaires and interview guides. This process is an effective way to understand and anticipate potential issues in data collection. Additionally, pilot studies help identify inefficiencies and gaps in the collection process and address important considerations such as research validity, representation, ethics, and the well-being of researchers (Sampson, 2004).

A pilot survey was conducted on February 1, 2024, with fifteen agro-food smallholders and out-growers from Igabi local government of Kaduna state. The purpose of the survey was to identify possible errors and determine the best method for the main study. The data was collected, stored and analysed using SurveyCTO, an Open Data Knowledge Platform (ODK Platform software) that helps to manage data collection, storage and monitoring.

The responses from the fifteen participants in the pilot study were carefully reviewed, and the research instruments were subsequently refined in consultation with the thesis advisor. This collaborative approach ensured that the final tools used for data collection were comprehensive, relevant, and methodologically sound. The refined tools were then used to gather data from a larger sample size, ensuring the robustness and reliability of the study's findings.

3.4.3 Qualitative Study

For the qualitative phase, the study employed purposive sampling to select 15 participants who possessed in-depth knowledge and experience relevant to the research objectives. This included:

- **10 outgrower agro-food smallholders** (agro-food smallholders) from Igabi LGA, purposefully selected based on their involvement in supplying produce to Tomato Jos, a prominent agribusiness in the region. This selection criterion ensured that the agro-food smallholders had direct experience with GVC participation and the challenges associated with informality.
- **5 key informants** representing relevant organisations, including the Kaduna State Ministry of Agriculture, Kaduna Agricultural Development Agency (KADA), Kaduna State Enterprise Development Agency (KADEDA), Kaduna Investment Promotion Agency (KADIPA), and Tomato Jos. These individuals were

purposefully chosen for their expertise and insights into the dynamics of informality, GVC participation, and development in the agricultural sector.

3.4.4 Quantitative Study

The quantitative phase targeted a broader sample of 206 agro-food smallholders in Igabi LGA. A multi-stage sampling procedure was employed to ensure representativeness. At the first stage, the study employed convenience sampling to identify villages within Igabi LGA with a high concentration of agricultural activities and informal sector engagement. This stage aimed to focus the study on areas where the research phenomenon was most prevalent. Within the selected villages, random sampling was employed to select households involved in farming. This ensured that every farming household within the chosen villages had an equal chance of being included in the study, reducing selection bias. Finally, within each selected household, one adult member primarily responsible for farming decisions was chosen as the respondent for the survey. This ensured that the collected data reflected the perspectives of those directly involved in agricultural decision-making.

While the sampling procedures employed in this study aimed to ensure representativeness and reduce bias, certain limitations should be acknowledged. The use of convenience sampling in the initial stage of the quantitative phase may have introduced some degree of selection bias, as villages were chosen based on accessibility and perceived prevalence of informal agricultural activities. Additionally, the reliance on self-reported data in both the qualitative and quantitative phases may be subject to recall bias or social desirability bias. Furthermore, the relatively small sample size in the qualitative phase, while sufficient for saturation, may limit the generalizability of the findings to other contexts or populations.

Despite these limitations, the mixed-methods approach and the careful selection of participants in both phases provide a robust foundation for understanding the complex dynamics of informality, GVC participation, and development in the agricultural sector of Kaduna State. The insights generated from this study offer valuable contributions to the literature and can inform policy interventions aimed at promoting inclusive and sustainable development in similar contexts. The distribution of participants across both the qualitative and quantitative phases of the study is summarized in Table 3.6

Categories	Definition	Respondents (n)	
		Qualitative Phase (FGD and KIIs)	Quantitative Phase (Survey)
Outgrower Agro-food smallholders	Agro-food smallholders who have entered into contractual agreements with agribusinesses	10	206
Public Institutions (MDAs)	MDAs which mean Ministries, Departments, and Agencies, are government bodies responsible for policy formulation, regulation, and implementation within specific sectors.	4	N/A
Multinational agribusinesses	Large-scale agricultural enterprises that operate across multiple countries.	1	N/A

Table 3.6: Distribution of Qualitative (n=15) and Quantitative (n=206) Survey Respondents

3.4.5 Data Collection and Analysis

This study utilised a mixed-methods approach, integrating both qualitative and quantitative data to comprehensively understand the research phenomenon. The quantitative phase began with a structured questionnaire administered in-person via SurveyCTO to 206 agro-food smallholders in Igabi LGA, Kaduna State. This allowed for the collection of numerical data on demographics, farming practices, market access, income, credit availability, extension services, and perceptions of government policies. To complement these quantitative insights, qualitative data were gathered through Focus Group Discussions (FGDs) with outgrower agro-food smallholders (agro-food smallholders) in Kaduna State. These discussions aimed to explore their lived experiences, perceptions, and challenges related to informality and Global Value Chain (GVC) participation. Additionally, Key Informant Interviews (KIIs) were conducted with stakeholders from relevant organisations, including government agencies, NGOs, and private enterprises, to obtain expert perspectives on the research topic.

3.4.6 Research Instruments

Given the mixed-methods design of this study, three primary data collection instruments were employed to gather the necessary quantitative and qualitative data: a structured survey questionnaire, semi-structured interviews for key informants, and focus group discussions (FGDs).

a. Survey Questionnaires

A questionnaire is a research instrument consisting of a series of questions designed to collect specific information from participants (Fabrigar & Ebel-Lam, 2007). For this study, a detailed questionnaire was developed to gather quantitative data from the 206 agro-food smallholders. To ensure consistency and accommodate varying literacy levels, the questionnaire was administered in person as a structured interview, where trained enumerators asked each participant the same questions in a standardized order.

The questionnaire was organized into eight sections:

1. Demographic information about the agro-food smallholders.
2. Farming practices and resources utilized by the agro-food smallholders.
3. Market access and participation in value chains.
4. Factors influencing agro-food smallholders' decision-making and farming strategies.
5. The impact of institutional and governmental factors on farming activities.
6. Income and expenditure patterns of the agro-food smallholders.
7. Additional information regarding the agro-food smallholders' involvement in the informal sector.
8. The final section collected supplementary data relevant to the study

A sample of the questionnaire is included in the Appendix I of this study.

b. Semi-Structured Interviews (Key Informant Interviews)

For the qualitative phase, semi-structured interviews were used to collect in-depth information from key participants. This method is valued for its flexibility, as it allows the interviewer to ask follow-up questions and explore emerging themes based on participant responses (Lindlof and Taylor, 2002; Desai and Potter, 2008). In this study, semi-structured interviews were conducted with five key informants, including government officials from relevant MDAs and a representative from a multinational agribusiness. This approach was essential for capturing expert perspectives on the dynamics of informality, GVC participation, the types of support

provided to farmers, and the broader institutional context in Kaduna State. A sample of the interview guide is included in Appendix I.

c. Focus Group Discussions (FGDs)

The focus group discussion is a qualitative method used to gather data on shared perceptions and group norms (Morgan, 1997). Unlike one-on-one interviews, FGDs provide a collective perspective that is valuable for understanding community-level dynamics. This method was used with a group of 10 outgrower farmers who supply produce to a prominent agribusiness in the region. The FGD allowed for the triangulation of findings from the individual surveys, helping to identify, confirm, and explore areas of consensus and divergence regarding the challenges of GVC participation and the lived experience of informality

d. Content Analysis

Content analysis is an epistemological method that employs a systematic set of procedures to draw valid inferences from textual data. These inferences are typically categorized to reveal information about the source(s) of the message, the content itself, or the intended audience (Weber, 1990). According to Neuendorf (2002), content analysis has origins in multiple disciplines, including journalism, sociology, psychology, and business. Marshall and Rossman (2011) describe content analysis as involving the systematic counting of specific words and their sequence or significance within a text. This method is valuable for critically examining policy documents, press articles, and other textual materials pertinent to development research.

3.4.7 Challenges and Uniqueness of Data Collection

The data collection process was not without its challenges. First, the sensitive nature of the informal sector, often characterised by a lack of official records and a reluctance to disclose information, posed a significant hurdle. Many informal actors are hesitant to share data due to concerns about potential tax implications or regulatory scrutiny. Building trust and rapport with these actors was crucial for obtaining reliable data.

Second, accessing informal actors and obtaining reliable data in a challenging environment like Kaduna State, with its security concerns and the inherent distrust of outsiders, required meticulous planning and execution. Overcoming these challenges underscores the uniqueness and value of the data collected, as it provides rare empirical evidence on the dynamics of informality in a context often shrouded in shadow.

The data collected in this study is unique not only because of the challenges overcome in obtaining it but also because of its potential contribution to understanding informality in challenging environments. The mixed-methods approach allowed for a comprehensive exploration of the topic, providing both rich qualitative insights and robust quantitative evidence. This combination of data types strengthens the study's findings and enhances its contribution to the field of informality and development economics.

To minimise biases (social desirability bias, observer expectancy bias, and acquiescence bias) associated with the researcher's visibility - given his prominence in Nigeria and influence in Kaduna State - robust safeguards were implemented. Independent data collectors were engaged to handle all participant interactions. These data collectors underwent thorough training on neutral data collection techniques, confidentiality protocols, and unbiased survey administration, enabling them to elicit authentic responses from participants. This preparation enhanced the methodological rigour and objectivity of the study.

3.4.8 Proposition Development and conceptual framework

This section presents the theoretical propositions and conceptual framework that form the foundation of the study, anchoring the propositions to the research objectives and facilitating a structured pathway to empirical analysis in chapter 4. These propositions are derived from a synthesis of the literature review, identified empirical gaps, and the realities of informality and Global Value Chain (GVC) participation in developing economies.

The formality continuum (Figure 2.1) and conceptual framework, illustrated in Figure 2.2, provide a structured lens through which informality, institutional quality, and GVC participation are examined. These diagrams illustrate how structural enablers (causes) influence market outcomes (effects), shaping the economic realities of informal actors. The propositions developed below are directly linked to these conceptual models, ensuring a coherent transition from theory to empirical investigation in the next chapter.

Proposition Development

Proposition 1 (P1):

A higher degree of informality among agro-food smallholders is associated with lower levels of income, reduced access to credit, and lower overall well-being, even after controlling for participation in GVCs.

This proposition captures the dual burden of informality and limited GVC participation, focusing on how systemic constraints—such as restricted access to formal credit, insecure market linkages, and precarious working conditions—affect socio-economic outcomes. As reflected in the formality continuum diagram (Figure 2.1), informal actors occupy the lower end of the continuum, where limited access to financial resources and weak institutional support hinder value capture.

While GVC participation offers pathways for economic upgrading, its impact remains insufficient in the absence of formalization, leaving many informal actors trapped in cycles of low productivity and vulnerability. Figure 2.2 further illustrates how institutional barriers reinforce informality, preventing economic mobility and deepening inequalities. This proposition highlights the need for targeted interventions that enhance financial inclusion and market integration for informal actors.

Proposition 2 (P2):

Perceived costs of formalization are a stronger predictor of continued informality among actors in GVCs than perceived benefits of formalization.

This proposition examines the behavioral and structural determinants of informality, arguing that high compliance costs, bureaucratic complexity, and uncertainty about the benefits of formalization serve as significant deterrents. The continuum framework (Figure 2.1) conceptualizes these barriers by illustrating how actors at different levels of informality weigh the trade-offs between formalization and continued engagement in informal markets.

Moreover, the conceptual model (Figure 2.2) highlights the role of institutional quality in shaping these cost-benefit perceptions. Without meaningful incentives or simplified formalization processes, informal actors are likely to persist in informal structures despite potential long-term benefits. This reinforces the need to lower regulatory burdens, enhance institutional trust, and align formalization incentives with the realities of informal economic actors.

Proposition 3 (P3):

Improved institutional quality (e.g., regulatory frameworks, support systems, and contract enforcement) is positively associated with reduced informality and increased upgrading among firms participating in GVCs.

Institutional theory underpins this proposition, emphasizing that strong institutional frameworks enable formalization and economic upgrading. As illustrated in Figure 2.2, regulatory clarity, reliable support systems, and robust contract enforcement reduce transaction costs and foster trust, increasing the likelihood of informal actors transitioning into formal systems.

The continuum framework (Figure 2.1) further demonstrates how institutional interventions can shift actors toward greater formality, facilitating stronger linkages to structured markets and higher-value activities. This proposition underscores the importance of policy interventions that create an enabling environment for informal actors to access institutional support and participate meaningfully in GVCs.

Proposition 4 (P4):

Access to formal credit and markets significantly mediates the relationship between GVC participation and value capture for informal actors.

This proposition explores the mediating role of financial inclusion and market access in determining the benefits of GVC participation. While GVC engagement presents opportunities for economic growth, the ability of informal actors to capture value depends heavily on their access to structured financial services and formal markets.

As illustrated in Figure 2.2, this dynamic is mediated by access to formal credit, which determines the ability of firms to invest in technology, expand production, and meet quality standards required for GVC integration. Similarly, the continuum framework (Figure Y) shows how market access influences informality, as actors with limited formal market linkages remain trapped in low-value, subsistence-level activities.

This proposition reinforces the need for tailored financial instruments, inclusive market policies, and institutional mechanisms that bridge the gap between informal actors and formal economic structures. Strengthening these linkages will facilitate higher value retention within GVCs, fostering sustainable economic development and reducing informality.

In sum, these four propositions provide a comprehensive framework for investigating the complex dynamics of informality and GVC participation. Propositions 1 and 2, which focus on the negative consequences of informality and the barriers to formalization, are empirically examined in Chapter 4 using field data. Propositions 3 and 4, which explore the enabling role of institutional quality and the mediating influence of access to credit and markets, are analyzed in Chapter 5. This structured approach allows for a thorough and focused investigation of each aspect of the research inquiry.

Conceptual Framework

The conceptual framework, which is represented below, provides a structured visual representation of the relationships among informality, GVC participation, and socio-economic outcomes. It integrates the theoretical underpinnings of the propositions, illustrating the pathways through which informality interacts with institutional quality, financial access, and market participation to influence value capture and upgrading.

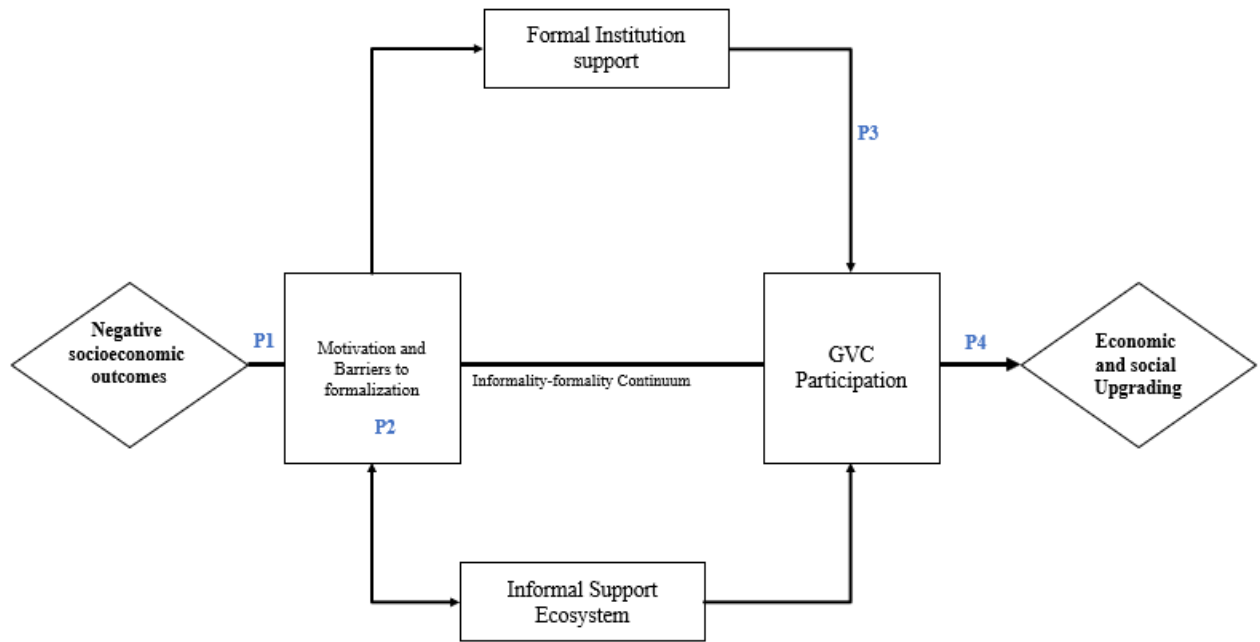


Figure 3.3: Conceptual Model of the Link Between Informality, GVC Participation, and Value Capture

The framework serves as both a roadmap for the research process and a guide for the analysis, ensuring alignment between the theoretical constructs, research objectives, and methodological approach. By incorporating key dimensions such as institutional quality, perceived costs and benefits of formalization, and access to formal credit and markets, the framework provides a robust foundation for exploring the dynamics of informality and GVC participation in Kaduna State.

Two primary data analysis techniques were employed in this study. The quantitative data collected through the survey was analysed using descriptive statistics and cross-tabulations in IBM SPSS version 23. This enabled the examination of the relationships between different variables and the identification of potential associations. Thematic analysis was used for the qualitative data obtained from FGDs and KIIs. This involved identifying, coding, and categorising recurring patterns and themes related to the research objectives. By integrating qualitative and quantitative data, this mixed-methods approach allows for a deeper understanding of the complex dynamics of informality, GVC participation, and development in Kaduna State. The findings of this research will contribute to evidence-based policy recommendations for promoting inclusive and sustainable development in regions with significant informal economies.

3.5 Chapter Summary

This chapter has provided a comprehensive overview of the research design and methodology employed in this study. The study was conducted in Kaduna State, Nigeria, a region that exemplifies the economic and social realities of many developing countries. The choice of a mixed-methods research approach, combining qualitative and quantitative methods, was deemed most suitable for capturing the multifaceted nature of the research problem. The explanatory sequential (QUAN → qual) mixed-methods design allowed for the collection of broad quantitative data, which was then explained and contextualized through a subsequent qualitative phase, enabling both statistical analysis and in-depth exploration.

The pragmatic research philosophy was embraced, as it aligns seamlessly with the mixed-methods approach and its emphasis on problem-solving and practical consequences. The chapter also discussed the sampling procedures, data collection methods, and data analysis techniques employed in the study. The challenges encountered in accessing informal actors and obtaining reliable data were highlighted, underscoring the uniqueness and value of the data collected.

The chapter detailed the specific sampling procedures, data collection instruments, and analysis techniques used to investigate the propositions developed in Chapter 2. The propositions focus on the relationship between informality, GVC participation, and economic and social development, considering the moderating role of institutional quality and the mediating role of access to formal credit and markets.

In conclusion, this chapter has laid a solid methodological foundation for the empirical investigation in the subsequent chapters. The rigorous research design and the comprehensive data collection and analysis strategies employed in this study will contribute to a deeper understanding of the dynamics of informality, GVC participation, and development in Kaduna State, Nigeria, and offer valuable insights for policymakers and practitioners seeking to promote inclusive and sustainable development in similar contexts.

Chapter 4: Determinants of Informality

4.0 Introduction

The persistence of informality in developing economies has been widely debated in academic and policy circles, particularly in relation to its impact on economic development, productivity, and integration into formal market structures. Informality remains a dominant characteristic of agricultural economies in sub-Saharan Africa, where agro-food smallholders operate within unstructured markets, often due to limited institutional support, high regulatory burdens, and economic constraints.

Understanding the determinants of informality is critical to addressing the barriers that prevent agro-food smallholders from upgrading within value chains and capturing higher economic value from their participation in markets. This chapter examines the underlying drivers of informality among agro-food smallholders in Kaduna State, focusing on the interplay between structural constraints, economic incentives, and social dynamics. As established previously, evidence has shown that the strategic choices actors make are further influenced by the complexity inherent in operating within diverse environments (Vallone, Elia, & Greve, 2023). Such complexity can shape how actors perceive the risks and potential inefficiencies of engaging with formal versus informal systems (Georgakakis, Wedell-Wedellsborg, Vallone, & Greve, 2023). The analysis is framed within a broader conceptualization of informality, moving beyond a simplistic formal-informal dichotomy to consider informality as a strategic response to these complex institutional and economic conditions.

Central to this analysis is the relationship between informality and well-being indicators, particularly income levels, access to credit, and overall socio-economic resilience. This chapter examines how informal support ecosystems provide access to resources, networks, and opportunities that often outweigh the perceived benefits of formalization. In regions where formal institutions are weak or cumbersome, informal networks offer flexibility and resilience, enabling participants to bypass bureaucratic hurdles, avoid taxation, and access community-based financial and social capital.

Central to our analysis are three key themes:

1. **The Formality-Informality Continuum:** Economic activities exist along a spectrum, reflecting varying degrees of formal and informal engagement.
2. **The Strategic Nature of Informality:** Actors choose informality based on a rational evaluation of the costs and benefits of engaging in formal and informal systems.

3. **The Role of Informal Support Ecosystems:** Informal networks and relationships mitigate risks and uncertainties, shaping the persistence of informality.

To ensure analytical rigor, this chapter employs **quantitative techniques** to validate the structure of informality and assess its determinants. Given the limitations of **Principal Component Analysis (PCA)** and **Multiple Correspondence Analysis (MCA)** due to the binary nature of responses and other methodological constraints, the study adopts an alternative, empirically grounded approach:

- i. **Partial Least Squares Structural Equation Modeling (PLS-SEM)** – This method is used to validate the predefined dimensions of informality (**regulatory compliance, credit access, exchange arrangements, market access, and information access**) and test causal relationships between **structural enablers** and **market outcomes** in the context of GVC participation. It allows for the assessment of factor loadings, construct reliability, and discriminant validity to ensure that each dimension is a statistically valid construct.
- ii. **K-Means Clustering** – To empirically classify informal actors based on validated dimensions rather than imposing subjective cutoffs. This clustering technique helps to identify distinct strategic adaptations among actors, distinguishing them based on their engagement with formal and informal structures.

We examine the relationship between informality and well-being indicators, particularly income levels, access to credit, and overall socio-economic resilience. Our analysis highlights how informal support ecosystems can provide access to resources, networks, and opportunities that often outweigh the perceived benefits of formalization, especially in regions with weak or cumbersome formal institutions. We argue that the decision to engage in informal economic activities is a calculated trade-off. Individuals weigh the perceived costs and benefits of formalization against the advantages of informality. Empirical evidence from Igabi LGA suggests that prohibitive regulatory burdens, such as complex registration processes and high compliance costs, significantly influence this choice. Additionally, limited access to formal financial services, insufficient legal protections, and distrust in institutional efficiency further discourage formalization.

Several barriers hinder the transition from informality to formality in DCs. Institutional weaknesses, such as corruption and inefficiency, undermine confidence in formal systems.

Regulatory burdens, including excessive paperwork and high fees, deter small enterprises from entering the formal sector. Moreover, limited access to formal resources, such as credit and training, restricts growth opportunities for informal businesses. These barriers create a challenging environment for individuals who might otherwise consider formalization.

Insights from this study enhance the understanding of informality's determinants. Recognizing informality as a strategic choice rather than a necessity suggests that policies must be tailored to address the specific motivations and needs of informal actors. Interventions should aim to reduce regulatory burdens, strengthen institutional frameworks, and improve access to formal credit and markets. Such measures can foster inclusive and sustainable economic development, accommodating the diverse realities of DCs.

By examining informality through the lenses of strategic choice and informal support ecosystems, and applying the formality/informality continuum, this chapter contributes valuable frameworks for understanding its persistence. These insights are crucial for developing policies and interventions that promote resilience and inclusivity in the economic systems of DCs.

To elucidate the spectrum of economic activities between formality and informality, this chapter applies the concept of a formality/informality continuum. This framework highlights varying degrees of engagement with formal systems, illustrating how actors position themselves along this spectrum based on motivations, internal constraints (e.g., resource limitations), and external pressures (e.g., regulatory demands). For instance, some businesses may engage in semi-formal practices, such as paying taxes without registering as legal entities. This continuum offers a comparative lens to analyze motivations and constraints across different levels of formality. It reveals that motivations for remaining informal include autonomy, flexibility, and stronger ties to community networks, while constraints extend beyond regulatory and institutional barriers to include socio-cultural factors, such as traditional practices and resistance to change.

4.1 Chapter Methodology

This study examines the persistence of economic informality through an integrative approach utilizing multiple theoretical frameworks. This study examines the persistence of economic informality through the integrated theoretical framework established in Chapter 2. The analysis is anchored in a **behavioural agency** perspective, which uses **Rational Choice Theory** to understand actor-level decision-making within the contexts provided by **Institutional Theory** and the **Legalist School of Thought**. This framework highlights the interaction between

individual cost-benefit assessments, structural limitations, and the institutional forces that shape informal economic practices.

The research focuses on the agricultural sector, focusing on different categories of agro-food smallholders in Igabi Local Government Area (LGA), Kaduna State, Nigeria, with particular attention to outgrowers. Outgrowers operate under contractual arrangements with agribusinesses, which typically provide inputs, technical assistance, and market access in exchange for a guaranteed supply of agricultural products. This contrasts with independent agro-food smallholders, who operate autonomously, sourcing inputs independently and selling their produce in open, often informal markets.

This distinction between outgrower and independent agro-food smallholders *is* critical to this study because it highlights the heterogeneity of agricultural production models, particularly in relation to informality and GVC participation. While both groups contribute to agricultural output, their levels of integration into formal economic structures vary significantly, influencing their position on the formality-informality continuum.

- Outgrower agro-food smallholders (agro-food smallholders), by virtue of their contractual relationships with agribusinesses, are partially integrated into formal value chains. These contracts typically require compliance with quality standards, structured market channels, and record-keeping, positioning them closer to formal economic participation.
- Independent agro-food smallholders, on the other hand, lack structured contractual relationships and rely on informal networks, local markets, and traditional trading mechanisms, leading to a higher degree of informality.

Outgrower schemes are distinguished by their contractual arrangements with agribusinesses, which typically supply inputs, technical assistance, and market access in exchange for a guaranteed supply of agricultural products. This contrasts with independent agro-food smallholders who operate autonomously and sell their produce in open markets. The distinction between outgrower agro-food smallholders (agro-food smallholders) and independent agro-food smallholders is necessary because it highlights the heterogeneity of the agricultural sector and the varying degrees of informality and GVC participation among different types of agro-food smallholders. Outgrower agro-food smallholders (agro-food smallholders), due to their contractual obligations and integration into formal value chains, may exhibit different characteristics and face unique challenges compared to independent agro-food smallholders. This distinction affects the formality-informality continuum by positioning

outgrower agro-food smallholders at a higher degree of formality compared to independent agro-food smallholders. The contractual arrangements of outgrower agro-food smallholders with agribusinesses often involve formal agreements, structured market channels, and compliance with quality standards, which align with the characteristics of the formal economy.

Independent agro-food smallholders, on the other hand, may operate with a greater degree of informality due to their autonomy and lack of formal contracts. They may rely on informal market channels, personal networks, and traditional practices, which are characteristic of the informal economy. The study's focus on outgrowers is critical to understanding how participation in Global Value Chains (GVCs) intersects with informality and well-being outcomes such as income, access to credit, and resilience. Outgrowers, due to their integration into formal value chains, provide a unique opportunity to examine the dynamics of informality within the context of GVC participation.

To achieve these objectives, a sequential mixed-methods approach (QUANT+QUAL) was adopted, guided by a Pragmatic Research Philosophy. The study began with a quantitative survey involving 206 agro-food smallholders in Igabi LGA. This phase provided broad insights into the extent, drivers, and outcomes of informality among agro-food smallholders. The subsequent qualitative phase aimed to deepen and contextualize these findings. It included focus group discussions (FGDs) with 10 outgrower agro-food smallholders and key informant interviews (KIIs) with 5 representatives from relevant organizations, including government agencies and a multinational agribusiness corporation.

The sampling for the qualitative phase was informed by the principle of data saturation, which typically occurs within 9 to 17 interviews or 4 to 8 FGDs, as noted by Hennink & Kaiser (2022) and Rahimi & Khatooni (2024). The selected sample size of 15 participants was deemed sufficient to capture diverse perspectives and achieve meaningful insights.

Category	Respondents	
	Quantitative Phase (Survey)	Qualitative Survey (FGDs and KIIs)
Outgrower Agro-food smallholders (agro-food smallholders)	206	10
Representatives of key organizations	-	5
Total	206	15

Table 4.1: Distribution of Outgrower Farmer Respondents and Representatives of Key Organisations across Study Phases

Methods of Data Analysis

The study employed a mixed-methods approach to analyze both qualitative and quantitative data. The qualitative data was analyzed using thematic analysis, guided by the study's research objectives and conceptual framework. This process involved systematically identifying, coding, and categorizing recurring patterns and themes related to decision-making processes, barriers to formalization, and engagement with High-Value Chains (HVCs). A predefined spreadsheet was utilized to enhance coding accuracy and pattern recognition.

For the quantitative data, a combination of descriptive, inferential, and structural equation modeling techniques was applied to test the study's propositions and validate the formality-informality continuum:

- **Descriptive Statistics:** Frequency tables, means, and visualizations were employed to summarize participant demographics and response distributions, offering a broad overview of formality-related attributes.
- **Cross-tabulations and Chi-Square Tests:** These techniques were applied to examine relationships between categorical variables, identifying significant associations between formality levels and key socio-economic indicators.
- **Structural Equation Modeling (SEM):** Instead of using PCA or MCA due to the binary nature of many responses, SEM was applied (using SMART PLS 4.0) to validate the predefined dimensions (e.g., Financial Market Access (FMA), Informal Arrangements (IA), Access to Formal Credit (AFC), etc.). The analysis involved:
 - Confirming that the predefined dimensions collectively represent a valid construct.
 - Evaluating factor loadings to determine whether each indicator loaded correctly onto its intended latent construct (See Appendix III).

- Assessing construct reliability and validity using Cronbach's Alpha and Composite Reliability.
- Refining the model by removing indicators that contributed little to their respective constructs and rerunning the estimation to confirm the robustness of the revised structure.
- **K-Means Clustering:** Empirical classification of actors along the formality continuum was conducted using k-means clustering, ensuring that groupings (Highly Formal, Moderately Formal, Moderately Informal, Highly Informal) emerged from data-driven patterns rather than arbitrary categorization. Equal weighting was applied across dimensions to maintain objectivity in classification (See Appendix IV)).

To enhance analytical depth, qualitative insights were systematically integrated with quantitative findings through a convergent mixed-methods approach. This iterative process ensured that qualitative insights validated, contextualized, and explained quantitative trends, resulting in a comprehensive interpretation of informality, its drivers, and its outcomes. The results of this integrated analysis are presented thematically in subsection 4.2

Reliability and Validation of the Formality Continuum

The formality/informality continuum is a concept that challenges the traditional binary classification of economic activities as strictly "formal" or "informal." It recognizes that economic activities often exhibit varying degrees of engagement with formal and informal practices, reflecting a spectrum of behaviors rather than a simple dichotomy. This concept is relevant not only to the specific context of Igabi LGA in Kaduna State, Nigeria, but also to any locality or country where economic actors navigate a mix of formal and informal systems.

The continuum captures the transitions and diverse combinations of behaviors adopted by economic actors, particularly in the context of agricultural production and participation in Global Value Chains (GVCs). It provides a framework for understanding how actors position themselves along this spectrum based on their motivations, internal constraints (e.g., resource limitations), and external pressures (e.g., regulatory demands).

To operationalize this concept empirically, this study develops a multi-dimensional measure of an actor's position on this continuum. The study identified five critical dimensions theorized to represent key facets of formal engagement:

1. **Formal regulatory compliance**
2. **Access to formal credit**
3. **Formal exchange arrangements**

4. Formal market access

5. Information access

Conceptually, and as detailed in Chapter Two, these five dimensions are not treated as entirely undifferentiated components of a single, flat scale. Instead, the study's framework posits an internal structure wherein these dimensions are categorized into structural enablers (causes) – FRC, AFC, and FEA – and market outcomes (effects) – FMA and IA. This distinction is pivotal, as it is hypothesized that engagement in enabling formal activities (such as compliance, securing formal credit, and using formal contracts) causally influences the achievement of market-related outcomes (like improved access to formal markets and information). For example, adhering to formal regulations, securing access to formal credit, and participating in formal exchange arrangements are theorized to enhance visibility, credibility, and capacity, thereby improving access to formal markets and critical information. Understanding these hypothesized pathways is crucial for dissecting the process of formalization.

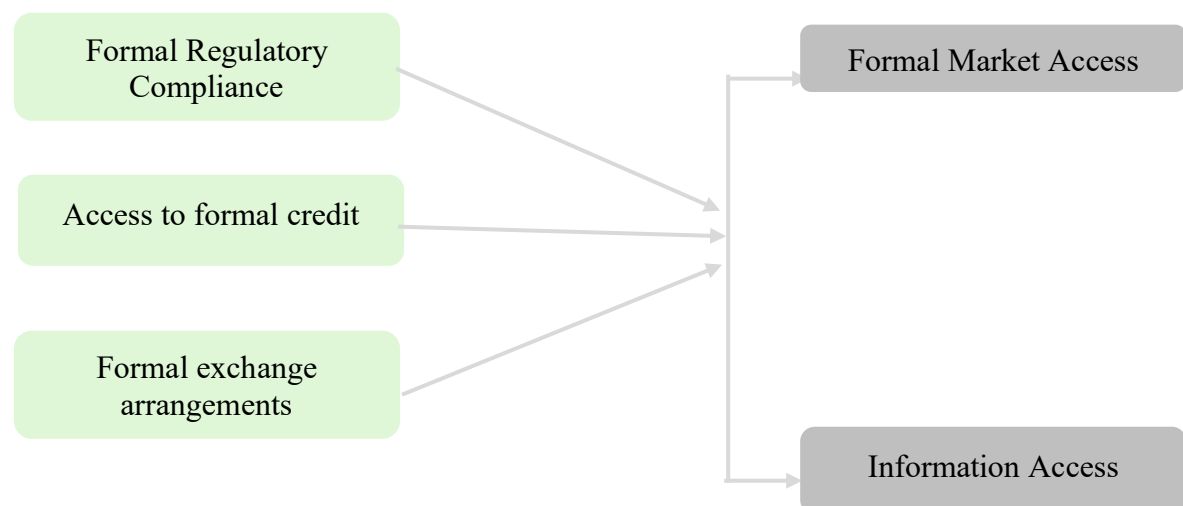


Figure 4.2: Hypothesized Relationships Among Dimensions of Formality/Informality Continuum:

The conventional binary perspective of informality as the opposite of formality no longer captures the complexities of the contemporary economic landscape. The rise of the digital economy has created opportunities for individuals and enterprises to operate beyond traditional regulatory frameworks. For example, online businesses and freelancers may function without formal registration or physical premises yet engage in formal economic transactions, fulfill tax obligations, and contribute to economic growth. Similarly, the increasing adoption of digital technologies in traditional sectors, such as agriculture, is transforming work practices and blurring the boundaries between formality and informality. Agro-food smallholders now access market information, financial services, and agricultural inputs via fintech and blockchain

technology, even while operating outside formal regulatory frameworks. These developments highlight the limitations of the traditional binary view of informality.

The formality/informality continuum provides a framework for understanding this dynamic. It acknowledges that actors operate along a spectrum, engaging with formal and informal practices to varying degrees based on their circumstances and decisions. This approach reflects the evolving and adaptive nature of economic activities in both traditional and modern sectors. The continuum used in this study extends beyond simply categorizing respondents. It serves as a representation of their level of engagement with formal institutions and practices. The dimensions used to construct the continuum capture key aspects of formality and informality, reflecting the extent of actors' interactions with formal systems. It is hypothesized that formal regulatory compliance, access to formal credit, and participation in formal exchange arrangements enhance formal market access and information access by increasing visibility, credibility, and capacity. This approach provides a deeper understanding of the interplay between informality, engagement with Global Value Chains (GVCs), and developmental outcomes.

Given the complexity of informality and its multi-dimensional nature, a multi-stage statistical approach was applied to: first, validate the distinctness and reliability of each of the five proposed dimensions; second, to empirically classify actors along an overall formality continuum based on these validated dimensions; and third, to test the hypothesized causal relationships between the conceptual groupings of structural enablers and market outcomes.

1. **Dimensional Validation through Structural Equation Modeling (SEM):** The initial and foundational step involved rigorously validating each of the five predefined dimensions of formality (FRC, AFC, FEA, FMA, and IA) as distinct and reliable constructs. Partial Least Squares Structural Equation Modeling (PLS-SEM), using SmartPLS 4.0, was employed for this confirmatory purpose, chosen over PCA due to the primarily binary nature of many survey indicators and SEM's suitability for hypothesis testing regarding predefined dimensional structures. For each dimension, factor loadings of its constituent indicators were assessed to ensure they appropriately measured their intended latent construct. Indicators contributing minimally or exhibiting statistically insignificant loadings were systematically removed, and the measurement model for each dimension was re-estimated. Subsequently, the construct reliability (using Cronbach's Alpha and Composite Reliability) and validity, crucially

including discriminant validity (assessed via the Fornell-Larcker criterion, as presented in Table 4.4), were confirmed for the refined dimensions. This process ensures that while all five dimensions contribute to the overarching concept of formality, each dimension captures a unique and statistically distinguishable facet of formal engagement. This statistical distinctness is a prerequisite for their subsequent use in both forming an aggregate continuum index and in modeling specific causal pathways.

2. **Cluster-Based Categorization via K-Means Clustering:** Following the validation of the five distinct dimensions of formality, an aggregate "Formality Continuum Index" was computed for each respondent. This index reflects an actor's overall level of engagement across all five validated dimensions. Rather than imposing arbitrary thresholds on this index, K-Means clustering was then employed to empirically classify participants into four distinct formality levels: *Highly Formal*, *Moderately Formal*, *Moderately Informal*, and *Highly Informal*. This data-driven approach ensures that the resulting actor profiles or clusters reflect naturally occurring patterns of formal engagement within the sample, providing a robust basis for subsequent comparative analysis.
3. **Causal Pathway Testing through Partial Least Squares Structural Equation Modeling (PLS-SEM):** With the individual dimensions validated and actor profiles identified, the final analytical step utilized PLS-SEM to specifically test the theoretical causal relationships hypothesized in Chapter Two between the conceptual group of structural enabler dimensions (FRC, AFC, FEA) and the conceptual group of market outcome dimensions (FMA, IA). This is depicted in Figure 4.3 and detailed in Table 4.8. The purpose here is distinct from the creation of the aggregate index for clustering; it is to examine the directional influence proposed by the study's conceptual framework – that is, whether engaging in enabling formal activities collectively leads to improved market outcomes. The model was specified with reflective latent variables for these constructs. The prior establishment of the five dimensions as statistically distinct (though related) constructs allows for their theoretically guided grouping and testing in this path model. Thus, the overall formality continuum is understood as a multifaceted construct with an internal causal logic, where enablers are posited to pave the way for outcomes, and an actor's position on the continuum reflects their comprehensive engagement across these interlinked facets.

As outlined in Chapter Two, informality is categorized into these key dimensions distinguishing between structural enablers and market outcomes. Each dimension was represented by multiple questionnaire items, coded into binary variables (0 = No, 1 = Yes), and aggregated into composite indices after the SEM validation of their respective indicators. This section now details the specific survey questions, coding schemes, and how these measures were refined to ensure a rigorous empirical validation of the formality continuum and its internal causal structure.

1. Structural Enablers (Causes)

Formal Regulatory Compliance (FRC):

This reflects the degree to which businesses adhere to legal and financial requirements necessary for formal economic participation. The predefined indicators included business registration, tax payment, business banking, and cooperative membership. However, Structural Equation Modeling (SEM) results, particularly outer loadings, show that only **FRC_4 (Cooperative Registration)** had a statistically significant loading (1.000), while the other predefined indicators (FRC_1, FRC_2, and FRC_3) were not retained.

Indicator	Survey Question	Response Option for Coding '1' (Yes)	Code	Outer Loading	Retained after SEM?
FRC_1	Do you have a business name registered with CAC or any state agency? (Q271)	Yes	FRC_1	N/A	Not Retained
FRC_2	Do you pay any form of tax/levy? (Q285)	Yes	FRC_2	N/A	Not Retained
FRC_3	Do you have a business bank account? (Q272)	Yes	FRC_3	N/A	Not Retained
FRC_4	Is your group/organization/cooperative registered? (Q288)	Yes	FRC_4	1.000	Retained

Table 4.2: SEM Validation Results for FRC Indicators

The results of the confirmatory SEM analysis reveal that cooperative registration (FRC_4) stands out as the only significant indicator of formal regulatory compliance, with a perfect outer loading of 1.000. This suggests that participation in a cooperative structure is a more meaningful marker of formal integration than individual business registration, tax compliance, or the use of business bank accounts. Cooperatives often serve as a bridge between informal

and formal economies, offering access to credit, structured governance, and regulatory oversight. Their role in facilitating institutional linkages may explain why they emerged as the dominant factor in assessing formal compliance. Unlike individual registration, which can exist in name only, cooperative membership entails sustained interaction with formal regulatory frameworks, making it a more robust measure of business formalization.

In contrast, the initially proposed indicators—business registration, tax compliance, and business bank accounts—were not retained due to their weaker and inconsistent relationships with formalization. Business registration with CAC (FRC_1) is often pursued as a one-time procedural requirement, but many registered enterprises continue to operate informally due to weak enforcement and high compliance costs. Similarly, tax compliance (FRC_2) does not necessarily equate to full regulatory engagement, as informal businesses frequently pay local levies without adhering to broader formal regulations. The use of business bank accounts (FRC_3) also proved to be an unreliable indicator, as many informal actors maintain personal accounts for transactions, bypassing formal business banking structures. These findings reflect the complex nature of informality, where isolated compliance with certain regulatory requirements does not always translate into meaningful formal economic participation.

Given the empirical results, the original composite Formal Regulatory Compliance Index (FRC_Index) cannot be maintained in its previous formulation. Instead, compliance is now primarily captured through cooperative registration. This adjustment ensures that the measure reflects actual regulatory engagement rather than nominal adherence to formal requirements. The findings underscore the importance of cooperative structures as a pathway to formalization, particularly in contexts where direct regulatory enforcement is weak. By embedding businesses in a network with institutional oversight, cooperatives may provide a more sustainable route to formal economic inclusion than standalone regulatory measures.

Access to Formal Credit (AFC) Dimension

Indicator	Survey Question	Response Option for '1'	Predefined Inclusion	Outer Loading (SEM Result)	Retained in Final Model?
AFC_1	What are your main sources of credit? (Q74)	Bank Loans	Included	<i>Not Significant</i>	No
AFC_2	Have you received credit from government financial programs? (Q80)	Yes	Included	<i>Not Significant</i>	No
AFC_3	Do you rely on loans from cooperatives or associations? (Q79)	Yes	Included	1.000	Yes

Table 4.3: SEM Validation Results for AFC Indicators

The Access to Formal Credit (AFC) dimension was initially conceptualized to capture the extent to which respondents accessed credit from formal financial institutions, including commercial banks, government-backed financial programs, and cooperative societies. However, the Structural Equation Modeling (SEM) validation revealed that only AFC_3 (Loans from Cooperatives or Associations) significantly contributed to measuring this construct, with a perfect outer loading of 1.000. This result suggests that cooperative and association-based lending is the most relevant and widely utilized formal credit mechanism within the study sample.

In contrast, AFC_1 (Bank Loans) and AFC_2 (Government Credit Programs) did not show significant contributions to the construct, indicating that these sources do not reliably explain variations in formal credit access among respondents. This finding may be attributed to the structural barriers associated with commercial and government-backed credit schemes, such as stringent collateral requirements, complex bureaucratic procedures, and a general lack of accessibility for agro-food smallholders and informal entrepreneurs. These barriers often render formal banking systems ineffective for the majority of informal actors, who instead rely on community-based financial networks such as cooperatives for capital.

Given these empirical findings, the original AFC Index was revised to include only AFC_3, ensuring that the measure reflects actual credit access patterns rather than theoretical assumptions. The final Access to Formal Credit Index (AFC_Index) is therefore expressed as:

$$\text{AFC\_Index} = \text{AFC}_3$$

This revision of the dimension strengthens the study's methodological rigor, ensuring that only statistically validated constructs define the formality-informality continuum. By retaining only significant indicators, this approach enhances the reliability of the model and provides a more accurate representation of how informal actors engage with formal credit systems within the local economic landscape.

Formal Exchange Arrangements (FEA)

The Formal Exchange Arrangements (FEA) dimension assesses the extent to which agricultural actors engage in structured trade agreements, contractual relationships, and supply chain partnerships. These elements are critical for successful participation in Global Value Chains (GVCs), as they determine access to stable markets, bargaining power, and financial security.

Indicator	Survey Question	Response Option for Coding '1' (Yes)	Code	SEM Outer Loading	Retained?
FEA_1	Do you produce under a contractual or agreement-based arrangement? (Q178)	Yes	FEA_1	0.794	Retained
FEA_2	Do you have enterprise(s) to whom you sell or barter farm produce? (Q167)	Yes	FEA_2	0.804	Retained
FEA_3	Do you have structured trade partnerships (e.g., barter with enterprises)? (Q177)	Yes	FEA_3	0.791	Retained
FEA_4a	What benefits do you derive from contracts (training)?	Any mentioned benefit	FEA_4a	0.810	Retained
FEA_4c	What benefits do you derive from contracts? (Input)	Any mentioned benefit	FEA_4c	0.785	Retained
FEA_4d	What benefits do you derive from contracts? (farming equipments)	Any mentioned benefit	FEA_4d	0.913	Retained
FEA_4e	What benefits do you derive from contracts? (Better price)	Any mentioned benefit	FEA_4e	0.730	Retained
FEA_4b	What benefits do you derive from contracts? (Financial loans)	Any mentioned benefit	FEA_4b	0.369	Removed
FEA_4f	What benefits do you derive from contracts? (Others)	Any mentioned benefit	FEA_4f	-0.887	Removed
FEA_5	Do you receive any form of input support from contracts? (Q185)	Yes	FEA_5	-0.019	Removed
FEA_6	Do contract agreements improve your business performance? (Q186)	Yes	FEA_6	0.649	Removed

Table 4.4: SEM Validation Results for FEA Indicators

The validation of the Formal Exchange Arrangements (FEA) dimension through Structural Equation Modeling (SEM) provides key insights into the factors that drive structured trade

relationships and contractual participation among agro-food smallholders. The analysis confirms that not all indicators contribute equally to defining formal exchange arrangements, highlighting the nuanced ways in which agricultural actors engage with structured market mechanisms.

Among the most strongly retained indicators, contractual participation (FEA_1: 0.794), structured trade relationships (FEA_2: 0.804), and formalized barter agreements (FEA_3: 0.791) emerged as the core components of formal exchange arrangements. These findings reinforce the argument that participation in structured trade agreements is a defining characteristic of formalization in agricultural markets, as such arrangements provide greater security, predictable transactions, and access to structured supply chains. The indicator with the highest loading, FEA_4d (0.913), which relates to receiving farming equipment as a benefit from contracts, strongly emphasizes the importance of tangible, non-financial benefits in motivating agro-food smallholders to engage in and value these structured trade relationships. This suggests that access to productive assets is a more powerful incentive for entering into contractual agreements than the promise of direct financial loans or other less tangible benefits.

Additionally, while FEA_4a (0.810), FEA_4c (0.785), and FEA_4e (0.730) displayed slightly lower loadings, they were still retained, as they capture the indirect yet significant role that contractual benefits play in reinforcing structured market engagement. These findings indicate that while agro-food smallholders recognize advantages such as price stability and technical support, their engagement in formal exchange structures may be influenced by additional factors, including the credibility of contracting firms and trust in enforcement mechanisms.

However, not all indicators contributed meaningfully to the construct. FEA_4b (0.369) was dropped due to its weak association, suggesting that not all contractual benefits directly translate into stronger engagement with structured exchange mechanisms. Similarly, FEA_6 (0.649) was removed due to factor loading which is below the cut off mark. Moreover, FEA_4f (-0.887) had a negative loading, indicating a potential measurement issue or a reverse effect, which may suggest that some contracts impose constraints rather than benefits, discouraging participation in formal trade relationships. Similarly, FEA_5 (-0.019) was removed, as it failed to show a meaningful contribution to formal exchange arrangements, suggesting that receiving input support from contracts does not necessarily indicate a transition to structured trade agreements.

These findings collectively refine the conceptualization of formal exchange arrangements, ensuring that only the most robust and empirically validated indicators define the construct. The results reinforce the importance of contractual participation and tangible economic benefits as the primary drivers of formal exchange engagement, while also revealing that certain assumed indicators—such as input support—may not be reliable predictors of formalization.

Formal Market Access (FMA) Dimension

This dimension, which assesses engagement in structured, high-value markets, was evaluated using Structural Equation Modeling (SEM) to determine the validity of its predefined indicators. The results reveal that while some indicators strongly contribute to formal market access, others do not exhibit a significant influence, highlighting the complexities of integrating informal actors into regulated trade networks.

Among the most strongly retained indicators, FMA_1 (0.838) emerged as the most reliable measure of formal market access, emphasizing that selling directly to formal companies (such as Olam or Tomato Jos) is a primary indicator of structured market engagement. This aligns with literature suggesting that participation in buyer-driven value chains is a fundamental marker of formality, as firms operating within these networks are often subject to regulatory oversight, quality requirements, and structured trade agreements (Gereffi et al., 2005). Additionally, FMA_3b (0.632), which assesses compliance with quality and certification standards, was also retained, reinforcing the idea that adherence to formal standards plays a key role in market integration.

However, some predefined indicators were not validated, pointing to inconsistencies in how formal market access is measured. FMA_2a (0.056) and FMA_2b (-0.257), which relate to participation in export-certified markets, were removed due to weak and negative loadings, respectively. This suggests that export certification alone does not necessarily indicate formal market access, potentially because many informal actors may sell indirectly through intermediaries rather than engaging directly in export transactions. Likewise, FMA_3a (0.244), which assessed compliance with general quality standards, had a low loading, implying that not all quality-related measures are strong predictors of formal market access. This may be due to variation in enforcement mechanisms, where some agro-food smallholders follow quality standards without being fully integrated into formalized value chains.

Similarly, FMA_4 (0.292), which measured market linkages through cooperatives, was not retained as a significant predictor. While cooperatives often facilitate formal market access, their role may be highly variable depending on the level of organization, bargaining power, and access to structured markets. Some cooperatives operate informally, limiting their effectiveness as a direct measure of formal market engagement.

Given these findings, the original FMA_Index has been adjusted to reflect only the validated indicators, ensuring that the measurement is grounded in empirical evidence rather than theoretical assumptions. The revised index is now formulated as:

$$\text{FMA\_Index} = \text{FMA1} + \text{FMA3b}$$

This refined index captures the most robust aspects of formal market engagement—direct sales to formal companies and compliance with certification standards—which best reflect participation in structured trade networks. The results suggest that while market access is a critical component of formality, its measurement must be carefully defined, as not all assumed indicators (such as export certification or cooperative linkages) provide a consistent reflection of structured market participation. Overall, these findings contribute to a more scientifically validated understanding of formal market access, offering greater precision in distinguishing between informal and formal market engagement within agricultural value chains.

Indicator	Survey Question	Response Option for Coding '1' (Yes)	Code	SEM Loading	Retention Status
FMA_1	What are your main channels for selling produce? (Q150)	Directly to formal companies (e.g., Olam, Tomato Jos)	FMA_1	0.838	Retained
FMA_2a	Have you participated in an export-certified market? (Q166)	Yes	FMA_2a	0.056	Removed
FMA_2b	Have you faced barriers related to export certification? (Q193)	Yes	FMA_2b	-0.257	Removed
FMA_3a	Do you comply with quality or certification standards? (Q190)	Yes	FMA_3a	0.244	Removed
FMA_3b	Do you comply with specific quality standards? (Q165)	Yes	FMA_3b	0.632	Retained
FMA_4	Do you have market linkages through cooperatives? (Q200)	Yes	FMA_4	0.292	Removed

Table 4.5: Predefined Indicators and SEM Validation Results for Formal Market Access (FMA)

Information Access (IA) Dimension

The validation of the Information Access (IA) dimension through Structural Equation Modeling (SEM) provides critical insights into the most reliable indicators of agro-food smallholders' access to formal sources of market intelligence. The analysis confirms that extension services and structured training programs are the most significant contributors to the construct, while other predefined indicators, such as reliance on digital platforms and general market trends, do not meaningfully capture variations in information access. This reflects the realities of information dissemination within the agricultural sector. The strongest retained indicator was IA_1, which measured the use of extension services for farming decisions, with a high loading of 0.740. This finding underscores the essential role that extension services play in providing structured, actionable knowledge to agro-food smallholders.

Similarly, IA_4b, which assessed participation in training on crop varieties and farming techniques, was retained with a loading of 0.721, reinforcing the importance of structured

training initiatives in improving agricultural decision-making. These training programs equip agro-food smallholders with critical knowledge on productivity enhancement, quality standards, and market requirements, helping them navigate formal agricultural markets more effectively. IA_4a, which captured participation in formal knowledge-sharing platforms, had a slightly lower but still meaningful loading of 0.487. This suggests that while peer-to-peer exchanges and industry-specific forums provide an alternative means of accessing structured information, they are secondary to direct extension services and formal training programs.

Several indicators were removed due to weak or negative contributions to the construct. IA_2a, which measured the use of digital platforms for market information, and IA_2b, which assessed reliance on market trends for decision-making, had negative loadings of -0.118 and -0.150, respectively. This suggests that digital platforms and broad market trends are not primary sources of actionable information for the sampled agro-food smallholders. A possible explanation lies in the limited digital literacy, poor internet access, and financial constraints that hinder widespread adoption of technology-driven agricultural information systems. Additionally, IA_3a (training from NGOs) and IA_3b (training from government agencies) were removed due to low explanatory power, with loadings of 0.406 and 0.116, respectively. Although these programs exist, their limited impact on sustained information access may stem from inconsistent implementation, lack of follow-up support, or inadequate targeting of farmer needs.

Given the SEM findings, the Information Access Index (IA_Index) was refined to include only the most empirically supported indicators: **IA_1 and IA_4b**. This ensures that the measurement of information access is based on the most statistically validated predictors, enhancing the methodological rigor of the study. The findings emphasize that formal extension services and structured training programs remain the most effective channels for improving agricultural knowledge and decision-making, while reliance on digital platforms and broad market trends appears less relevant in this context.

Indicator	Survey Question	Response Option for Coding '1' (Yes)	Outer Loading	Retained?
IA_1	What are your primary sources of information for making farming decisions? Extension services?	Yes	0.740	Retained
IA_4b	Have you received any type of training on growing crop varieties and/or farming techniques?	Yes	0.721	Retained
IA_4a	Participation in formal knowledge-sharing platforms	Yes	0.487	removed
IA_2a	Use of digital platforms for market information	Yes	-0.118	Removed
IA_2b	Reliance on market trends for decision-making	Yes	-0.150	Removed
IA_3a	Training from NGOs	Yes	0.406	Removed
IA_3b	Training from government agencies	Yes	0.116	Removed

Table 4.6: Predefined Indicators and SEM Validation Results for Information Access (IA)

The study has successfully validated the predefined dimensions, refining the structural enablers and market outcomes through Structural Equation Modeling (SEM) to provide deeper insights into the causal relationships shaping value capture among informal actors. The validation process not only confirmed the robustness of these dimensions but also necessitated refinements based on statistical significance. The finalized model retains only the most empirically valid indicators, ensuring that the formality continuum is firmly grounded in measurable and meaningful economic behaviours.

Among the structural enablers, Formal Exchange Arrangements (FEA) emerged as the strongest predictor of both Formal Market Access (FMA) (path coefficient: $\beta = 0.760$, $p < 0.001$) and Information Access (IA) ($\beta = 0.770$, $p < 0.001$). These findings underscore the central role of structured trade relationships, contractual engagements, and barter agreements in facilitating integration into formal economic networks. The high path coefficients indicate that informal actors who participate in structured exchange mechanisms are significantly more likely to secure access to regulated markets and benefit from improved information flow. These results are consistent with existing literature, which suggests that structured exchange arrangements enhance credibility, lower transaction costs, and foster deeper engagement with formal trade networks.

By establishing the strong predictive power of FEA, this validation highlights the need to rethink the conventional emphasis on regulatory compliance and financial access as primary drivers of formalization. Instead, market linkages and structured exchange relationships appear

to play a more pivotal role in shaping informal actors' ability to transition toward formal economic systems. The implications of these findings suggest that policies aimed at strengthening contractual frameworks, expanding trade networks, and improving access to structured exchange mechanisms could be more effective in fostering sustainable formalization and economic upgrading.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
AFC -> FMA	-0.092	-0.092	0.112	0.827	0.408
AFC -> IA	-0.085	-0.088	0.135	0.630	0.528
FEA -> FMA	0.760	0.762	0.067	11.309	0.000
FEA -> IA	0.770	0.771	0.061	12.692	0.000
FRC -> FMA	-0.081	-0.082	0.068	1.192	0.233
FRC -> IA	-0.042	-0.042	0.068	0.609	0.543

Table 4.7: Structural Path Coefficients and Hypothesis Testing Results

The results in Table 4.7 suggest that while FEA significantly influences market outcomes, Formal Regulatory Compliance (FRC) and Access to Formal Credit (AFC) do not exhibit statistically significant relationships with either FMA or IA. Notably, FRC, measured primarily through cooperative registration, failed to significantly predict market participation ($\beta = -0.081$, $p = 0.233$) or access to information ($\beta = -0.042$, $p = 0.543$). This challenges conventional assumptions that regulatory compliance alone enhances economic inclusion. Instead, the findings highlight the need for complementary measures such as financial incentives, capacity-building programs, and institutional trust-building to ensure that formalization delivers tangible benefits. Similarly, AFC was found to have no significant influence on market outcomes, with weak coefficients for both FMA ($\beta = -0.092$, $p = 0.408$) and IA ($\beta = -0.085$, $p = 0.528$). These results suggest that while financial access is theoretically a driver of business growth and formalization, structural constraints such as high collateral requirements, distrust in financial institutions, and limited creditworthiness of informal enterprises may restrict its effectiveness in facilitating market engagement.

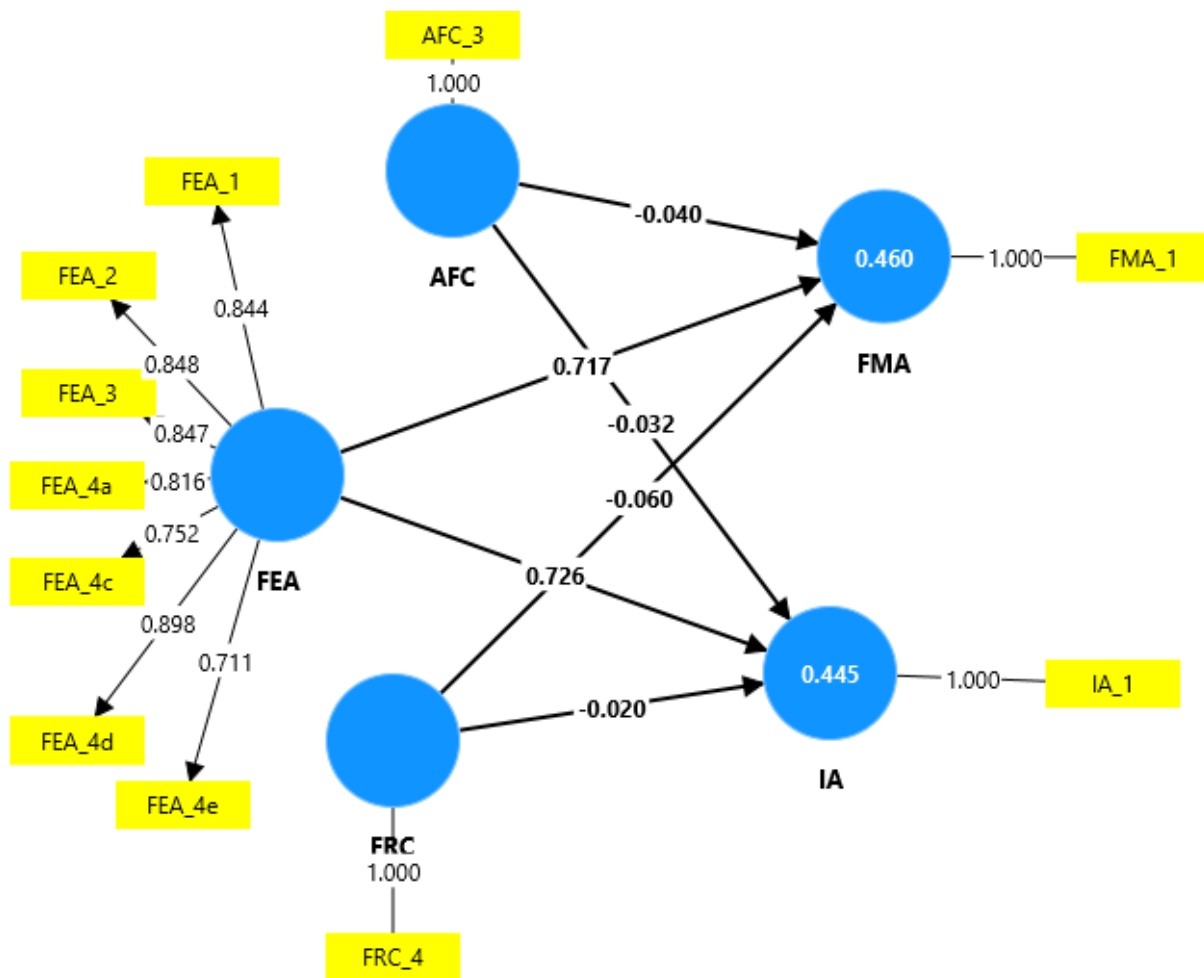


Figure 4.3: Structural Equation Model (SEM) Showing Relationships Between Structural Enablers and Market Outcomes

Given the strong empirical support for the role of Formal Exchange Arrangements (FEA) in shaping Formal Market Access (FMA) and Information Access (IA), the study advances to a clustering analysis to further differentiate informal actors based on their structural and market characteristics. By employing K-means clustering, the analysis aims to identify distinct strategic adaptations within the informal economy, offering a data-driven classification of actor groups based on their varying degrees of engagement with regulatory compliance, financial access, structured trade mechanisms, and market participation. This approach moves beyond a binary view of formality and informality, instead capturing heterogeneous positioning along the formality continuum.

The clustering process segments informal actors into distinct categories by analyzing their engagement across the validated dimensions—Formal Regulatory Compliance (FRC), Access to Formal Credit (AFC), Formal Exchange Arrangements (FEA), Formal Market Access (FMA), and Information Access (IA). The goal is to uncover patterns in how actors navigate structural constraints and leverage opportunities, revealing whether certain combinations of

enablers lead to higher levels of formalization or persistent informality. By mapping these strategic adaptations, the study offers deeper insights into the pathways through which informal actors transition toward greater formal participation.

The Fornell-Larcker Criterion results in Table 4.8 confirm the discriminant validity of the five dimensions, ensuring that each construct is statistically distinct while maintaining meaningful relationships with the broader formality framework. With these validated dimensions, the clustering analysis provides an objective basis for categorizing informal actors.

	AFC	FEA	FMA	FRC	IA
AFC	1.000				
FEA	0.345	0.819			
FMA	0.219	0.676	1.000		
FRC	0.051	0.270	0.136	1.000	
IA	0.218	0.667	0.445	0.165	1.000

Table 4.8: Discriminant Validity Using the Fornell-Larcker Criterion

In sum, the study has successfully validated the predefined dimensions, refining the measures of structural enablers and market outcomes through Structural Equation Modeling (SEM). This process not only confirmed the robustness of these dimensions but also necessitated data-driven refinements based on statistical significance, ensuring that the formality continuum is firmly grounded in measurable and meaningful economic behaviours.

The Fornell-Larcker Criterion results (Table 4.8) confirmed the discriminant validity of the five dimensions (AFC, FEA, FMA, FRC, IA), ensuring that each construct, while contributing to the overall notion of formality, is statistically distinct. This statistical distinctness underpins their use in both the aggregate Formality Continuum Index for clustering and the more nuanced causal pathway analysis. With these validated dimensions, the study proceeds to the cluster analysis to empirically derive actor profiles along the formality continuum.

Cluster Analysis: Profiling Actors Along the Formality Continuum

Following the validation of the five distinct dimensions of formality and the construction of an aggregated Formality Continuum Index for each respondent, this study employed K-means clustering to empirically segment the economic actors. The primary objective of this analytical

step was to move beyond a simple linear understanding of the continuum and to identify naturally occurring groups or "clusters" of actors who exhibit shared characteristics in their degree and pattern of engagement with formal economic systems. This data-driven approach avoids arbitrary thresholds for categorizing actors and instead allows for the emergence of profiles based on the underlying structures within the dataset. The Formality Continuum Index, integrating the validated structural enablers (Formal Regulatory Compliance, Access to Formal Credit, Formal Exchange Arrangements) and market outcomes (Formal Market Access, Information Access), served as the input variable for the clustering algorithm.

The K-means clustering procedure successfully identified four distinct and statistically significant clusters, each representing a varying degree of engagement with formal structures. The final cluster centers, which represent the average score on the Formality Continuum Index for each group, demonstrate meaningful differentiation: Cluster 2 ("Highly Informal") with a mean score of 0.31; Cluster 1 ("Moderately Informal") averaging 3.20; Cluster 3 ("Moderately Formal") at 7.68; and Cluster 4 ("Highly Formal") achieving the highest mean score of 10.56. This clear ordinal progression of mean scores suggests a consistent gradation in formal business practices across the identified groups. The distribution of the 206 respondents among these clusters was as follows: 94 actors (45.6%) were classified into the Highly Informal cluster, 44 (21.4%) into the Moderately Informal, 50 (24.3%) into the Moderately Formal, and 18 (8.7%) into the Highly Formal cluster.

An Analysis of Variance (ANOVA) performed on the Formality Continuum Index across these four clusters yielded a highly significant F-statistic ($F(3, 202) = 1307.217, p < 0.001$), confirming that the differences between the cluster means are statistically robust and that the clusters represent empirically distinct levels of formalization. It is noted, however, that F-tests in the context of cluster analysis (which, by design, maximizes between-group variance) should be interpreted descriptively rather than as strict hypothesis tests of equal means.

To further characterize these empirically derived clusters, Table 4.9 presents the mean scores for each of the five validated formality dimensions across the four clusters, along with ANOVA results testing for significant differences.

Formality Dimension	Highly Informal (Cluster 2) (Mean)	Moderately Informal (Cluster 1) (Mean)	Moderately Formal (Cluster 3) (Mean)	Highly Formal (Cluster 4) (Mean)	p-value
Access to Formal Credit (AFC)	0.12	0.31	1.24	3.48	<0.001
Formal Exchange Arrangements (FEA)	0.03	1.23	4.21	6.83	<0.001
Formal Market Access (FMA)	0.01	0.22	0.54	0.78	<0.001
Formal Regulatory Compliance (FRC)	0.08	0.44	1.65	3.29	<0.001
Information Access (IA)	0.15	0.67	2.38	5.12	<0.001

Table 4.9: Mean Scores of Formality Dimensions Across Identified Clusters

Source: SPSS ANOVA Output, based on survey data (N=206). All p-values are from ANOVA tests comparing means across the four clusters.

The results in Table 4.9 unequivocally demonstrate that the four identified clusters are significantly different across all five dimensions of formality (all p-values < 0.001). This provides strong empirical support for the validity of the clustering solution and the distinct nature of these actor profiles. A consistent trend is observable: as actors move from the Highly Informal to the Highly Formal cluster, their mean scores on each formality dimension progressively increase.

Notably, the **Formal Exchange Arrangements (FEA)** dimension exhibits the most pronounced differentiation, with the Highly Formal cluster (mean = 6.83) scoring dramatically higher than the Highly Informal cluster (mean = 0.03). This suggests that engagement in structured trade agreements and contractual partnerships is a particularly strong delineator of higher formality levels. Similarly, **Formal Market Access (FMA)** follows this pattern, with Highly Formal actors (mean = 0.78) having substantially better access to regulated markets

compared to their Highly Informal counterparts (mean = 0.01). These findings imply that establishing structured trade relationships is a critical step in the formalization trajectory.

While **Access to Formal Credit (AFC)** also shows a statistically significant increase across the clusters, the differentiation, particularly between the Highly Informal (0.12) and Moderately Informal (0.31) groups, is less stark than for FEA or FMA. This may suggest that access to formal credit, while important, might be a consequence of, or works in conjunction with, other formalizing behaviors rather than being a primary independent driver for initial shifts away from deep informality. **Formal Regulatory Compliance (FRC)** and **Information Access (IA)** also display clear upward trends, with Highly Formal actors demonstrating significantly greater compliance and access to formal information channels. The substantial gap in Information Access between the Highly Informal (0.15) and Highly Formal (5.12) groups underscores the information asymmetries faced by less formal actors.

These empirically derived clusters, defined by their distinct levels of engagement across the five formality dimensions, are summarized in Table 4.10.

Formality Level	Definition	Number of Respondents (Cases)	Percentage of Total Sample
Highly Informal	Economic actors who demonstrate minimal adoption of formal business practices. They lack meaningful participation in structured market mechanisms, contractual trade agreements, and formal credit access, relying almost entirely on informal exchange and self-financing.	94	45.6%
Moderately Informal	Actors with limited engagement in formal regulatory frameworks, structured trade relationships, and financial institutions. While they exhibit some interaction with formal structures, they remain reliant on informal networks for market access and financial support.	44	21.4%
Moderately Formal	These actors engage with both formal and informal systems. They have some level of regulatory compliance, structured exchange agreements, and market linkages but still depend on informal practices to mitigate institutional constraints.	50	24.3%
Highly Formal	Fully integrated actors who actively comply with formal regulatory requirements, participate in structured markets, benefit from formal financial services, and demonstrate consistent engagement with institutional mechanisms.	18	8.7%

Table 4.10: Profiles of Formality Continuum Clusters

Source: Author's analysis of survey data (N=206), based on K-Means Clustering of the Formality Continuum Index.

The predominance of the **Highly Informal** cluster (45.6%) underscores the pervasive nature of informality within the studied agricultural context, reflecting significant barriers to formalization such as limited institutional trust, high perceived regulatory burdens, and financial exclusion. The **Moderately Informal** (21.4%) and **Moderately Formal** (24.3%) clusters represent transitional stages, where actors exhibit varying degrees of hybridity, selectively engaging with formal systems while still leveraging informal networks. The

relatively small proportion of **Highly Formal** actors (8.7%) highlights the substantial challenges in achieving full formal integration, suggesting that current institutional and market structures may not adequately incentivize or support this transition for the majority.

To further visualize these distinct profiles, Figure 4.4 presents a radar chart illustrating the average scores of each cluster across the five formality dimensions.

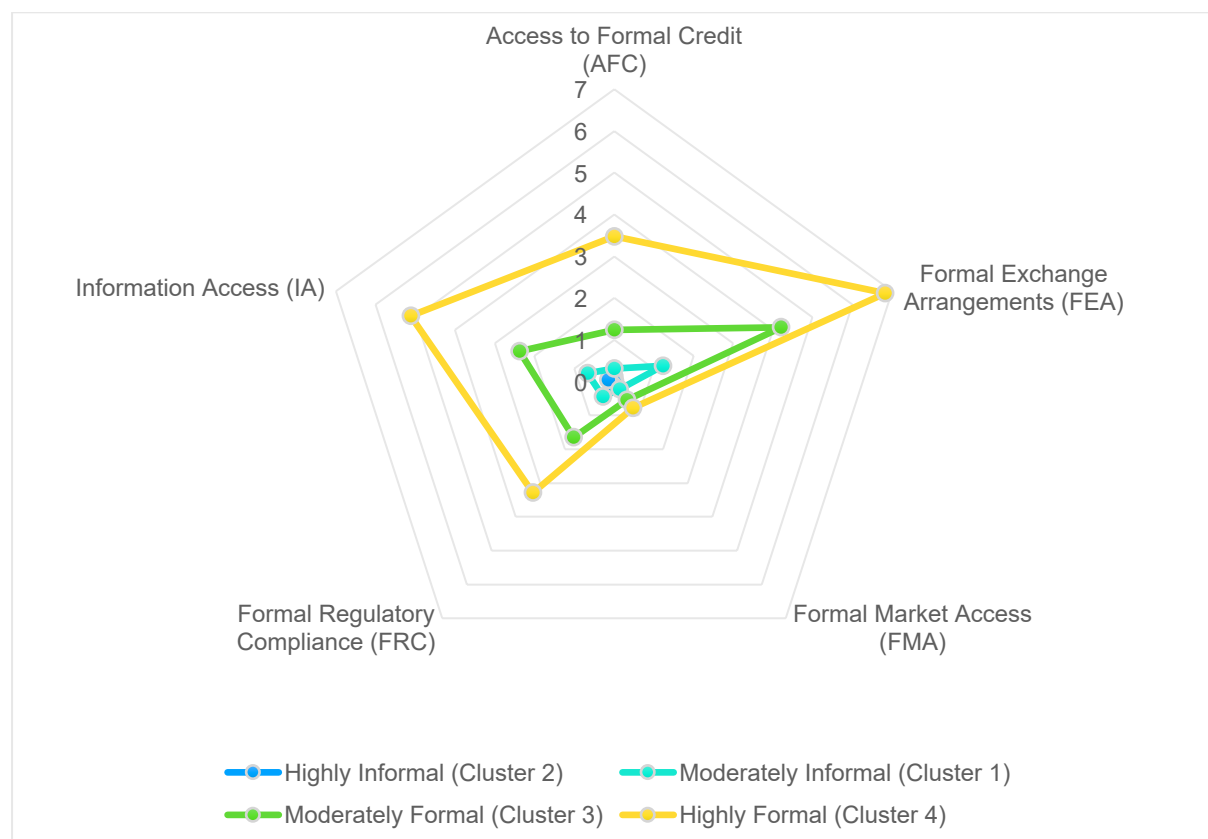


Figure 4.4: Comparative Profile of Formality Clusters Across Key Dimensions

Figure 4.4 provides a comparative visualization of the four empirically derived formality clusters. The distinct shape of each cluster's profile on the radar chart underscores their unique patterns of engagement with formal systems. The **Highly Formal** cluster (e.g., depicted by a blue line) consistently exhibits the highest scores across all five dimensions, forming the outermost polygon and indicating comprehensive integration. Conversely, the **Highly Informal** cluster (e.g., a red line) occupies the innermost area, signifying minimal engagement across all dimensions. The **Moderately Informal** (e.g., yellow line) and **Moderately Formal** (e.g., green line) clusters are positioned between these extremes, with the Moderately Formal profile extending further outwards than the Moderately Informal, particularly on dimensions like FEA and IA, illustrating their greater, albeit incomplete, formal engagement. This visual

representation corroborates the statistical distinctness of the clusters and provides an intuitive understanding of the varying "formality signatures" that characterize actors along the continuum.

The clear separation and distinct characteristics of these clusters, derived empirically from the Formality Continuum Index, provide a robust foundation for the subsequent analysis in this chapter. These classifications will be used to explore the motivations and constraints shaping informality and to test the study's propositions regarding the impact of informality on well-being and the decision-making processes of actors within GVCs. The identification of these nuanced profiles moves beyond a simplistic binary view, enabling a more targeted understanding of the challenges and opportunities associated with different degrees of formalization.

It is important to reflect on the study's approach of using the five dimensions of formality for two distinct purposes: testing causal hypotheses between them (via PLS-SEM) and combining them into an aggregate scale for clustering (via K-Means). This dual approach is deliberate. The SEM analysis allows for a nuanced test of the thesis's conceptual model, which posits a specific causal flow from 'structural enablers' to 'market outcomes,' thereby testing the internal logic of the formalization process. The cluster analysis, in contrast, takes a holistic view, using the combined effect of all dimensions to empirically identify distinct, real-world actor profiles. This approach provides a richer and more multi-faceted analysis than using either technique in isolation, allowing the study to both understand the specific pathways of formalization and to categorize actors based on their overall strategic posture.

4.2.2 Analysis of Findings

Building on the demographic and structural insights derived from the cluster analysis, this section delves into the study's core research objectives. The classification of economic actors along the formality continuum has provided a foundation for understanding the varying degrees of engagement with formal institutions, structured markets, and regulatory frameworks. These classifications are essential for analyzing the broader economic implications of informality, particularly in relation to its impact on well-being and integration into Global Value Chains (GVCs).

The analysis is structured around two key objectives:

- iii. Examining the relationship between informality and well-being indicators (income levels, access to credit, and overall well-being) within the context of Global Value Chains (GVCs).
- iv. Assessing whether perceived costs of formalization outweigh perceived benefits among actors in GVCs.

Before delving into these objectives, the study first explores the motivations and constraints shaping informality. This initial analysis provides essential context for understanding the decisions and strategies of informal actors and their positioning within the formality-informality continuum. It examines the interplay of economic, institutional, and socio-cultural factors that influence the persistence of informality, setting the stage for a deeper exploration of its impacts and dynamics within GVCs.

I. Motivations and Constraints Shaping Informality

In developing countries (DCs), informality is a complex issue deeply intertwined with socioeconomic dynamics, often exceeding the levels observed in developed countries. Its persistence, despite government efforts toward formalization, challenges conventional perspectives. Several interconnected factors contribute to the resilience of the informal sector in DCs, including weak institutional frameworks, limited regulatory enforcement, and the perceived high costs of formalization (Dougherty and Reynaud, 2017; Heuer et al., 2020). The informal sector often serves as a vital safety net for individuals facing limited employment opportunities in the formal economy, making it a deeply embedded feature of many developing economies (Narula, 2019; Elgin et al., 2021).

The persistence of informality can be linked to the decision-making processes of actors within these informal sectors (Williams et al., 2016). Limited by resources and information, these actors make choices based on their unique circumstances and perceived opportunities (Rothenberg et al., 2016; Lejano and Del Bianco, 2018; Rekhviashvili and Sgibnev, 2020). Their decisions are strategic responses to the specific challenges and constraints they face, aligning with the principles of Rational Choice Theory (RCT) (Becker, 2004; Maconachie and Conteh, 2020; Villena-Roldán, 2024). RCT suggests that individuals make decisions by weighing the perceived costs and benefits of various options to maximize their overall well-being (Satz & Ferejohn, 1994). However, it's important to note that rationality in this context does not imply perfect information or optimization, but rather a reasoned response to the

constraints and opportunities faced by informal actors. **The validation of predefined dimensions has reinforced the idea that informality exists along a continuum, where economic actors engage with formal structures to varying degrees rather than operating in strictly binary terms.** This refined understanding challenges conventional policy approaches that assume formalization is a singular event rather than a strategic and selective process.

Economic Considerations:

The empirical results reveal that economic considerations play a critical role in shaping informal actors' engagement with formality. The vast majority of agro-food smallholders in Igabi LGA (99.5%) operate without formal business registration, yet 39.8% pay taxes or levies (Table 4.11). This seemingly contradictory behaviour aligns with the concept of the formality-informality continuum, which recognizes that economic actors can strategically choose to engage with formal practices selectively, based on their perceived costs and benefits. In this case, agro-food smallholders demonstrate a willingness to contribute financially through tax payments, possibly to access certain benefits or avoid penalties, while simultaneously viewing formal registration as an additional burden that does not offer sufficient advantages. This highlights the strategic nature of informality, where actors navigate a spectrum of formal and informal practices rather than simply operating in a binary state.

Variable	Yes n (%)	No n (%)
Is your business registered?	1(0.5%)	205(99.5%)
Do you pay tax/levy?	82(39.8%)	124 (60.2%)

Table 4.11: Business Registration and Tax Compliance among agro-food smallholders in Igabi LGA

Source: Author's analysis of survey data (2024)

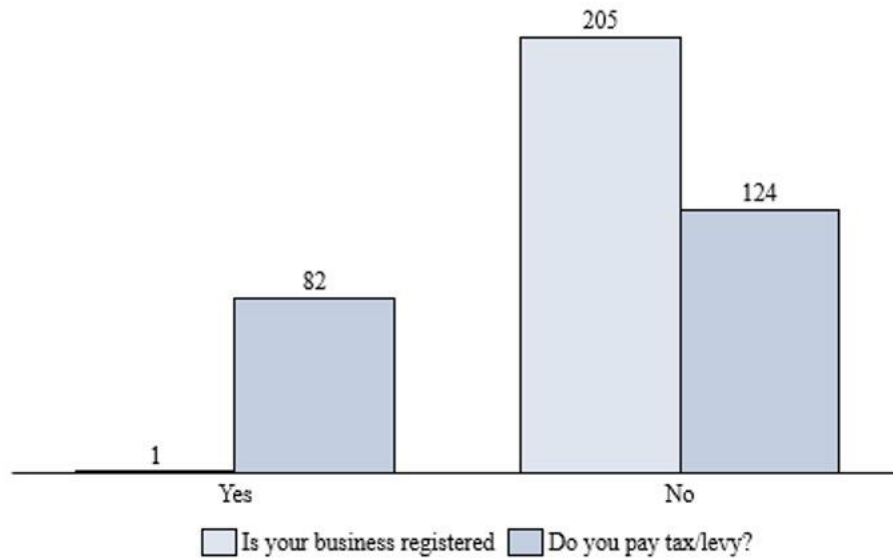


Figure 4.5: Business Registration and Tax Compliance among Agro-food smallholders in Igabi LGA

Source: Author's analysis of survey data (2024)

Barriers hindering business registration range from a lack of information about the registration process (65.5%) to perceptions of limited value in registering businesses (47.6%) and the burdens imposed by bureaucratic bottlenecks (45.1%). Additional challenges include the time required for registration (47.1%), associated costs (46.1%), and fears of increased taxation (37.9%), reflecting the multifaceted nature of these obstacles.

Statistical analysis reveals significant differences in the reasons cited across formality levels ($p < 0.05$). Agro-food smallholders with lower formality scores predominantly attribute their lack of registration to inadequate information, highlighting a critical knowledge gap in this group. Conversely, those with higher formality scores more frequently cite a lack of perceived value in registration, suggesting that, for these agro-food smallholders, the benefits of formalization may not outweigh the perceived costs or risks. Similarly, bureaucratic inefficiencies emerge as a more prevalent concern among agro-food smallholders at lower levels of formality, possibly due to limited experience navigating formal systems. Financial barriers, such as registration costs, are notable deterrents across all groups, but they are particularly significant among agro-food smallholders with higher formality scores, potentially due to their increased exposure to formal economic demands.

Qualitative data further contextualizes the quantitative findings by highlighting agro-food smallholders' concerns regarding formalization. Focus group discussions reveal that agro-food smallholders often link formalization with increased tax burdens and complex bureaucratic

processes, aligning with the quantitative results. As one Key Informant noted, *"Many agro-food smallholders and agribusinesses are not aware of the benefits of registering their business or the procedures for doing so."* This lack of awareness leads to the perception that formalization is complex, unnecessary, or even disadvantageous.

Agro-food smallholders with lower formality scores find the registration process daunting, citing challenges such as language barriers and limited digital access, and lack of local support.

"I don't understand the whole registration thing..." [FGD, Low-Formality Farmer].

The complexity of the registration process itself is a significant deterrent. Navigating the requirements and procedures is often seen as overwhelming and confusing, leading to frustration and discouragement. This issue is compounded by limited access to information and support services, especially in rural areas. As one Key Informant remarked, *"The registration process may be perceived as complex, time-consuming, or bureaucratic, deterring agro-food smallholders from pursuing registration."* Another Farmer echoed this frustration, *"I went to the government office, but it was so confusing, and no one was able to help me properly. It felt like a waste of time."*

Overall, the reluctance to formalize is rooted in a combination of information gaps, perceived lack of value, bureaucratic hurdles, and financial constraints. Addressing these barriers requires a multi-faceted approach that includes improving access to information, simplifying registration procedures, and highlighting the tangible benefits of formalization in a way that resonates with agro-food smallholders across the formality continuum.

Institutional and Regulatory Barriers

To further illuminate the determinants of informality, this subsection explores how regulatory and institutional factors influence agro-food smallholders' positioning along the formality continuum. agro-food smallholders' decisions to remain informal extend beyond the immediate financial and procedural burdens of formalization. Distrust in government institutions, compounded by a strong preference for autonomy, plays a pivotal role in shaping these choices.

The government only shows up when they want to collect taxes or enforce fines. They don't support us when we need help, so why should we trust them?" – [Highly informal Farmer]

These attitudes manifest in strategic behaviors, such as reliance on informal market access mechanisms and traditional land tenure arrangements.

Selling directly to the market means I don't have to worry about dealing with middlemen or corporate contracts that come with too many rules and deductions." – [Moderately informal Farmer]

Table 4.12 provides a summary of these patterns, which are further contextualized through qualitative insights presented in this section.

Market Access Channels and Regulatory Avoidance

The findings in Table 4.12 reveals a strong preference for local and direct market access across all formality levels, with 82% of agro-food smallholders selling directly to consumers. This preference is particularly pronounced among Highly Informal agro-food smallholders (91.8%), who operate with minimal engagement in formal supply chains and demonstrate a strong aversion to intermediaries (38.8%) and corporate buyers (2.0%). **This pattern suggests that informality in market access is not merely a result of exclusion from formal structures but rather a strategic adaptation aimed at minimizing regulatory exposure, avoiding transaction delays, and maintaining financial liquidity.** As one Highly Informal farmer explained:

"I sell directly to people in the local market because they pay in cash, and I don't have to wait for payments or deal with complicated paperwork." – [Highly informal Farmer]

This quote encapsulates the fundamental rationale behind regulatory avoidance—direct market access provides greater control over transactions, eliminates bureaucratic hurdles, and ensures immediate cash flow, which is critical for sustaining informal operations. The reliance on local consumers is further justified by economic incentives, with 94.2% of agro-food smallholders citing better prices and 77.7% emphasizing ease of market access (Table 4.12 below). However, this dependence on localized transactions also reflects significant structural constraints, including transportation difficulties (89.3%) and limited market information (68%). These challenges disproportionately affect Highly Informal and Moderately Informal

agro-food smallholders, restricting their ability to expand beyond their immediate environments and reinforcing their reliance on informal channels.

In contrast, highly formal agro-food smallholders exhibit greater integration into structured supply chains, with 73.5% selling to corporate buyers and 70.6% engaging with middlemen. This engagement reflects their capacity to navigate formal procurement processes, comply with quality standards, and manage contractual obligations. Unlike their informal counterparts, these actors benefit from access to broader markets, structured trade agreements, and institutional support mechanisms that facilitate business expansion. However, their higher level of formality also exposes them to compliance costs, delayed payments, and regulatory scrutiny, trade-offs that informal actors actively avoid.

The overall market access landscape highlights a continuum of formality in agricultural trade, where participation in structured markets is not solely dictated by opportunity but also by strategic choices regarding risk, transaction costs, and regulatory burden. For informal actors, avoiding corporate buyers and intermediaries is not merely a function of market exclusion but a deliberate effort to maintain autonomy and flexibility. These findings reinforce the notion that informality is a rational response to prevailing economic conditions rather than an outright market failure, emphasizing the need for policies that reduce the transaction costs associated with formal market participation while addressing the infrastructural and informational barriers that sustain informal trade networks.

Formality Continuum	Direct to (local) Consumers	Middlemen	Far away Markets	Direct to Companies	Others
Highly Informal	45 (91.8%)	19 (38.8%)	0 (0%)	1 (2.0%)	1 (2.0%)
Moderately Informal	60 (81.1%)	45 (60.8%)	4 (5.4%)	21 (28.4%)	0 (0%)
Moderately Formal	34 (69.4%)	33 (67.3%)	0 (0%)	23 (46.9%)	1 (2.0%)
Highly Formal	30 (88.2%)	24 (70.6%)	1 (2.9%)	25 (73.5%)	0 (0%)
Total	169 (82.0%)	121 (58.7%)	5 (2.4%)	70 (34.0%)	2 (1.0%)

Table 4.12: Market Access Channels Across the Formality Continuum?

Source: Author's analysis of survey data (2024)

Land Tenure and its Influence on Informality

Table 4.13 underscores the significant variation in land acquisition methods across different formality levels, illustrating how tenure security influences agro-food smallholders' decisions

regarding market participation. The data reveal that informal agro-food smallholders overwhelmingly depend on inheritance and lease arrangements, while formal agro-food smallholders demonstrate a stronger inclination toward structured acquisition methods, such as purchases and government allocations. This divergence highlights the role of land tenure in shaping the degree of engagement with formal systems.

Highly Informal agro-food smallholders, who constitute the largest share of the sample, predominantly acquire land through inheritance (39) and lease agreements (38). These informal acquisition methods provide immediate access to land but expose agro-food smallholders to uncertainties related to ownership disputes and tenure insecurity. Their minimal engagement in formal acquisition channels—evidenced by the low incidence of purchases (11) and government allocations (2)—suggests a reluctance or inability to navigate institutionalized frameworks for land ownership. This reinforces their preference for informal market channels, where land tenure documentation is less scrutinized.

Moderately Informal agro-food smallholders exhibit a similar pattern, with a substantial proportion acquiring land through inheritance (19) and leases (20). However, there is a marginal increase in their engagement with structured acquisition methods, as seen in the small number of agro-food smallholders who secure land through purchases (2) and government allocations (3). This suggests that while they still rely on traditional land access mechanisms, some within this group are beginning to consider more formalized tenure arrangements, likely as a strategy to mitigate ownership risks.

Moderately Formal agro-food smallholders demonstrate a more diversified approach to land acquisition, balancing informal and formal channels. While inheritance (9) and leases (28) remain significant, this group exhibits a greater willingness to secure land through purchases (4) and government allocations (6). This transition toward formalized tenure reflects a growing recognition of the benefits associated with documented land ownership, particularly in facilitating structured market engagement and improving access to institutional support mechanisms.

Highly Formal agro-food smallholders, as expected, display the highest engagement with formal acquisition channels. While leases (9) still constitute a notable portion of their land access, their reliance on purchases (1) and government allocations (3) suggests a deliberate effort to integrate into formal systems. The comparatively higher proportion of land sourced through structured acquisition methods aligns with their stronger participation in formal market

activities, as secure tenure is often a prerequisite for transactions that require clear ownership documentation.

Overall, inheritance (72) and leases (95) dominate land access across all formality groups, underscoring the enduring reliance on informal mechanisms. However, the data also indicate that as agro-food smallholders move along the formality continuum, they are more likely to pursue secure land tenure through structured acquisition methods. This trend reinforces the argument that land tenure security is a critical determinant of formalization, influencing the extent to which agro-food smallholders engage with institutional frameworks. Addressing tenure-related barriers through policies that strengthen land registration systems, simplify formal acquisition processes, and enhance accessibility to government-allocated land could play a pivotal role in bridging the gap between informal and formal economic participation.

	Formality_Continuum				Total
	Highly Formal	Highly Informal	Moderately Formal	Moderately Informal	
Inheritance	5	39	9	19	72
Purchase	1	11	4	2	18
Lease	9	38	28	20	95
Government Allocation	3	2	6	3	14
Community Land	0	3	3	0	6
Others	0	1	0	0	1
Total	18	94	50	44	206

Table 4.13: Modes of Farmland Acquisition Across the Formality Continuum

Source: Author's analysis of survey data (2024)

Distrust of Government Institutions

Distrust of government institutions remains a major barrier to formalization among agro-food smallholders in Igabi LGA. This distrust is rooted in longstanding perceptions of corruption, bureaucratic inefficiency, and a lack of transparency. Vallone, Elia, and Greve (2023) argue that in environments where rules are opaque and enforcement is unreliable, actors tend to favour relation-based governance over formal, rule-based systems. For many agro-food smallholders, this skepticism translates into an aversion to formal structures due to fears of regulatory burdens, exploitation, and administrative harassment. As a result, they adopt strategic alternatives like informal market access and traditional land tenure systems, which they perceive as more predictable and less costly than navigating formal procedures. The

results in Table 4.14 empirically validate these concerns, illustrating how barriers to accessing government support vary across different levels of formality.

Among the identified barriers, corruption is the most pervasive, cited by 87.9% of respondents. It is particularly pronounced among Highly Informal (38.3%) and Moderately Informal (20.4%) agro-food smallholders, who frequently encounter governance failures in their limited interactions with state institutions. Notably, even Moderately Formal (21.8%) and Highly Formal (7.3%) agro-food smallholders express significant skepticism, underscoring a systemic lack of trust in institutional integrity. As a result, many agro-food smallholders avoid government support mechanisms altogether, relying instead on informal networks for resources and market access.

Bureaucratic complexity is another major deterrent, reported by 52.9% of respondents. Highly Informal agro-food smallholders (21.4%) struggle the most with navigating administrative procedures due to their unfamiliarity with formal regulatory frameworks. However, this challenge persists across all formality categories, with Moderately Formal (14.6%) and Highly Formal (5.3%) agro-food smallholders also finding compliance with extensive documentation and procedural requirements cumbersome. The rigidity of these processes disproportionately affects those attempting to formalize, reinforcing disengagement from state institutions.

Limited access to information on government support programs further exacerbates this disengagement, with 68% of respondents identifying it as a barrier. Highly Informal agro-food smallholders (34%) are most affected due to minimal exposure to official communication channels. However, the fact that Moderately Formal (14.6%) and Highly Formal (6.3%) agro-food smallholders also report significant difficulties suggests systemic shortcomings in outreach efforts. The absence of clear, accessible information undermines trust and reinforces perceptions that government programs are either inaccessible or irrelevant to agro-food smallholders' needs.

Additional barriers include ineligibility for government support (44.2%) and inadequate local resources (46.6%). Stringent eligibility criteria disproportionately exclude Highly Informal agro-food smallholders (20.4%), limiting their access to formal assistance. Meanwhile, Highly Formal agro-food smallholders (6.3%) report challenges in securing essential government-backed services, highlighting structural deficiencies in public-sector support mechanisms. These constraints further entrench informality by limiting opportunities for integration into formal systems.

These findings highlight the strong interplay between distrust of government, institutional barriers, and the formality continuum. Agro-food smallholders in lower formality categories often avoid government engagement entirely, prioritizing autonomy and minimizing risks. Those in higher formality groups, while more exposed to government systems, continue to face significant obstacles that limit their ability to fully integrate. Addressing these barriers requires targeted reforms to improve transparency, simplify procedures, and provide clear, accessible information on formalization processes. Interventions such as anti-corruption measures, streamlined administrative protocols, and localized support programs could foster trust and encourage greater formalization. It should be noted that the entrenched distrust of government institutions is both a symptom and a driver of persistent informality. Without addressing these systemic issues, efforts to integrate agro-food smallholders into formal economic systems are likely to face substantial resistance, perpetuating the cycle of exclusion and inefficiency observed in Igabi LGA.

Barrier to Accessing Government Support	Highly Formal n(%)	Highly Informal n(%)	Moderately Formal n(%)	Moderately Informal n(%)	Total (%)
Lack of Information	13(6.3%)	70(34%)	30(14.6%)	27(13.1%)	140(68%)
Complicated Procedures	11(5.3%)	44(21.4%)	30(14.6%)	24(11.7%)	109 (52.9%)
Corruption	15 (7.3%)	79(38.3%)	45(21.8%)	42(20.4%)	181 (87.9%)
Ineligibility	13 (3.9%)	42(20.4%)	19(9.2%)	22(10.7%)	91 (44.2%)
Lack of Resources in Area	13 (6.3%)	41(19.9%)	23 (11.2%)	19 (9.2%)	96 (46.6%)
No Barrier	0 (0%)	0 (0%)	0 (0%)	1 (0.5%)	1 (0.5%)

Table 4.14: Barriers to Accessing Government Support Across Formality Continuum

Source: Author's analysis of survey data (2024)

Social and Cultural Norms

This subsection explores the influence of socio-cultural factors on agro-food smallholders' decisions to remain informal, contributing to the analysis of the first research objective. It examines how traditional practices, community networks, and resistance to institutional change shape informal economic behaviour across the formality spectrum.

In Igabi LGA, social and cultural norms significantly influence agro-food smallholders' decisions regarding formality and informality in Igabi LGA. These norms, deeply ingrained

through generational practices, foster a strong preference for informality, which aligns with many agro-food smallholders' operational needs and socio-economic realities. The quantitative data provides a clear picture: 41.7% of agro-food smallholders have no plans to formalize (Table 4.11), and 55.7% view informality positively, citing flexibility and autonomy as key benefits (Table 4.12). This demonstrates that for a significant proportion of the farming community, informality is not merely a default state but a deliberate choice informed by their cultural context and practical considerations.

The benefits of informality, particularly its flexibility, resonate across all levels of the formality continuum. Table 4.15 shows that 56.8% of agro-food smallholders view informality positively, citing flexibility and opportunities as key benefits. This preference is most pronounced among the Highly Informal (24.3%) and Moderately Formal (15%) groups. Even among the Highly Formal agro-food smallholders—who are already integrated into formal systems—7.8% still recognize informality's advantages, suggesting that formality does not eliminate the need for flexible, informal mechanisms. Trust-based relationships and community networks remain central to informal agro-food smallholders, providing security and social cohesion in ways that formal institutions often fail to replicate. Qualitative data supports this observation. Some agro-food smallholders perceive formal registration as merely increasing a business's visibility without necessarily enhancing profitability or efficiency. This perception, combined with a desire for autonomy and flexibility, reinforces the preference for informality. The informal sector, with its less stringent regulations and greater operational freedom, may be seen as offering a more conducive environment for agro-food smallholders to manage their businesses on their own terms.

However, the persistence of informality also presents challenges. While the majority of agro-food smallholders perceive it positively, 14.1% report that informality limits access to markets and resources. This negative impact is most pronounced among Moderately Formal agro-food smallholders (4.4%) and Highly Informal agro-food smallholders (6.3%), reflecting a paradox: those who engage partially with formal institutions experience both the benefits and constraints of informality. Additionally, 31.1% of respondents believe informality has no significant impact, suggesting a degree of indifference among agro-food smallholders who may not see clear advantages in either full formalization or remaining informal.

The qualitative data further contextualizes these findings. Some agro-food smallholders perceive formalization primarily as increasing business visibility rather than improving profitability or efficiency. Language barriers and cultural practices reinforce these

perspectives, particularly in rural areas where trust-based, reciprocal transactions are preferred over formalized contracts. Agro-food smallholders also express concerns about the bureaucratic burdens associated with formalization, further disincentivizing engagement with government structures. As one focus group participant noted, formal registration:

"English may not be the primary language spoken by all agro-food smallholders, creating communication challenges during the registration process."

The findings underscore the complexity of promoting formalization in a context where informality is deeply rooted in social and cultural norms. While informality provides flexibility, autonomy, and community support, it also limits access to broader markets and resources, creating a paradox for agro-food smallholders seeking to optimize their operations. Addressing these challenges requires a comprehensive approach that balances the benefits of formalization with the strengths of existing informal networks. Simplified registration processes, culturally sensitive outreach programs, and policies that build on the trust and social cohesion of informal systems could create pathways for gradual formalization. Such interventions must recognize the dual needs for autonomy and opportunity, enabling agro-food smallholders to transition to formal systems without compromising the social and cultural foundations of their livelihoods.

		Formality Continuum				Total
		Highly Formal	Highly Informal	Moderately Formal	Moderately Informal	
Are you planning to formalize your farming operation in the near future?	No	11 (4.9%)	27 (13.1%)	30 (14.6%)	19 (9.2%)	86 (41.7%)
	Yes	8 (3.9%)	67 (32.5%)	20 (9.7%)	25 (12.1%)	120 (58.3%)
Total		18 (8.7)	94 (45.6%)	50(24.3%)	44 (21.4%)	206 (100%)

Table 4.15: Agro-food smallholders ' Plans for Formalizing Operations Across Formality Continuum

Source: Author's analysis of survey data (2024)

Impact of Informality	Highly Formal	Highly Informal	Moderately Formal	Moderately Informal	Total (%)
Positive: More Flexibility and Opportunities	16 (7.8%)	50 (24.3%)	31 (15%)	20(9.7%)	117 (56.8%)
Negative: Limits Access to Markets and Resources	0(0%)	13 (6.3%)	9(4.4%)	7(3.4%)	29 (14.1%)
No Significant Impact	2(1.0%)	35 (17%)	10(4.9%)	17(8.3%)	64 (31.1%)

Table 4.16: Perceived Impacts of Informality on Farming Operations and Decision-Making

Source: Author's analysis of survey data (2024)

Demographic Variables and Informality

An examination of the demographic characteristics within each cluster reveals important patterns that shape participation along the formality continuum. Age distribution suggests that informality is more entrenched among older individuals, particularly those aged 40-49, with 31 out of 60 respondents in this category falling within the Highly Informal cluster. This indicates that long-established informal business practices may be difficult to shift, reinforcing the idea that older actors have adapted to non-regulated economic structures over time. Conversely, the Highly Formal cluster has a greater proportion of younger respondents (7 out of 18 aged 20-29), suggesting that younger individuals may be more inclined toward formalization, possibly due to greater exposure to education, regulatory systems, and digital financial services. However, the relatively small number of young individuals in the Highly Formal category underscores the structural barriers that limit their ability to transition into formal market participation despite their apparent willingness.

Marital status further differentiates formalization patterns, with married individuals overwhelmingly represented in all four clusters, particularly in the Highly Informal group (88 out of 94 respondents). This suggests that family responsibilities may push many economic actors toward traditional informal economic activities, which offer immediate financial security but lack long-term sustainability. In contrast, widowed individuals are slightly concentrated in the Moderately Formal cluster (4 out of 7), indicating that they may seek more structured economic arrangements for financial stability. Single individuals, however, are significantly underrepresented across all clusters (7 out of 206), suggesting that most actors in the agricultural economy have already established households, which likely influences their economic decisions and risk tolerance regarding formalization.

Gender dynamics also play a crucial role in determining formality levels. Men are predominantly represented in the Highly Informal cluster (75 out of 94), indicating a stronger inclination toward unregulated agricultural trade and informal financial arrangements. This could be attributed to cultural and economic factors that encourage men to engage in flexible, subsistence-based economic activities rather than formalized structures. Women, on the other hand, are more evenly distributed across the different levels of formality, with 16 in the Moderately Formal group and 9 in the Highly Formal group. This suggests that when women engage with formal markets, they do so in a structured and systematic manner. This aligns with research suggesting that women, when given access to institutional support, are more likely to adhere to regulatory frameworks and structured market engagements.

Overall, the findings reveal that formality is shaped by a complex interplay of demographic, structural, and institutional factors. Age, marital status, gender, and education all influence an actor's position along the formality continuum. While younger individuals and those with institutional support are more likely to adopt formal business practices, older married men operating inherited land remain entrenched in informality. These insights provide a strong empirical basis for designing targeted policy interventions, ensuring that formalization efforts address the specific barriers faced by different groups. Moving forward, these classifications will serve as a foundation for exploring the broader economic implications of formality and informality within the agricultural sector.

To further investigate how demographic characteristics impact decisions regarding formalization, this study conducted a series of Chi-square tests. These tests examined the relationships between tax payment behavior, intentions to formalize, and various demographic and operational characteristics of the agro-food smallholders. The aim was to identify potential associations and understand the factors influencing agro-food smallholders' choices about formalization.

The Chi-square test, a statistical method used to assess the independence of two categorical variables, was employed for data analysis. Several assumptions underpin this test, including random sampling, independent observations, and specific criteria related to expected cell counts (fewer than 20% of cells with an Expected Count (EC) less than 5, and the smallest EC must be at least two). These assumptions were carefully considered during the research design and data analysis to ensure valid results. In cases with fewer participants, such as educational background (junior and senior secondary school, tertiary, and vocational education) and farming type (Cluster and Commercial farming), categories were combined.

The results of the Chi-square tests, presented in Tables 4.17 and 4.18, provide insights into the factors associated with tax payment behavior and the intention to formalize among agro-food smallholders in the study area.

Tax Payment Behavior:

- i. The analysis revealed a significant association between tax payment and years of farming experience ($\chi^2(2) = 10.992a$, $p = .004$). This suggests that experience in the agricultural sector may influence agro-food smallholders' willingness to comply with tax obligations. Factors such

as increased awareness of the potential benefits of formalization, greater financial stability, or a stronger sense of civic responsibility developed over time could contribute to this behavior.

ii. Gender also showed a significant association with tax payment ($\chi^2(1) = 16.457a$, $p = .000$), with male agro-food smallholders being more likely to pay taxes. This could be linked to gender differences in access to resources, decision-making power, or social norms related to financial obligations. However, age, educational background, and farming type were not significantly associated with tax payment.

Relationship Examined	X2 Statistics a (df)	P value a	Conclusion
Tax Payment and Years in Farming	10.992a (2)	0.004	Significant association
Tax Payment and gender	16.457a (1)	0.000	Significant association
Tax Payment and Age	7.392a (4)	0.117	No significant association
Tax Payment and educational background	1.414a (2)	0.493	No significant association
Tax payment and farming type	4.483a (2)	0.106	No significant association

Table 4.17: Perceived Impacts of Informality on Farming Operations and Decision-Making

Table 4.13: Tax payments and Demographic Characteristics

a Chi-square test of independence (X2); () degree of freedom; b Fisher's exact (FE) test
Source: Author's analysis of survey data (2024)

Intention to Formalize:

- v. A significant association was found between the intention to formalize and the type of farming ($\chi^2(2) = 42.597a$, $p = .000$), suggesting that the nature of farming operations may influence agro-food smallholders' willingness to transition to the formal economy. This could be due to differences in the perceived costs and benefits of formalization for various farming types. For instance, larger-scale commercial agro-food smallholders might be more inclined to recognize the advantages of formalization, such as gaining access to credit, markets, and government support, whereas smaller-scale subsistence agro-food smallholders might perceive the costs as outweighing the benefits.
- vi. However, no significant associations were found between the intention to formalize and other demographic variables like years in farming, gender, age, and educational background. This indicates that the decision to formalize is not solely dependent on individual characteristics but is likely influenced by a complex interplay of economic considerations, social norms, and the institutional context.

Relationship Examined	X2 Statistics (df)	P value ^a	Conclusion
Formalization Plan & years in farming	1.587a (2)	0.452	No significant association
Formalization Plan and gender	1.474a (1)	0.225	No significant association
Formalization Plan and age	4.451a (4)	0.348	No significant association
Formalization Plan and education background	1.106a (2)	0.575	No significant association
Formalization Plan and farming type	42.597a (2)	0.000	Significant association

Table 4.18: Formalisation Plan and Demographic Characteristics

^a Chi-square test of independence (X2); () degree of freedom; ^b Fisher's exact (FE) test

Source: Author's analysis of survey data (2024)

The findings align with our proposition that agro-food smallholders' decisions to remain informal are strategic responses to the perceived costs and complexities of formalization. Quantitative data reveals that 41.7% of agro-food smallholders have no intention of formalizing their operations, highlighting the entrenched nature of informality within the agricultural sector. The chi-square test results further support this, showing no significant association between the intention to formalize and demographic factors such as years in farming, gender, age, and educational background. This indicates that the decision to formalize is not solely driven by individual characteristics but is influenced by a complex interplay of economic considerations, social norms, and institutional context.

The only significant association found was between the intention to formalize and the type of farming, suggesting that the nature of farming operations may influence agro-food smallholders' willingness to transition to the formal economy. Qualitative insights further illuminate this phenomenon, revealing the multifaceted motivations behind agro-food smallholders' reluctance to formalize. The consistent emphasis on the financial burden associated with formalization, particularly the aversion to taxes and levies, highlights the economic rationale underpinning their choices. The desire for autonomy and flexibility, expressed in the qualitative data, reinforces the preference for informality. The informal sector, with its less stringent regulations and greater operational freedom, may be perceived as offering a more conducive environment for agro-food smallholders to manage their businesses on their own terms and adapt to the fluctuating dynamics of the agricultural sector.

The convergence of quantitative and qualitative findings underscores the idea that remaining informal is a strategic adaptation by agro-food smallholders to their specific circumstances. Chi-square tests further support this perspective, revealing that the choice to formalize is not significantly influenced by individual characteristics like age or education, but rather by a complex interplay of factors, including the type of farming operation. The lack of significant associations between formalization intentions and demographic variables challenges the conventional narrative that informality is solely a consequence of poverty or lack of awareness. Instead, it highlights the agency of agro-food smallholders in making informed choices, even if those choices deviate from formal structures.

The persistence of informality, evidenced by the 41.7% of agro-food smallholders who have no plans to formalize, cannot be solely attributed to a lack of awareness or resources. Qualitative data reveals that agro-food smallholders actively weigh the perceived costs and benefits, with many prioritizing the flexibility and autonomy of the informal economy over the potential benefits of formalization. The significant association between the intention to formalize and the type of farming operation further suggests that the perceived costs and benefits of formalization vary depending on the scale and nature of farming activities.

Therefore, addressing informality requires a multi-pronged approach that recognizes the agro-food smallholders' agency and the diverse factors influencing their choices. It necessitates moving beyond simply reducing the costs of formalization and instead focuses on creating compelling incentives and addressing the structural constraints that perpetuate informality. This includes not only actively promoting the benefits of formalization but also simplifying the registration process and enhancing access to resources and markets, thereby fostering an enabling environment for sustainable development in the agricultural sector.

Cognitive Biases and Informality

Beyond economic considerations, institutional context, social norms, and individual characteristics, cognitive biases emerge as a critical factor in understanding the persistence of informality. These biases interact with structural challenges and rational decision-making, shaping the behaviors and strategies of agro-food smallholders. The findings suggest that agro-food smallholders' choices to remain informal are not purely economic but are also shaped by cognitive limitations, consistent with the concept of Bounded Rationality (BRat), where

individuals face constraints in processing complex information (Georgakakis, Wedell-Wedellsborg, Vallone, & Greve, 2023). The analysis reveals that respondents exhibited reliance on simplified heuristics rather than fully evaluating formalization pathways. For example, the availability heuristic may lead them to overestimate the risks and costs of formalization, based on negative stories they can easily recall, while underestimating potential benefits due to limited exposure to successful formal enterprises (Georgakakis et al., 2023). For example, many agro-food smallholders cite anecdotes of failed formal ventures within their community, reinforcing a disproportionate fear of the formal economy.

Status quo bias also known as inertia or hysteresis (Narula, 2002), reinforces their preference for familiar informal practices, even if they are not the most efficient. This resistance to change stems from a fear of uncertainty and potential disruptions that formalization might introduce. **Narula (2002) highlights how economic actors, particularly in resource-constrained environments, exhibit hysteresis—a tendency to remain locked into established routines due to structural and institutional frictions.** In the context of Igabi LGA, agro-food smallholders' reluctance to formalize aligns with this phenomenon, as they perceive the costs and risks associated with transitioning to formal systems as outweighing the potential benefits. . The chi-square test results further support the influence of cognitive biases in shaping decisions. **The findings indicate no statistically significant association between key demographic factors, such as age or education, and the intention to formalize, suggesting that behavioral inertia rather than individual characteristics plays a dominant role.** This supports the argument that decision-making is not solely determined by rational cost-benefit analysis but is also influenced by deeply embedded cognitive tendencies.

Quantitative analysis, such as chi-square tests, supports these observations. **Despite differences in economic conditions, levels of market access, and exposure to formal institutions, agro-food smallholders across various demographic groups demonstrate a consistent reluctance to formalize.** This suggests that status quo bias is a critical factor in perpetuating informality, as it discourages actors from exploring new economic arrangements even when formalization could offer long-term advantages.

Qualitative data complements these findings, revealing that the lack of information and awareness about the benefits and procedures of formalization acts as a significant barrier. The fear of losing the flexibility and autonomy associated with informality, coupled with overconfidence in navigating the informal system, further perpetuates the reluctance to

formalize. The perceived lack of government support and the complexities of the formalization process—such as high registration costs and levies—further deter formalization. These challenges echo the arguments of the Legalist School of Thought, which posits that excessive regulations and high barriers to entry discourage individuals and businesses from engaging within the legal framework. Agro-food smallholders' aversion to taxes and the perceived financial burden of formalization, including the costs associated with compliance, align with global findings (Joshi, Prichard, & Heady, 2014). For instance, 37.9% of agro-food smallholders in Igabi LGA cite fear of higher taxes as a primary deterrent to formalization, reinforcing tax aversion as a central theme.

Empirical evidence from Igabi LGA in Kaduna State, Nigeria, aligns with broader literature on informal economies, which highlights tax avoidance as a universal driver of informality (La Porta & Shleifer, 2014). However, the Nigerian context presents unique challenges, particularly limited government support and pervasive distrust in formal channels, which amplify the perceived costs of formalization. The value that informal actors place on autonomy and flexibility further deters transitions to formality. Agro-food smallholders often view informality as a safeguard against overregulation and inefficiencies within formal institutions, a sentiment echoed in global studies on informal economies (Elgin, Kose, Ohnsorge, & Yu, 2022).

In addition to structural challenges, this study highlights the role of cognitive biases in perpetuating informality, contributing to a growing body of research on behavioural economics and the informal sector (Korteling, Paradies, & Sassen-van Meer, 2023; Ruggeri et al., 2023). These biases, such as loss aversion and status quo bias, hinder agro-food smallholders from transitioning to formal systems even when presented with favourable information or incentives. For example, qualitative findings indicate that agro-food smallholders often perceive formalization as a "gamble" rather than an investment, fearing potential losses more acutely than recognizing potential gains. Korteling et al. (2023) emphasize that cognitive biases can limit individuals' capacity to make sustainable and informed decisions, while Ruggeri et al. (2023) demonstrate how these biases persist across economic groups, influencing financial behaviors in ways that perpetuate informality.

These findings underscore the interplay between structural barriers and behavioural factors, demonstrating that informality is not merely a rational response to economic or institutional constraints but is also deeply shaped by cognitive and psychological factors. Addressing these biases requires targeted interventions, such as informational campaigns, behavioural nudges,

and incentive-based approaches that focus on reducing perceived risks and amplifying the benefits of formalization.

A deeper analysis of the formality continuum further contextualizes these findings, providing a clear understanding of how motivational and constraint patterns vary across levels of formality. An examination of the formality continuum reveals distinct motivational and constraint patterns that vary significantly across different levels of formality. These variations offer a deeper understanding of how agro-food smallholders navigate the challenges and opportunities of informality. This exploration is central to addressing the study's first research question: *What are the determinants of informality, and how do they impact agro-food smallholders across the formality continuum?* By analyzing these patterns, we gain critical insights into the strategic decisions agro-food smallholders make, as well as the structural barriers that shape their economic behaviour.

Agro-food smallholders in the low-formality category operate almost entirely outside formal systems, driven by systemic exclusion and resource limitations. Key barriers, such as a lack of knowledge about formalization processes (cited by 65.5% of respondents) and financial constraints (46.1%), compel these agro-food smallholders to rely on informal credit sources and traditional market exchanges. For this group, informality represents not only a necessity but also a rational response to the perceived lack of value in formalization, coupled with the bureaucratic complexities of registration. This reliance on informality underscores the role of structural constraints in perpetuating exclusion, with implications for how policymakers approach capacity-building and education initiatives.

In contrast, moderately informal smallholders occupy a transitional space, blending informal practices with selective engagement in formal systems. Activities such as paying taxes (39.8%) demonstrate an initial willingness to formalize. However, these smallholders remain cautious, hindered by regulatory inefficiencies and fears of additional costs. Their motivations reflect a balancing act: leveraging the benefits of informal systems' flexibility while seeking limited access to formal structures that promise stability. This group's position highlights an opportunity for targeted interventions, such as simplifying registration processes or providing incentives for partial formalization, to encourage further progress along the continuum.

Moderately Formal Smallholders show more advanced integration into formal systems, actively engaging with formal markets and contractual agreements. These activities enable them to achieve better financial and operational outcomes, often improving their market visibility and access to resources. However, this group continues to face significant challenges, including high compliance costs and limited access to institutional credit. Their adaptive strategies, which selectively utilize formal mechanisms while mitigating risks, illustrate the importance of reducing systemic barriers for those already partially integrated into formal structures. Addressing these challenges could accelerate their transition toward full formalization, enhancing economic outcomes for both smallholders and the broader agricultural value chain.

At the far end of the continuum, fully compliant smallholders represent the smallest proportion (8.7%) of respondents. These individuals benefit from streamlined institutional support, formal credit, and established market linkages, which enhance their economic resilience and growth potential. However, the significant time and resource investments required to achieve full compliance underline the difficulties faced by others attempting to follow their path. This group exemplifies the rewards of formalization, such as legal protection and market stability, but their experiences also reveal the systemic reforms needed to make such transitions more accessible for the majority.

The distribution of smallholders across the continuum underscores that the transition from informality to formality is neither linear nor uniform. Transitional groups, particularly those in moderately informal and Moderately Formal reflect hybrid strategies that blend informal practices with selective formal engagements. These patterns suggest that motivations and constraints evolve along the continuum, with informational barriers dominating at lower levels and financial and procedural challenges becoming more prominent at higher levels. Policymakers must therefore design interventions that address these shifting priorities, offering tailored support that aligns with smallholders' specific needs at each stage of their progression.

The insights drawn from this analysis demonstrate that while the determinants of informality vary, they collectively shape a complex and dynamic landscape. Addressing these determinants requires an integrated approach that recognizes the interplay between structural constraints, strategic decision-making, and transitional pathways. These findings set the stage for examining the *Informal Support Ecosystem*, a distinct yet complementary framework that provides the resources, networks, and resilience mechanisms sustaining informal practices. By

understanding how these support systems operate, we can better assess their role in both perpetuating and mitigating the challenges of informality.

II. Informal Support Ecosystem

This section explores the mediating role of informal support ecosystems in mitigating risks for informal actors, in Igabi LGA. The ecosystem is more than a passive backdrop; it actively influences decision-making, enabling informal actors to navigate challenges and seize opportunities in ways that would be difficult within formal frameworks. It explores how this ecosystem, which includes social networks, informal credit systems and information-sharing channels, contribute to the persistence of informality by reducing risks and uncertainties. Operating within the informal economy is not solely an outcome of individual cost-benefit analysis. It is deeply rooted in the advantages provided by a supportive ecosystem, which acts as a coping mechanism for those excluded from formal institutions. The informal support ecosystem plays a crucial role in compensating for the weaknesses of formal institutions, providing a vital safety net for informal actors who often operate outside the reach of regulatory, financial, and market structures.

At the heart of this ecosystem are **social networks**, which encompass family, friends, and community ties. These networks serve as vital conduits for resources, information, and emotional support, often acting as informal social security systems. In the absence of reliable formal institutions, social networks provide financial assistance, dispute resolution, and mechanisms for trust-building and reciprocity (Lindell, 2010; Silvonen, 2019). The strength of these relationships creates a safety net enabling informal actors to manage uncertainties and maintain operations even in challenging economic environments.

Another critical component of the ecosystem is **informal credit mechanisms**, such as rotating savings and credit associations (ROSCAs), community-based lending schemes, and locally tailored systems like the "baturiya" in Igabi LGA. These mechanisms are indispensable for informal actors who lack access to formal financial institutions. (Hoxhaj and Kruja, 2020). Their accessibility, adaptability and trust-based nature allow informal entrepreneurs to manage cash flow, invest in businesses, and respond to financial emergencies with greater flexibility than formal credit options.

Information-sharing networks also play a crucial role in regions like Igabi LGA, where access to formal information channels is limited. Associations like the Kangimi smallholders' group exemplify how informal actors leverage collective knowledge to improve productivity, negotiate better terms with buyers. These networks foster collaboration and mutual support, which enhancing the collective resilience of informal participants.

Mentorship and apprenticeship programs are another integral element of the informal support ecosystem. These programs facilitate skills transfer, knowledge sharing, and social integration, particularly for new entrants into the informal economy. Trust-based relationships within the ecosystem also reduce transaction costs and enhance cooperation, creating a tightly-knit community of informal actors who rely on each other for mutual benefit . This not only ensures skill development but also fosters a sense of social cohesion and belonging, which is crucial for maintaining stability in informal sectors (Jimu, 2010; Silvonen, 2019).

In Igabi LGA, this ecosystem's interconnected components work synergistically to sustain the informal economy. As illustrated in Figure 4.6, informal credit mechanisms, information-sharing networks, mentorship programs, and trust-based relationships collectively support the operations of informal actors. For instance, the "baturiya" system provides a flexible financial safety net, while mentorship programs within the Kangimi smallholders' association foster knowledge exchange and collaborative problem-solving. Together, these elements reduce vulnerability, enhance operational efficiency, and maintain social cohesion among informal actors.

By offering these multifaceted benefits, the informal support ecosystem not only sustains informality but also shapes the strategic choices of informal actors. This underscores the importance of understanding these systems when designing policies aimed at encouraging formalization. The discussion now transitions to the implications of these findings within the broader framework of informality and the potential pathways for integrating informal actors into formal systems.

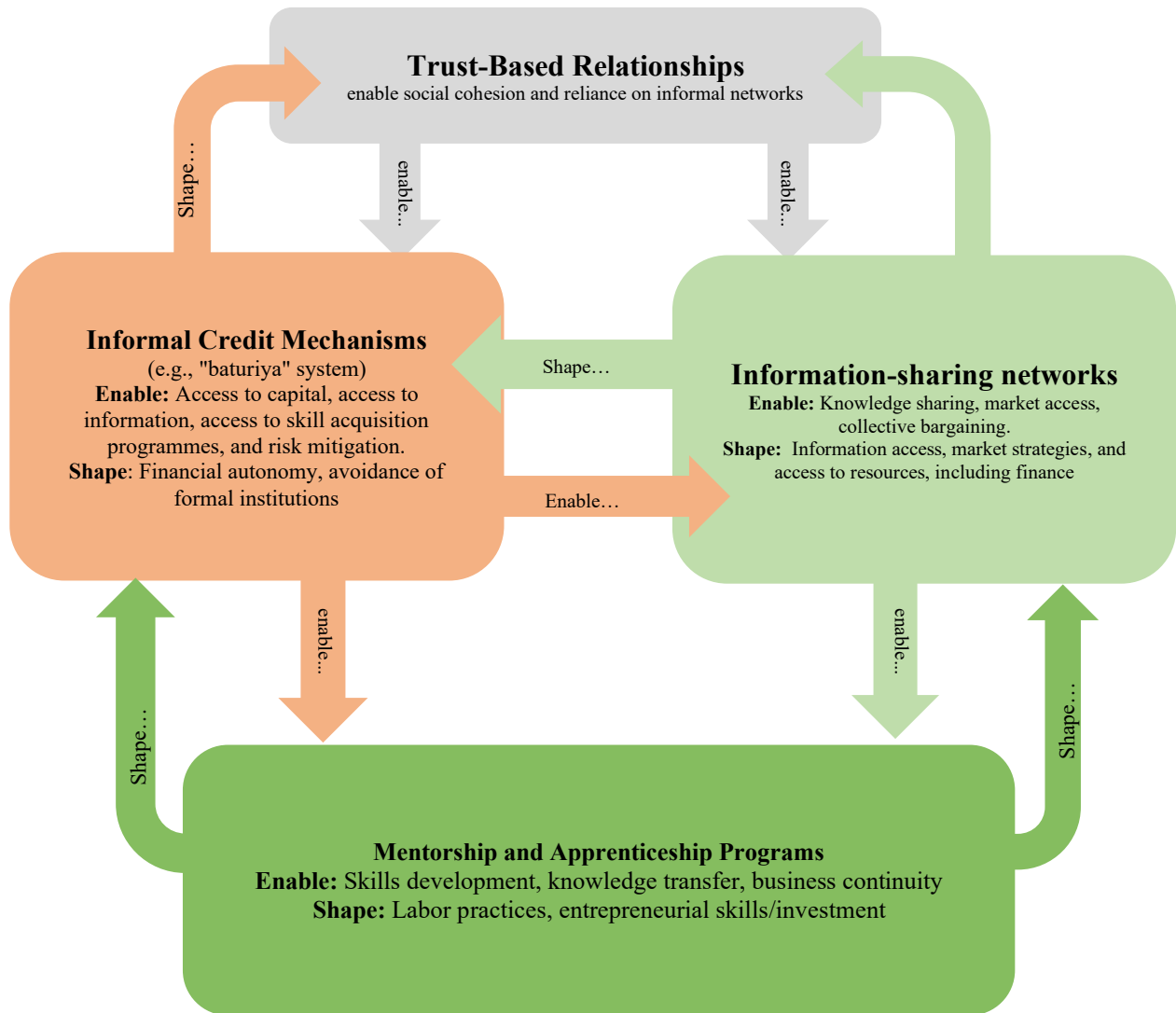


Figure 4.6: Key Components of the Ecosystem Sustaining Informal Sector Resilience in the Study Area

Source: Author's analysis of survey data (2024)

The informal support ecosystem in Igabi LGA is crucial for the functioning and resilience of informal economic activities. As illustrated in Figure 4.6, this ecosystem consists of interconnected elements such as informal credit mechanisms (e.g., the "baturiya" system), information-sharing networks (e.g., the Kangimi smallholders' association), mentorship and apprenticeship programs, and trust-based relationships. These components work together to provide resources, reduce risks, and enhance social cohesion among informal actors.

Informal Credit Mechanisms

Access to credit is a critical component for agricultural businesses, enabling smallholders to invest in resources, expand operations, and manage financial risks. However, informal actors in Igabi LGA face significant barriers when attempting to access formal credit due to a variety of factors, including a lack of collateral, limited credit history, and the perceived complexity of formal financial institutions (Osuagwu et al., 2021). In this context, informal credit mechanisms play an essential role, providing a viable alternative for smallholders who are otherwise excluded from formal financial systems

The data in Table 4.19 provides a comprehensive view of the credit sources used by smallholders across different levels of formality, highlighting the persistent reliance on informal credit mechanisms. Contrary to the expectation that higher formality levels correspond with greater access to formal financial services, the findings reveal that informal credit sources dominate across all groups. This underscores the critical role of trust-based financial systems in sustaining agricultural activities in Igabi LGA, particularly in the absence of widespread institutional credit access.

Informal loans emerge as the most significant source of credit, utilized by nearly half (48.1%) of all respondents. The prevalence of informal loans is particularly high among Moderately Formal (15.5%) and Moderately Informal (14.1%) smallholders, indicating that even as smallholders engage more with formal structures, they continue to rely on informal credit sources. This suggests that informal lending mechanisms offer advantages—such as flexibility, lower transaction costs, and fewer bureaucratic requirements—that formal financial institutions struggle to provide. Among Highly Formal smallholders, informal loans also remain a primary financing option (7.3%), reinforcing the idea that formality does not necessarily equate to financial inclusion.

In stark contrast, formal credit sources, such as bank loans and government grants, remain largely inaccessible. Only 1% of the total sample reports receiving a bank loan, with just two smallholders (one Moderately Formal and one Highly Informal) accessing such funding. Similarly, government grants are virtually absent, with only two recipients in the entire sample, both from the Moderately Formal group. This lack of engagement with formal financial institutions highlights systemic barriers, including stringent eligibility criteria, collateral

requirements, and high-interest rates, which make formal credit an impractical option for most smallholders.

Investor loans, though not as widely used as informal loans, play a notable role in bridging financial gaps, with 8.7% of smallholders utilizing this source. The higher usage among Moderately Formal smallholders (3.9%) suggests that actors at this level of formality are more proactive in seeking alternative funding opportunities beyond family and community-based networks. Similarly, cooperative loans, though less common (4.9%), are primarily accessed by Highly Formal smallholders (3.4%), aligning with findings from the SEM validation that cooperative membership is a strong indicator of regulatory compliance and access to structured financial resources.

These findings reaffirm that financial informality persists across the entire formality continuum, even among smallholders who are otherwise integrated into formal systems. The preference for informal lending highlights the limitations of formal credit institutions in serving the agricultural sector and underscores the importance of strengthening informal financial mechanisms while exploring pathways to bridge the gap between informal and formal credit systems. Addressing this challenge requires policies that enhance the accessibility of formal financial services, such as reducing collateral requirements, streamlining application processes, and expanding targeted loan programs tailored to the realities of informal agricultural economies.

Source of Credit	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Informal Loans	15 (7.3%)	23 (11.2%)	32 (15.5%)	29 (14.1%)	99 (48.1%)
Bank Loans	0 (0.0%)	1 (0.5%)	1 (0.5%)	0 (0.0%)	2 (1.0%)
Investor Loans	5 (2.4%)	1 (0.5%)	8 (3.9%)	4 (1.9%)	18 (8.7%)
Cooperative Loans	7 (3.4%)	0 (0.0%)	2 (1.0%)	1 (0.5%)	10 (4.9%)
Government Grants	0 (0.0%)	0 (0.0%)	2 (1.0%)	0 (0.0%)	2 (1.0%)
Other Sources	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	2 (1.0%)

Table 4.19: Access to Credit Across the Formality Continuum

Source: Author's analysis of survey data (2024)

The qualitative data gathered through interviews and focus group discussions further reinforces the quantitative findings, emphasizing that informal credit mechanisms are not merely financial tools but also key to building trust and social cohesion within the community. Informal loans are often based on social collateral and reputation rather than formal guarantees. This reliance on social capital creates a sense of accountability among borrowers, ensuring repayment and reinforcing long-term relationships within the community.

The social embeddedness of informal credit enhances the resilience of the informal economy by providing a safety net for smallholders, especially in times of financial instability. These informal mechanisms enable smallholders to manage risks that would otherwise be insurmountable within the formal economy. This mutual support among informal actors fosters cooperation, ensuring that financial resources are distributed in ways that promote stability and growth, even without formal institutional backing. In conclusion, the data in Table 4.19 underscores the critical role of informal credit mechanisms in Igabi LGA's agricultural sector. Despite the growing presence of formal financial institutions, informal sources such as personal and family savings and informal loans remain the primary means of credit access for

smallholders across all levels of the formality continuum. The significant reliance on these mechanisms highlights the continued exclusion of many informal actors from formal credit markets and the adaptability of informal credit systems in meeting the financial needs of smallholders. These findings underscore the importance of informal credit systems in mitigating financial risks and supporting the resilience of the informal economy.

Information-Sharing Networks

Information is a vital resource for any business, driving informed decision-making, market responsiveness, and skill acquisition. For smallholders in Igabi LGA, however, access to formal information channels such as extension services and government announcements remains limited due to logistical, institutional, and systemic barriers. In this context, informal information-sharing networks emerge as a cornerstone of the informal support ecosystem, enabling the dissemination of practical, timely, and trusted information within the community.

The data in Table 4.20 highlights the overwhelming dominance of peer-to-peer knowledge exchange as the primary source of farming information, with 99% of smallholders across all formality levels relying on other smallholders. This near-universal dependence underscores the informal economy's reliance on social learning networks, which provide timely, relevant, and experience-based insights that closely align with the realities of smallholder farming. Smallholders in the Highly Informal and Moderately Informal categories exhibit the strongest reliance on peer networks, reinforcing the importance of trust-based, reciprocal information-sharing mechanisms in contexts where access to formal advisory services is limited. Even among Highly Formal smallholders (7.8%), peer networks remain an essential channel for knowledge dissemination, suggesting that experiential learning continues to hold value even when formal engagement increases. These findings align with the validated dimensions from the SEM analysis, which emphasize the role of informal support ecosystems in mitigating risks and sustaining informal practices.

Extension services emerge as the second most significant source of farming information, used by 42.2% of respondents. However, access to these services is highly uneven across the formality continuum. Highly Formal (8.7%) and Moderately Formal (19.9%) smallholders demonstrate higher engagement with extension services, indicating that greater integration into structured markets and cooperatives facilitates access to formal agricultural advisory programs. In contrast, only 1.9% of Highly Informal smallholders report using extension services,

highlighting a significant information gap that reinforces the persistence of informal practices. This disparity suggests that institutional barriers—such as limited outreach, logistical challenges, and trust deficits in formal advisory systems—continue to exclude informal actors from structured information channels. The SEM validation further supports this, demonstrating that access to formal information networks is a key enabler of market participation, though its effectiveness is contingent on overcoming these persistent structural limitations.

Market trends play a particularly notable role among Highly Informal (18.9%) and Moderately Informal (4.9%) smallholders, who frequently monitor local price fluctuations and demand patterns to guide their decisions. However, despite its relevance to these groups, market trends exhibited a low factor loading in the SEM validation, leading to its removal from the construct. This suggests that while informal actors actively track price movements, their engagement remains largely informal, reactive, and disconnected from structured market intelligence frameworks. The relatively low reliance on formal sources such as government announcements (2.9%) and the internet (4.9%) further reinforces this, indicating that digital literacy gaps, inadequate infrastructure, and skepticism toward institutional actors restrict smallholders' ability to leverage formal market intelligence. These findings align with broader trends observed in informal economies, where decision-making is shaped by immediate, accessible, and contextually relevant information rather than structured institutional advisories.

NGO workshops account for 17% of total responses, with modest but consistent representation across all formality levels. Their presence among Highly Informal (5.8%) and Moderately Informal (2.9%) smallholders suggests that non-state actors play a role in bridging the information gap, albeit on a limited scale. However, their impact remains constrained compared to the more pervasive influence of informal networks and extension services. The SEM validation highlights that while formal advisory systems provide valuable information, their effectiveness depends on addressing structural constraints that hinder accessibility, particularly among lower-formality actors. These insights reinforce the need for targeted interventions that expand extension service outreach, promote digital literacy, and strengthen trust in government-led information dissemination. Given the entrenched reliance on peer networks, policymakers should explore hybrid models that integrate formal advisory services with informal knowledge-sharing structures, ensuring that information delivery aligns with smallholders' operational realities and decision-making frameworks.

Source of Information	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Extension Services	18 (8.7%)	4 (1.9%)	41 (19.9%)	24 (11.7%)	87 (42.2%)
Other Agro-food smallholders	16 (7.8%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	204 (99.0%)
Internet	0 (0.0%)	6 (2.9%)	1 (0.5%)	3 (1.5%)	10 (4.9%)
Government Announcements	1 (0.5%)	3 (1.5%)	0 (0.0%)	2 (1.0%)	6 (2.9%)
NGO Workshops	7 (3.4%)	12 (5.8%)	10 (4.9%)	6 (2.9%)	35 (17.0%)
Market Trends	2 (1.0%)	39 (18.9%)	6 (2.9%)	10 (4.9%)	57 (27.7%)

Table 4.20: Primary Sources of Information for Farming Decisions Across the Formality Continuum

Source: Author's analysis of survey data (2024)

Qualitative findings further illuminate the dynamics of informal information-sharing networks. Informal associations, such as the Kangimi smallholders' association, serve as pivotal hubs for the exchange of knowledge on market prices, modern farming techniques, and regulatory updates. These networks rely on word-of-mouth communication, community gatherings, and informal meetings, ensuring that even the most isolated smallholders have access to critical information. The trust and reciprocity inherent in these relationships enhance the credibility and relevance of shared information, empowering smallholders to make informed decisions and adapt to emerging challenges.

However, the heavy reliance on informal channels is not without challenges. Information shared within these networks may lack accuracy or currency, potentially leading to suboptimal decisions. For instance, updates on government policies or advanced agricultural techniques may be delayed or distorted when conveyed informally. This underscores the need for greater integration of formal information sources, such as extension services and digital platforms, to ensure that smallholders receive reliable, comprehensive, and actionable data. Overall, the dominance of peer-to-peer networks and the increasing engagement with extension services along the formality continuum reflect the duality of the information ecosystem in Igabi LGA. While informal networks provide accessible and trusted channels, their limitations necessitate

complementary formal systems to enhance the quality and breadth of information available to smallholders. Efforts to improve the accessibility of extension services, increase NGO outreach, and develop tailored digital platforms could significantly bolster the resilience and competitiveness of the informal economy.

Mentorship and Apprenticeship Programs

Mentorship and apprenticeship programs are integral to the informal support ecosystem, serving as crucial channels for knowledge transfer, skill development, and the preservation of traditional farming practices. In Igabi LGA, where access to formal education and structured agricultural training remains limited, these programs provide an alternative pathway for smallholders to enhance productivity and resilience. By embedding learning within existing community networks, they enable informal actors to acquire practical skills tailored to their immediate farming needs, reinforcing the sustainability of informal agricultural activities. This localized and experience-driven approach ensures that knowledge is not only disseminated but also adapted to the socio-economic realities of smallholders.

The significance of mentorship and apprenticeship programs is reflected in the study's findings, with 43.2% of agro-food smallholders (89 out of 206) reporting that they have received training on crop varieties and farming techniques. This high reliance on informal learning mechanisms underscores their role in bridging the knowledge gap left by limited access to formal agricultural extension services. The study further reveals that among agro-food smallholders who engaged with extension services, training emerged as the most common form of support, benefiting 94.12% (96 out of 102) of participants. This widespread participation suggests that informal learning systems complement formal extension efforts, reinforcing the notion that practical, hands-on knowledge exchange remains a preferred and accessible method of capacity building within the farming community.

Beyond training, mentorship and apprenticeship programs also provide tangible resources to support agricultural productivity. The data indicates that these programs extend assistance in the form of equipment (60.78%), seedlings (56.86%), and fertilizers (53.92%), reflecting a multidimensional approach to farmer support. These inputs not only enhance productivity but also mitigate some of the financial constraints that limit access to quality inputs in the informal sector. However, significant gaps remain in critical areas such as financial and mechanized support. Only 4.90% of agro-food smallholders (5 out of 102) reported receiving loans, while access to tractors and ploughs was limited to just 6.86% (7 agro-food smallholders). These

findings highlight a key limitation of current mentorship and apprenticeship initiatives—their constrained ability to provide capital-intensive resources that are necessary for scaling operations and improving mechanization in agriculture.

The data in Table 4.21 highlights the composition of extension support across different levels of formality, revealing a strong reliance on state and private extension services. Public extension support—including federal, state, and local government programs—accounts for 90.2% of total support, with state-level initiatives providing the most extensive coverage (60.8%). This reflects state governments' pivotal role in bridging the gap between informal actors and formal agricultural advisory systems. Local governments contribute 25.5%, primarily targeting agro-food smallholders with lower formality scores, while federal government support remains negligible, engaging only four agro-food smallholders. This minimal engagement suggests a potential gap in leveraging national agricultural policies to support grassroots-level agricultural development.

Private extension services play a critical role in supplementing public efforts, with 85.3% of agro-food smallholders engaging with these providers. Notably, their reach is strongest among Moderately Formal (39.2%) and Moderately Informal (25.5%) agro-food smallholders, underscoring their importance in facilitating structured agricultural knowledge diffusion. However, their limited interaction with Highly Informal agro-food smallholders (4.9%) suggests that structural barriers—such as affordability constraints, lack of awareness, or limited access to extension networks—continue to hinder the most informal actors from benefitting from these services. University extension services, which could provide evidence-based, research-driven support, remain significantly underutilized, reaching only two agro-food smallholders across the entire sample.

A crucial finding is the substantial number of non-beneficiaries, particularly among Highly Informal (45) and Moderately Informal (42) agro-food smallholders. Their exclusion from extension programs highlights the structural and institutional gaps preventing lower-formality actors from accessing critical agricultural support. Qualitative data reinforces this concern, with respondents expressing frustration over the perceived bias of extension services towards more established agro-food smallholders. One interviewee stated, *"I have never been offered any loan or equipment. The extension services are good, but they only help those who are already established."* This sentiment reflects the broader challenge of ensuring that extension services are equitably distributed across the formality continuum.

The minimal provision of mechanized resources and financial support further reinforces this disparity. The data shows that only five agro-food smallholders received loans, while only

seven accessed tractors or ploughs—two critical resources necessary for scaling agricultural production and fostering economic upgrading. These constraints disproportionately affect Highly Informal and Moderately Informal agro-food smallholders, who, despite their participation in agricultural value chains, remain excluded from transformative interventions that could enhance productivity and market integration. This was echoed by one respondent who noted, *"I have the skills, but without access to a tractor or loan, I cannot expand or increase my yield."*

This underscores the critical need for more inclusive support systems that facilitate access to capital-intensive resources.

Source of Extension Support	Highly Formal (n=18)	Highly Informal (n=12)	Moderately Formal (n=41)	Moderately Informal (n=31)	Total (n=102)
A. Federal Government	0 (0.0%)	0 (0.0%)	3 (2.9%)	1 (1.0%)	4 (3.9%)
B. State Government	16 (15.7%)	2 (2.0%)	24 (23.5%)	20 (19.6%)	62 (60.8%)
C. Local Government	1 (1.0%)	8 (7.8%)	8 (7.8%)	9 (8.8%)	26 (25.5%)
D. Total Public Support (A+ B+ C)	17 (16.7%)	10 (9.8%)	35 (34.3%)	30 (29.4%)	92 (90.2%)
E. Private Extension Services	16 (15.7%)	5 (4.9%)	40 (39.2%)	26 (25.5%)	87 (85.3%)
F. University Extension Services	0 (0.0%)	0 (0.0%)	1 (1.0%)	1 (1.0%)	2 (2.0%)
Total Number of Farmers Receiving Any Support (D+E+F)*	33 (32.4%)	15 (14.7%)	76 (74.5%)	57 (55.9%)	181(177.9%)
Total Number of Farmers Receiving No Support*	57 (55.9%)	45 (44.1%)	129 (126.5%)	98 (96.1%)	329 (322.5%)

Table 4.21: Sources of Extension Support Received Across the Formality Continuum

*Multiple counting

Source: Author's analysis of survey data (2024)

These findings align with the refined dimensions, which shows that formal exchange arrangements (FEA) significantly predict both formal market access (FMA) and information access (IA). The results emphasize that while public and private extension services play essential roles in knowledge dissemination, their effectiveness is constrained by institutional bottlenecks that limit outreach to informal actors. Addressing these disparities requires a more inclusive extension framework that prioritizes accessibility for lower-formality agro-food

smallholders. Strengthening linkages between federal agricultural agencies, university research institutions, and grassroots extension programs could bridge this gap, ensuring that extension support fosters equitable knowledge transfer and capacity development across all formality levels.

Trust-Based Relationships

Trust is a cornerstone of any economic system, but it holds even greater importance in the informal economy, where formal contracts and legal frameworks are often lacking. In Igabi LGA, trust-based relationships are the foundation of economic exchange, providing a sense of security and facilitating cooperation among informal actors.

The qualitative data emphasizes the prevalence of trust-based relationships in the informal agricultural sector. As depicted in Table 4.22, a majority of smallholders (74.27%) operate without formal contracts, relying instead on trust with buyers and suppliers. This dependence on informal agreements highlights the importance of social connections and shared norms in ensuring smooth transactions in absence of formal legal structures. Qualitative data further underscores the significance of trust in the informal economy. Focus group discussions revealed that smallholders highly value long-term relationships and reputation, which acts as forms of social collateral. This is evident in the "baturiya" credit system, which relies on social ties and reputation to ensure repayment and maintain trust within the community. This system along with a deep-rooted architecture of village heads and traditional rulers embedded in cultural norms, offers an alternative to formal legal systems, often perceived as inaccessible or biased.

The study reveals a dynamic shift towards self-governance within the informal agricultural sector in Igabi LGA. A notable portion of smallholders (22.82%) belong to farmer groups, organizations, or cooperatives, with a high level of active participation (91.49%) as shown in Figure 4.7. This active involvement indicates a growing potential for these entities to assume more formal roles in dispute resolution and advocacy, filling the gaps left by formal legal systems. The success of the Kangimi smallholders' association in securing fair prices and protecting its members illustrates the power of collective action and the potential for self-governance to promote fair and equitable practices within the informal economy.

However, the transition towards self-governance does not completely replace the role of traditional institutions. Qualitative data reveals that traditional authorities, such as village chiefs and elders, continue to play crucial role in conflict resolution and maintaining social order, within the informal sector. These institutions, deeply rooted in cultural norms and values, offer a complementary mechanism for resolving disputes and upholding community standards.

This coexistence of traditional and emerging forms of self-governance highlights the dynamic and adaptive informal support ecosystem. It suggests that smallholders in Igabi LGA are actively shaping their own governance structure, drawing on both traditional and modern approaches to create a systems that meets their specific needs and challenges. This evolving framework of self-governance could be essential for the future resilience and sustainability of the informal sector, promoting fair and equitable practices while adapting to the changing dynamics of the agricultural landscape .

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not under contract)	0 (0.0%)	94 (45.6%)	18 (8.7%)	41 (19.9%)	153 (74.3%)
Yes (Under contract)	18 (8.7%)	0 (0.0%)	32 (15.5%)	3 (1.5%)	53 (25.7%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 4.22: Contractual or Other Agreements for Business or Service Provision

The qualitative data gathered in this study further highlights the indispensable role of trust in the informal agricultural economy of Igabi LGA. In focus group discussions, smallholders consistently emphasized the importance of long-term relationships and personal reputation in facilitating economic exchanges. One farmer noted:

“Trust is everything. Without it, there is no business. People rely on what you’ve done before, not on contracts.”

This sentiment underscores the critical role of social capital in the absence of formal legal systems. Smallholders in Igabi LGA place high value on maintaining their reputations, which in turn acts as a form of social collateral. This reliance on reputation-based trust is especially evident in systems like "baturiya," a locally ingrained credit system, where repayment is ensured through social ties and mutual accountability. As one farmer shared, *“If I borrow from a neighbor and don’t pay back, everyone will know. It’s not just about the money, it’s about*

respect in the community.” This informal credit system reflects a shared understanding of trust and repayment that is enforced not through legal means, but through the interconnectedness and reputation within the community.

Moreover, this system is deeply interwoven with the cultural architecture of village heads and traditional rulers, who hold significant authority and influence. These institutions, which have evolved over generations, provide an alternative to formal legal systems, which many smallholders view as either inaccessible or biased. One farmer observed, *“The government courts are far, and many people say they are corrupt. But here, we trust our village head to settle issues fairly. It’s more accessible.”* This reliance on traditional authorities highlights the ongoing importance of cultural norms and community-based governance in sustaining the informal economy.

The study also reveals a significant shift towards self-governance within the informal agricultural sector in Igabi LGA. A substantial portion of smallholders (22.82%) belong to farmer groups, organizations, or cooperatives, and a high proportion of them (91.49%) actively participate in these associations, as demonstrated in Figure 4.7. This active involvement suggests that smallholders are increasingly leveraging collective action to address challenges and create a unified voice for negotiating better terms, resources, and opportunities. As one farmer in a cooperative group stated, *“We are stronger together. When we come together as a group, we can demand better prices and defend ourselves against exploitative traders.”* The ability of farmer groups to organize and negotiate for fair prices is particularly notable in the case of the Kangimi Smallholders' Association, which has successfully advocated for fair pricing and better market access for its members. This case exemplifies the growing potential of self-organized entities to assume roles traditionally held by formal institutions, such as dispute resolution and advocacy. The success of the Kangimi group demonstrates the power of collective action in fostering fair and equitable practices within the informal economy, creating a governance structure that operates in parallel with, and at times in place of, formal legal systems.

Despite this shift towards self-governance, traditional institutions remain a key component of governance within the informal agricultural sector. Qualitative data reveals that traditional authorities, such as village chiefs and elders, continue to play an indispensable role in resolving conflicts and maintaining social order. As one farmer explained, *“When there is a dispute, we go to the village head. He is the one who knows how to resolve things peacefully.”* These traditional authorities operate within a framework that is deeply rooted in local customs, values,

and community norms. They offer a complementary mechanism for resolving disputes that ensures community standards are upheld, particularly when formal legal recourse is limited or unavailable.

This coexistence of traditional authorities and self-organized governance structures suggests a dynamic and adaptive informal support ecosystem. Smallholders in Igabi LGA are actively shaping their governance frameworks, drawing on both traditional and modern approaches to create systems that are more responsive to their needs and challenges. The ability to combine traditional dispute resolution methods with modern collective action offers a model for self-sustaining governance in the absence of robust formal legal systems. As one community leader put it, “We are finding new ways to organize, but we will never abandon the wisdom of our ancestors. We use both systems to ensure peace and fairness.”

The evolving governance structures in Igabi LGA highlight the adaptability and resilience of the informal sector in the face of limited formal support. The integration of trust-based relationships, social networks, and traditional governance with emerging forms of self-governance provides a multifaceted approach to addressing the challenges faced by smallholders. This hybrid model, combining both traditional and modern strategies, has the potential to ensure the sustainability and growth of the informal agricultural sector in Igabi LGA. The coexistence of these governance mechanisms—trust-based relationships, self-organized groups, and traditional authorities—demonstrates the informal sector’s capacity to adapt and self-regulate.

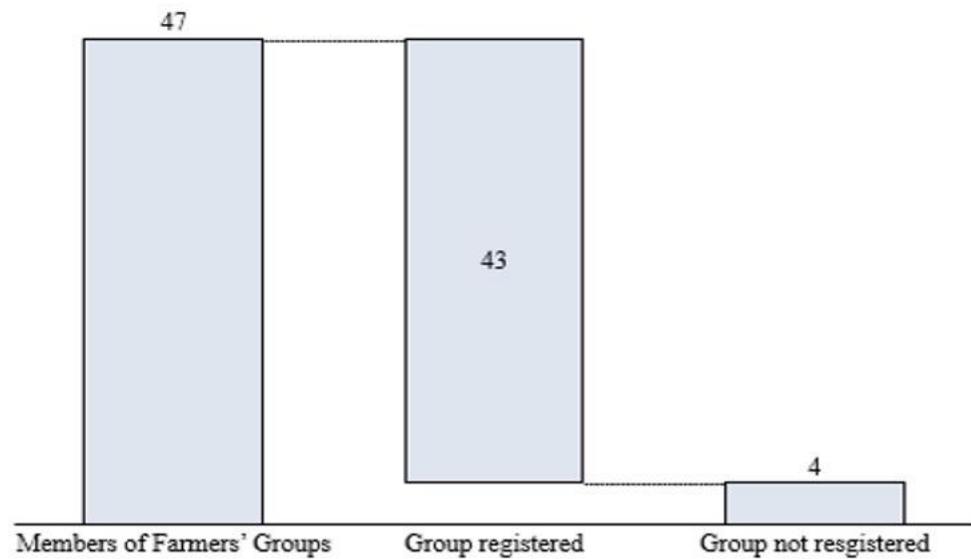


Figure 4.7: Number of Respondents who are Members of Farmer Cooperative and with Registration

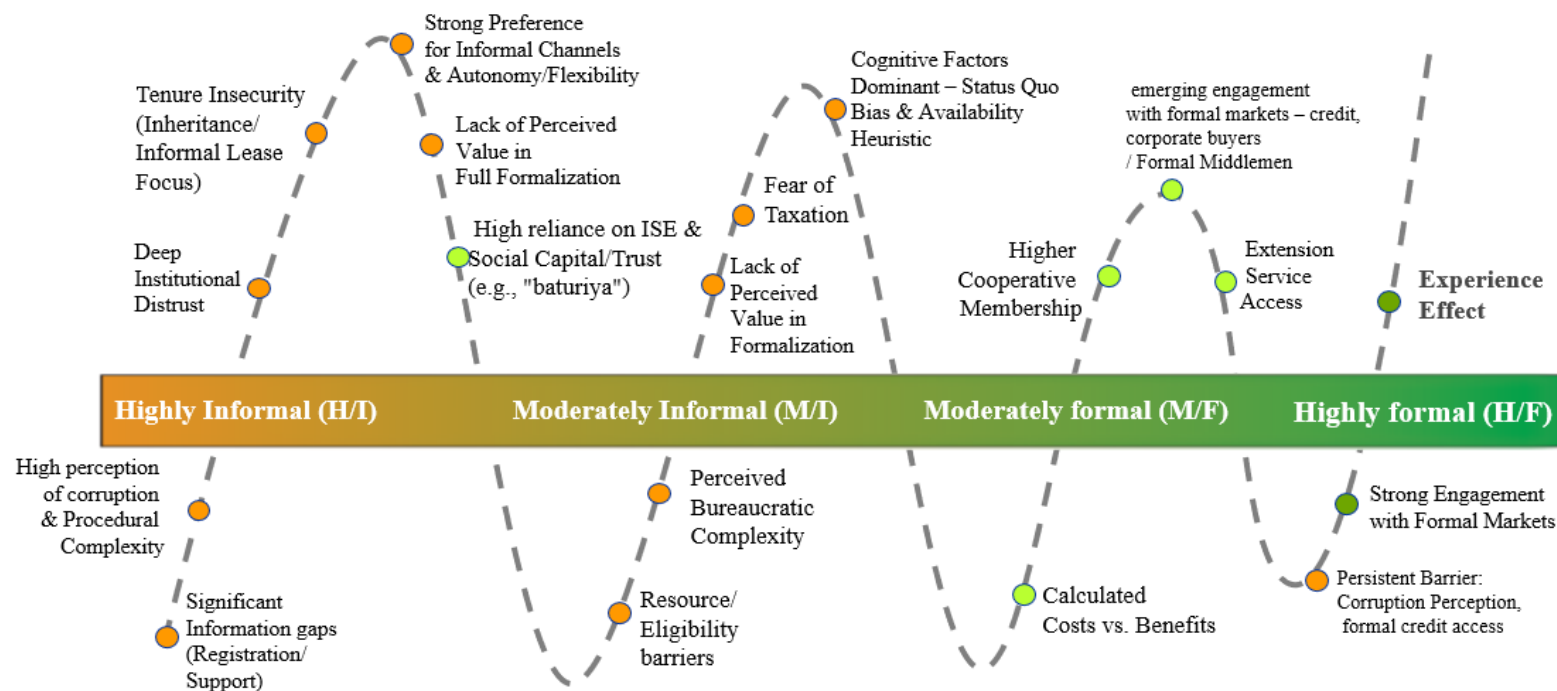
Source: Author's analysis of survey data (2024)

The informal support ecosystem in Igabi LGA is crucial for sustaining the livelihoods and resilience of informal actors within the agricultural sector. This analysis highlights the complex nature of this ecosystem, emphasizing its role in maintaining informality. Smallholders extensively depend on informal credit, information sharing, mentorship, and trust-based relationships to navigate the challenges of operating outside the formal economy. This dependence highlights their adaptability and resourcefulness in overcoming the constraints of limited access to formal institutions and resources. However, the analysis also points out the limitations of this informal support system, especially in terms of sustainability and scalability. While the ecosystem offers a vital safety net and promotes social cohesion, it may not suffice to support long-term growth and development within the sector. Therefore, policymakers and development practitioners should recognize the value and functions of this ecosystem while simultaneously addressing the underlying institutional weaknesses that necessitate its existence. By strengthening formal institutions and providing accessible and affordable alternatives to informal support mechanisms, they can create an enabling environment that encourages a gradual transition from informality to formality. This transition would unlock the full economic potential of informal actors, fostering a more inclusive and sustainable agricultural sector in Igabi LGA.

III. Mapping Strategic Drivers Along the Continuum

To synthesize the insights emerging from the quantitative data and qualitative narratives, Figure 4.8 below presents a visual mapping of the key drivers—both enabling and constraining—that shape actor positioning along the formality continuum. The figure categorizes these drivers into four primary clusters: perceived institutional costs and barriers (e.g., taxation, corruption), access to structural enablers (e.g., credit, legal infrastructure), cognitive and experiential factors (e.g., trust, historical exclusion), and informal support systems (e.g., ROSCAs, kinship networks).

This mapping highlights the complex interplay between formal and informal systems. While the formal institutional environment determines the accessibility and appeal of formalization, informal support ecosystems offer functional alternatives that can reinforce strategic inertia. Actors often calculate that the short-term flexibility, liquidity, and social embeddedness of informal systems outweigh the long-term, uncertain benefits of engaging with the formal economy. At the same time, some actors use informal systems as stepping stones, leveraging them to accumulate capital, build networks, or gain confidence before transitioning to formality.



Strategic Responses to Hidden Barriers	Dominant Strategies (H/I)	Emerging Strategies (M/I)	Strategic Considerations (M/F):	Dominant Strategies (H/F):
	- Exclusive Reliance on Direct Local Sales / Informal Markets - Strong reliance on ISE for Survival (trap) - Complete Avoidance of Formal Registration/Contracts	- Predominantly Informal Market & Land Channels - Tentative / Limited Engagement with Middlemen begins. - ISE remains central to operations.	Balancing formal benefits with informal flexibility (Hybrid Strategy).	- Highest Engagement with Formal Markets (Corporate Buyers, Middlemen). - Highest Use of Formal Land Acquisition (Lease, Govt, Purchase). - Strongest Linkages (contractual, Formal Credit, Information, Extension). - Full Leverage of Formal Systems for stability/growth.

Figure 4.8: Mapping Key Drivers and Strategic Choices Along the Formality Continuum

The figure illustrates that actors' positions on the continuum (ranging from Highly Informal to Highly Formal) are not simply the result of structural location or regulatory enforcement. Instead, they are outcomes of complex decision-making processes shaped by institutional trust, prior experiences, cost-benefit analyses, and peer behaviour. The key drivers and choices associated with each profile are detailed below:

- **Highly Informal (H/I) Profile:**

- **Key Drivers/Barriers:** Actors in this profile are often characterized by significant **tenure insecurity**, **deep institutional distrust**, a strong **preference for informal channels and operational autonomy**, a pronounced **fear of taxation**, and are influenced by cognitive factors such as **status quo bias** and **limited awareness or negative perceptions** of formal system benefits.
- **Strategic Choices:** Their strategies are dominated by an **exclusive reliance on direct local sales and informal markets**. There is a strong dependence on the **Informal Support Ecosystem (ISE)** for survival, credit, and information, often leading to what this study terms the "Informality Trap." They typically exhibit a **complete avoidance of formal registration, contracts, and financial institutions**.

- **Moderately Informal (M/I) Profile:**

- **Key Drivers/Barriers:** This group perceives **high bureaucratic complexity** in formal processes and faces tangible **resource and eligibility barriers** to formal engagement. **Significant information gaps** regarding formal procedures and benefits are also prevalent.
- **Strategic Choices:** Their market engagement remains **predominantly informal**, with tentative or limited interaction with middlemen. The **ISE continues to be central** to their operations, though there might be nascent attempts to explore formal avenues. Selective compliance with minor formal requirements (e.g., local levies) may occur.

- **Moderately Formal (M/F) Profile:**

- **Key Drivers/Barriers:** Actors in this profile demonstrate an **emerging engagement with formal markets**, including access to formal credit (often through cooperatives) and direct dealings with corporate buyers or formal middlemen. However, they may still lack a perceived net benefit in full formalization due to persistent costs or complexities. Higher **cooperative**

membership and better **access to extension services** often characterize this group.

- **Strategic Choices:** They adopt a **hybrid strategy**, balancing the benefits of selected formal engagements (e.g., contracts, formal credit) with the flexibility and perceived lower costs of retaining some informal practices. There is a more calculated assessment of costs versus benefits.
- **Highly Formal (H/F) Profile:**
 - **Key Drivers/Barriers:** This profile is marked by **strong and consistent engagement with formal markets**, driven by a clear understanding and positive calculation of costs versus benefits. While they navigate formal systems effectively, persistent barriers such as the **perception of corruption** within formal institutions and challenges in **accessing adequate formal credit** may still exist, though they are better equipped to manage these.
 - **Strategic Choices:** Their strategies involve the **highest engagement with formal markets** (corporate buyers, formal middlemen, export channels), the greatest use of **formal land acquisition methods**, and the strongest linkages through **formal contracts, credit, information channels, and extension services**. They typically meet quality and traceability standards required for GVC participation.

This mapping (Figure 4.8) underscores that movement along the formality continuum is influenced by a dynamic interplay of an actor's perception of the institutional environment, their access to resources (both formal and informal), their cognitive frameworks, and the strategic choices they make in response. The "hidden enablers" often relate to access to supportive ISEs or specific formal channels like cooperatives, while "hidden barriers" include deep-seated distrust, information asymmetries, and prohibitive perceived costs. Understanding these profiles and their underlying drivers is crucial for designing targeted interventions that can genuinely facilitate movement towards more beneficial positions on the continuum, rather than applying a one-size-fits-all approach to formalization. This strategic map, therefore, serves as a synthesis of the motivations and constraints identified in the preceding analysis, visually linking the drivers of informality to the strategic choices made by actors at different points on the continuum

IV. Analysis of Informality's Impacts on Well-Being and Formalization Choices

Building on the analysis of the motivations and constraints shaping informality and the pivotal role of the informal support ecosystem, this section addresses the study's first and second objectives:

1. To examine the relationship between informality and well-being indicators (income levels, access to credit, and overall well-being) within the context of Global Value Chains (GVCs).
2. To assess whether the perceived costs of formalization outweigh the perceived benefits among actors in GVCs.

The ensuing analysis offers critical insights into the economic resilience and decision-making processes of agro-food smallholders in Igabi LGA. It highlights how informality influences their participation in formal and informal systems, providing a foundation for understanding the structural and strategic factors that drive these choices. These findings are pivotal for evaluating the implications of informality on sustainable development and the integration of smallholder smallholders into broader economic frameworks.

Informality and Well-Being Indicators

Well-Being Indicator	Highly informal (n=49)	Moderately informal Formality (n=74)	Moderately Formal Formality (n=49)	Highly Formal (n=34)	Chi-Square (p-value)	Findings
Household Meals per Day						
Two	15 (30.61%)	11 (14.86%)	14 (28.57%)	12 (35.29%)	X² = 8.762a (p = 0.033)	Higher formality correlates with more meals per day (p = 0.033).
Three	34 (69.39%)	63 (84.78%)	34 (71.43%)	22 (64.71%)		
Income Sufficient for Yearly Expenses						
Yes	17 (34.69%)	28 (37.84%)	18 (36.73%)	27 (79.41%)	X² = 21.241a (p = .000)	Higher formality is associated with higher income sufficiency (p = 0.000).
No	32 (65.31%)	46 (62.16%)	31 (63.27%)	7 (20.59%)		
Primary Source of Income (Crop Farming)						
Yes	20 (40.82%)	22 (29.73%)	21 (42.86%)	15 (44.12%)	X² = 3.347a (p = .341)	No significant difference (p = 0.341).
No	29 (59.18%)	52 (70.27%)	28 (57.14%)	19 (55.88%)		
Annual Income Range from Farming						
Below ₦100,000	1	2	0	1	X² = 20.557 ^a ; p= .041	Income disparities are statistically significant across formality levels (p = .041). Smallholders in higher-formality categories tend to earn more.
₦100,000 to ₦499,999	21	16	20	21		
₦500,000 to ₦999,999	16	25	14	7		
₦1,000,000 and more	11	31	115	5		
Savings Behavior						
Yes	26	38	31	21	X² = 2.325 ^a ; p= .508	No significant differences in savings behavior across formality levels (p = .508).
No	23	36	18	13		

Table 4.23: Informality and Well-Being Indicators

Table 4.23 provide foundational insights into the relationship between informality and well-being indicators, such as income sufficiency/levels, access to credit, and savings behavior. These findings are critical in addressing the study's first objective, which *examines how informality among agro-food smallholders in Kaduna State influences their levels of income,*

access to credit, and overall well-being, even when controlling for participation in GVCs. . Statistical analysis highlights patterns across the formality continuum, revealing that agro-food smallholders in low-formality categories consistently report poorer outcomes in income sufficiency, access to credit, and savings behavior compared to their counterparts in higher-formality categories. This supports the notion that informality constrains access to the resources and systems necessary for enhancing well-being, regardless of GVC participation.

The first well-being indicator, **household meals**, a proxy for food security, shows variability across the formality continuum, and the relationship is statistically significant ($X^2 = 9.232$, $p = 0.033$). A notable proportion of low-formality households (15 out of 49) consume only two meals daily, compared to high-formality households (12 out of 34). In contrast, three meals per day is the most common pattern across all categories, with 34 out of 49 low-formality households and 22 out of 34 high-formality households following this pattern. The data suggest that food security may slightly improve with higher levels of formality, but other factors may likely contribute to this trend.

A more pronounced disparity emerges in **income sufficiency** for household expenses, which is significantly associated with formality levels ($X^2 = 21.241$, $p = 0.000$). High-formality smallholders are substantially more likely to report sufficient income to cater to yearly expenses (27 out of 34) compared to low-formality smallholders (17 out of 49). This suggests that formalization is associated with better income stability, possibly due to improved access to structured markets and economic resources. The significant disparity underscores the role of formalization in fostering economic resilience and aligns with the hypothesis that informality constrains household income sufficiency.

The distribution of **annual farming income** is significantly associated with formality levels ($X^2 = 20.557$, $p = 0.041$). Low-formality smallholders are overrepresented in the lowest income brackets below ₦100,000, while high-formality smallholders dominate higher income categories, particularly ₦100,000 to ₦499,999 (21 out of 34) and ₦1,000,000 to ₦4,999,999 (5 out of 34). These findings substantiate the hypothesis that informality constrains income levels and illustrate how formalization facilitates integration into GVCs, where participants benefit from stable pricing, input support, and market access.

Savings behaviour, however, does not show a significant association with formality levels ($X^2 = 2.325$, $p = 0.508$). Although high-formality smallholders exhibit a slightly higher propensity to save (21 out of 34) compared to low-formality smallholders (26 out of 49), this difference is

not statistically significant. This suggests that factors beyond formality, such as financial literacy, cultural attitudes, or income volatility, play a more substantial role in influencing savings behaviour.

To assess whether GVC engagement mitigates the limitations of informality, the two-way ANOVA results offer comprehensive insights: For income levels, the corrected model is significant ($F = 3.356$, $p = 0.000$), and post-hoc comparisons show that high-formality smallholders report significantly higher incomes compared to low-formality smallholders (mean difference = 0.8709, $p = 0.000$). However, GVC engagement alone does not significantly influence income levels ($F = 1.891$, $p = 0.132$), and the interaction between formality and GVC engagement is not significant ($F = 1.578$, $p = 0.134$). This indicates that while formality is the primary driver of income improvements, GVC engagement does not fully offset the disadvantages associated with informality.

For Access to formal credit, both GVC engagement ($F = 2.849$, $p = 0.039$) and formality levels ($F = 13.062$, $p = 0.000$) significantly influence outcomes. Smallholders with high GVC engagement have better access to credit than those with low engagement (mean difference = 0.7325, $p = 0.000$). Similarly, high-formality smallholders enjoy significantly better access compared to low-formality smallholders (mean difference = 0.8709, $p = 0.000$). These findings partially challenge the hypothesis, suggesting that GVC participation can alleviate some of the credit access limitations imposed by informality. Nonetheless, the marginally significant interaction effect ($F = 1.958$, $p = 0.054$) highlights that access to credit is enhanced most substantially when high-formality smallholders are also engaged in GVCs.

For savings behaviour, the two-way ANOVA model is only marginally significant ($F = 1.555$, $p = 0.095$), and neither GVC engagement ($F = 0.320$, $p = 0.811$) nor formality levels ($F = 0.319$, $p = 0.812$) have significant main effects. However, the significant interaction effect ($F = 2.318$, $p = 0.021$) suggests that savings behaviour is influenced by the combined effects of formality and GVC participation. This implies that while informality constrains savings behaviour, the combination of higher formality and extensive GVC engagement may create enabling conditions for increased savings.

Overall, the analysis highlights a consistent pattern where higher levels of formality are associated with better well-being outcomes, particularly in income sufficiency and access to formal credit. GVC engagement enhances these benefits but does not fully offset the

disadvantages of informality. These findings emphasize the importance of formalization in addressing structural barriers and fostering economic resilience, while recognizing that GVC engagement serves as a complementary, rather than a substitute, mechanism for improving well-being. This integrated perspective provides actionable insights for policymakers aiming to enhance the livelihoods of agro-food smallholders in Kaduna State.

Perceived Costs and Benefits of Formalization

This subsection explores the perceived costs and benefits of formalization to assess whether the perceived costs of formalization are a stronger predictor of continued informality among actors in Global Value Chains (GVCs) than the perceived benefits of formalization. This analysis is critical to understanding why informality persists in agricultural production systems, particularly in Igabi LGA, Kaduna State. Building on the findings from subsections I and II, this section synthesizes the factors driving smallholders' decisions to formalize or remain informal.

The decision to formalize is complex and rooted in how smallholders perceive the economic, procedural, and personal costs and benefits associated with formal and informal systems. The findings from the study indicate that, in most cases, perceived costs outweigh the perceived benefits, making informality a more attractive option for many agro-food smallholders, even when there are opportunities to integrate into formal markets and participate in GVCs.

Among the most significant barriers is the financial burden associated with formalization. Agro-food smallholders cite the costs of registration, compliance with regulations, and potential tax liabilities as overwhelming, particularly for agro-food smallholders who have limited financial resources. These costs, which include registration fees, annual taxes, and administrative compliance, are seen as disproportionate to the potential benefits of formalization. The unpredictable nature of agricultural income, which fluctuates due to external factors such as weather conditions, market prices, and crop yields, only exacerbates these financial constraints. In Igabi LGA, 99.5% of agro-food smallholders operate informally, with 39.8% of them paying some taxes or levies. This creates a notable disconnect between their willingness to contribute financially through taxes and their reluctance to formally register their businesses. While agro-food smallholders are willing to pay taxes, they view the formal registration process as an additional financial burden, reflecting a strategic calculation on their part.

The Chi-square analysis from Table 4.17 reveals that willingness to pay taxes is significantly associated with factors like years in farming and gender, but not with age or education. This suggests that practical farming experience, rather than formal education, plays a more significant role in shaping decisions about taxation. The results underscore the importance of economic accessibility in motivating agro-food smallholders to formalize their operations.

Despite the perceived costs, agro-food smallholders are aware of the potential benefits that formalization could offer, including access to credit, structured markets, and government support. However, these benefits are often not perceived as immediate or tangible enough to justify the perceived financial and procedural costs. According to Table 4.17, 56.8% of respondents across all formality levels recognize that informality provides greater flexibility and opportunities, especially agro-food smallholders in the Moderately Formal formality categories, where 76.5% value informality for its flexibility. This flexibility is highly valued as it allows agro-food smallholders to adapt to market fluctuations and avoid the rigidity associated with formal contracts, taxes, and compliance. Interestingly, only 14.1% of respondents perceive informality as limiting their access to markets and resources. This discrepancy between perceived benefits and actual motivation to formalize illustrates a gap where agro-food smallholders, despite recognizing the long-term advantages of formal systems, continue to favor informality due to the more immediate benefits it offers, such as flexibility.

The complexity of formalization is another deterrent. Many agro-food smallholders report that navigating the registration process, understanding regulatory requirements, and ensuring compliance are overwhelming, especially for those with low levels of education or limited exposure to formal systems. As highlighted in Table 4.18, while 120 out of 206 agro-food smallholders expressed a willingness to formalize their operations, a significant portion of low-formality agro-food smallholders (28 out of 94) found the process too complex. This complexity, compounded by a lack of accessible and user-friendly information, reinforces the perception that formalization is an unattainable or unnecessary goal.

Beyond financial and procedural challenges, cultural factors also play a pivotal role in the decision to remain informal. The desire for autonomy and flexibility is deeply ingrained in the Northern Nigerian farming culture. Agro-food smallholders often view formalization as a loss of control over their operations, fearing that formal systems will impose restrictions that hinder

their ability to make quick decisions and adapt to changing circumstances. This preference for informality is a strategic response to the unpredictable nature of agricultural production, where flexibility and autonomy are vital to managing risks. Formal systems are seen as rigid, requiring agro-food smallholders to follow strict rules that may not always align with the fast-changing dynamics of farming. This fear of losing operational flexibility acts as a substantial psychological barrier to formalization.

Interestingly, farming type plays a significant role in the decision to formalize, as revealed in Table 4.18. Agro-food smallholders engaged in larger-scale or commercial farming are more likely to formalize their operations compared to agro-food smallholders, highlighting that farm size and business scale are more important factors than demographic characteristics such as gender, education, or age. This suggests that agro-food smallholders operating larger farms, which are more likely to have the financial and operational capacity to bear the costs and complexities of formalization, are more inclined to engage in formal systems.

The perceived costs of formalization—spanning financial burdens, procedural complexities, and the potential loss of autonomy—create significant barriers for agro-food smallholders considering a transition to the formal economy. These costs are the primary drivers of continued informality. To overcome these barriers, comprehensive strategies are needed to simplify the formalization process, provide financial incentives, raise awareness of the benefits of formalization, and maintain or enhance agro-food smallholders' autonomy in formal systems. By streamlining registration processes, reducing financial burdens, and demonstrating the tangible benefits of formalization, more agro-food smallholders will likely transition from informality to formality, ultimately fostering greater economic integration within GVCs.

In conclusion, the analysis reaffirms the proposition that the perceived costs of formalization outweigh the perceived benefits, and these costs are the dominant factors driving continued informality among agro-food smallholders in Igabi LGA. Addressing these barriers through policy reforms that reduce financial and procedural burdens, while improving the accessibility and understanding of formal systems, is essential for promoting greater formalization and economic resilience. By enhancing GVC participation, smallholder can achieve more sustainable livelihoods, contributing to long-term economic development.

4.3 Discussion of Findings

This section critically explores the dynamics of informality in Developing Countries (DCs), focusing on Igabi LGA in Kaduna State, Nigeria. The study empirically tests two key propositions:

P1: informality among agro-food smallholders is associated with lower well-being indicators (such as income, access to credit, and overall well-being), even within the context of engagement in Global Value Chains (GVCs)

P2: perceived costs of formalization are a stronger predictor of continued informality among GVC actors than the perceived benefits of formalization.

Using a combination of Partial Least Squares Structural Equation Modeling (PLS-SEM) and K-means cluster analysis, the study empirically validated the formality continuum, demonstrating how structural constraints, institutional enablers, and informal market adaptations shape agro-food smallholders' engagement in GVCs. The discussion of findings is structured around three critical subthemes: the spectrum of informality, the role of structural enablers and market access, and the clustering of informal actors along the continuum.

Informality as a Spectrum

Rather than viewing informality as a binary state (where economic actors are either formal or informal), the study reinforces the argument that informality is best understood as a **continuum** rather than a binary state. At the lowest end of the spectrum, highly informal agro-food smallholders remain heavily reliant on community-based mechanisms for credit, training, and information-sharing. These agro-food smallholders, who constitute nearly half of the sample, operate in fragmented markets, where trust-based transactions and informal networks substitute for formalized trade and financial arrangements. Their reliance on informal lending and knowledge-sharing reflects systemic barriers, including restricted access to financial institutions, limited exposure to technical training, and insufficient extension services. This pattern aligns with global trends observed in other developing economies, such as rural India and Bangladesh, where smallholder depend on informal credit sources due to structural exclusions from formal finance.

K-means clustering further corroborates this stratification, revealing four distinct categories of agro-food smallholders along the formality continuum. The Highly Informal category, comprising 45.6% of respondents, exhibits the lowest engagement with formal institutions,

underscoring the pervasiveness of informal arrangements. Moderately Informal smallholders (21.4%) demonstrate selective engagement with formal mechanisms, such as tax compliance or cooperative participation, while still relying on informal networks for essential services. Moderately Formal smallholders (24.3%) represent a transitional category, integrating structured trade relationships and some formal credit access while retaining aspects of informality. The Highly Formal category, constituting only 8.7% of respondents, is fully embedded in formal markets, benefiting from structured contracts, institutional finance, and regulatory compliance. These clusters are statistically distinct, as confirmed by ANOVA results ($F = 1307.2, p < 0.001$), reinforcing the argument that formality exists along a spectrum rather than as a rigid dichotomy.

At the **Highly informal** end, smallholder rely overwhelmingly on community-based mechanisms for credit, training, and information-sharing. This dependence reflects systemic barriers such as limited access to formal credit, training programs, and extension services. Informal loans, peer-to-peer knowledge exchange, and mentorship embedded in traditional practices serve as critical support systems – the 'informal support ecosystem'. The vital role of this ecosystem, particularly in contexts of weak formal support, is highlighted by Kombe et al. (2022), who found that community-led initiatives and social capital were crucial for survival and resilience among informal urban dwellers in Dar es Salaam during the COVID-19 pandemic. However, while resilient and essential for coping, these mechanisms are constrained by a lack of modern tools and resources, with only **7.4%** of agro-food smallholders in this category reporting access to mechanisation. Kombe et al. (2022) similarly noted that while informal networks provided immediate relief, they were insufficient to overcome underlying structural vulnerabilities or drive substantial economic advancement. Agricultural practices in this Igabi group remain labour-intensive and predominantly traditional, which, although locally sustainable, restrict scalability and productivity.

This pattern is not unique to Igabi LGA. Similar reliance on informal networks for agricultural finance and knowledge transfer is documented in rural India and Bangladesh, underscoring the universality of systemic exclusion. Quantitative data from Igabi corroborates these trends, with 98.54% of Highly informal agro-food smallholders relying on personal and family savings as their primary credit source. Training and skill development are largely informal, facilitated by social networks rather than formal institutions. The findings underscore the need for targeted

interventions that address the structural and resource barriers faced by Highly informal agro-food smallholders while leveraging the inherent strengths of their informal networks. The work of Johnson et al. (2022) in Dar es Salaam informal settlements further emphasizes the importance of governance approaches that recognize and integrate community knowledge and capacities. Their study demonstrated how co-producing knowledge about risks and integrating community assessments into local governance can create dialogue and legitimize community data, suggesting pathways to bridge the gap between informal realities and formal planning. Policies aimed at enhancing access to formal credit, mechanisation, and structured training programs for Igabi's agro-food smallholders are critical. Simultaneously, fostering partnerships that bridge informal and formal systems, perhaps through methods like those explored by Johnson et al. (2022), can preserve the trust and social cohesion of community-based networks, ensuring a gradual and inclusive transition.

As agro-food smallholders in Igabi LGA progress along the formality continuum, their economic behaviours and access to resources evolve in significant ways. The **Moderately informal** Formality group demonstrates a transitional strategy, blending informal practices with selective engagement in formal systems. These agro-food smallholders show an initial willingness to formalize, evidenced by activities like tax payments (39.91%). However, their engagement with formal systems is cautious, constrained by fears of increased costs and inefficiencies. This strategic balancing act reflects a broader trend where informal actors seek stability without relinquishing the flexibility and adaptability that informal mechanisms provide.

Agro-food smallholders in the **Moderately informal** Formality category also display a reliance on informal credit mechanisms, such as loans from community-based systems, while beginning to explore formal opportunities like association loans. Their dependency on personal savings (98.54%) remains high, reflecting limited financial inclusivity. Simultaneously, the integration of private extension services, accessed by **59.1%** of this group (26 out of 44 farmers), highlights a pivotal step toward structured knowledge acquisition. These dynamics parallel findings in regions like Kenya and Peru, where semi-formal cooperatives help bridge the gap between informal practices and formal market access. Improving the governance interface between these actors and formal institutions is crucial. Johnson et al. (2022) stress the need for sustained engagement between communities, NGOs, and local authorities to tackle complex challenges effectively, suggesting that structured dialogue could ease the transition for these moderately informal actors.

The **Moderately Formal** Formality group represents a further shift toward formal integration. Agro-food smallholders in this category actively engage in contractual agreements, formal markets, and private extension services (**80%**), leveraging these structures for better operational outcomes. Their ability to access advanced training and resources, such as equipment and fertilizers, underscores their adaptive strategies. However, barriers like compliance costs and limited access to institutional credit persist, requiring continuous negotiation between formal engagement and informal mechanisms. These findings are consistent with research from Brazil and South Africa, where agro-food smallholders navigate similar challenges while transitioning to higher levels of formality. Again, improving the governance of this interface is key; ensuring that formal systems are responsive and that community or cooperative structures are effectively linked to broader opportunities can support this group.

The varied engagement of these groups along the continuum underscores the importance of tailored interventions. Policies aimed at **Moderately informal** Formality agro-food smallholders should focus on reducing the costs and complexities of formalization, potentially by incorporating participatory approaches to regulation and service delivery inspired by work like Johnson et al.'s (2022). Those targeting **Moderately Formal** Formality actors could prioritize access to credit and advanced market linkages, ensuring coordination challenges highlighted by Kombe et al. (2022) between grassroots actors and formal support are overcome. By addressing these group-specific barriers and improving the governance of the informal-formal interface, policymakers can foster smoother transitions along the continuum, supporting sustainable development and broader formal sector integration. This layered understanding of informality provides a foundation for the next chapter, which explores the critical interplay between Global Value Chain (GVC) participation and value capture.

At the **Highly Formal** end, agro-food smallholders demonstrate significant integration into formal systems, marked by increased access to institutional credit, extension services, and structured market participation. These agro-food smallholders represent only 8.7% (Note: the text previously stated 16.5%, but the cluster breakdown listed 8.7% - using 8.7% for consistency with the breakdown) of the total respondents, indicating that achieving Highly Formal status remains an exclusive and challenging goal. Their engagement is characterised by compliance with regulatory requirements, utilization of structured market linkages, and reliance on government allocations or purchases for land acquisition, as reflected in 17.6% of their land transactions. This group benefits from institutional mechanisms that enable higher productivity and enhanced market access, mirroring trends observed in countries like South

Africa, where formalised agro-food smallholders similarly enjoy better integration into domestic and international supply chains.

However, the transition to **Highly Formal** is fraught with significant barriers, including the need for substantial investments in compliance and capacity-building. Agro-food smallholders at this level also face complex bureaucratic requirements and corruption concerns, with **83.3%** citing corruption as a barrier to accessing government support. Such barriers are consistent with findings from studies in Brazil and Tanzania, where high formalisation is similarly constrained by institutional inefficiencies and financial demands. Key characteristics include greater use of formal credit mechanisms, albeit minimally (e.g., 1.5% accessing bank loans), and more significant reliance on private extension services (48.1%). They are also the most likely group to participate in structured supply chains, with 73.5% selling directly to corporate buyers, compared to 2% in the Highly informal group. This shift highlights their ability to navigate formal frameworks effectively, leveraging these systems to improve profitability and competitiveness, although the limited size of this group points to persistent challenges in formal institutional governance and accessibility.

Structural Enablers and Market Access

Employing a combination of Partial Least Squares Structural Equation Modeling (PLS-SEM) and K-means clustering, this study validates the spectrum of informality by identifying key structural drivers and behavioral tendencies that differentiate informal actors at varying levels of market engagement. It also identified several key proxies that define each driver (latent construct) shaping informality. Formal Exchange Arrangements (FEA) capture structured trade relationships, including contractual agreements, participation in cooperatives, and direct enterprise linkages. Formal Market Access (FMA) reflects the extent to which agro-food smallholders engage with structured supply chains, avoiding exploitative intermediaries and gaining price stability. Similarly, Information Access (IA) measures exposure to formal advisory systems, extension services, and structured financial literacy programs. These three factors emerge as core enablers of formal participation, differentiating agro-food smallholders along the continuum.

Conversely, variables such as Formal Regulatory Compliance (FRC)—proxied by cooperative registration and tax compliance—and Access to Formal Credit (AFC) exhibit weaker predictive power in determining market engagement. The data suggest that while regulatory adherence

and credit availability are often assumed to facilitate formalization, their actual influence remains limited due to weak enforcement mechanisms, lack of trust, and prohibitive compliance costs. These findings align with global research indicating that top-down formalization strategies that do not address structural constraints often fail to achieve meaningful market integration (Pietrobelli & Rabellotti, 2011). The lack of trust and weak coordination observed in Igabi resonates with findings from Dar es Salaam; Kombe et al. (2022) highlighted weak linkages between community leaders and municipal authorities, hindering effective support, while Johnson et al. (2022) emphasized that building trust and legitimacy through participatory governance is essential for bridging the formal-informal divide. The limited impact of FRC and AFC in Igabi may reflect similar underlying governance deficits and institutional disconnects.

Formal Exchange Arrangements (FEA) emerge as the strongest predictor of Formal Market Access (FMA) and Information Access (IA). The PLS-SEM analysis confirms that structured trade agreements, contractual engagements, and barter arrangements significantly influence agro-food smallholders' integration into formal markets. The model's path coefficient ($\beta = 0.76$, $p < 0.001$) for $FEA \rightarrow FMA$ underscores that agro-food smallholders engaged in structured exchange mechanisms are significantly more likely to benefit from predictable transactions and regulated supply chains. This suggests that functional, perhaps more localized or actor-specific, trust-based arrangements (even if formalized in contracts) can be more effective drivers than compliance with potentially distrusted or poorly implemented broader institutional frameworks.

Conversely, Formal Regulatory Compliance (FRC)—measured through cooperative registration—was found to have no significant effect on market participation ($\beta = -0.08$, $p = 0.23$), challenging conventional assumptions that regulatory compliance alone enhances economic inclusion. This suggests that institutional trust deficits and weak contract enforcement—issues implicitly linked to the governance challenges highlighted by both Kombe et al. and Johnson et al. (2022)—dilute the benefits of formalization, making compliance with regulatory frameworks insufficient to drive full market participation. Additionally, Access to Formal Credit (AFC) was not a significant predictor of market outcomes, with weak coefficients for both FMA ($\beta = -0.09$, $p = 0.41$) and IA ($\beta = -0.08$, $p = 0.53$). This indicates that while financial inclusion is important, structural constraints—such as collateral requirements, high interest rates, and distrust in financial institutions—undermine its

effectiveness in driving formalization, pointing again towards deeper issues of institutional access and governance.

The Informal Support Ecosystem:

The informal support ecosystem plays a central role in sustaining agricultural activities across all levels of the continuum. Peer networks are a critical source of information for 99% of agro-food smallholders, facilitating practical knowledge transfer and problem-solving in the absence of formal extension services. Mentorship programs, particularly at the Low and Moderately informal Formality levels, enable the intergenerational transfer of skills and cultural knowledge, embedding resilience within the informal system. This practical reliance on social capital mirrors the findings of Kombe et al. (2022), where community networks and grassroots actors provided essential support and acted as crucial safety nets during the COVID-19 crisis, filling gaps left by formal systems.

However, while the ecosystem excels in providing community-based support, it is insufficient to address capital-intensive needs, such as mechanisation and large-scale infrastructure, which limit overall productivity. This limitation echoes the observations by Kombe et al. (2022) that informal support systems, while vital for coping, often lack the resources for substantial economic upgrading. Internationally, similar ecosystems in India and Kenya provide comparable benefits and face similar challenges. Innovations such as mobile banking and cooperative societies in these contexts have successfully bridged gaps in credit and information access. These parallels highlight the potential for Igabi to adopt similar integrated models, combining the strengths of informal networks with targeted formal support mechanisms. Yet, the success of such integration hinges not just on technology but on effective governance and relationship-building. Johnson et al. (2022) underscore the importance of sustained engagement and co-production processes between communities and formal institutions to ensure that interventions are appropriate and effectively address local needs and power dynamics.

The above findings underscore the importance of tailoring interventions to meet the specific needs of agro-food smallholders along the continuum. For Low and Moderately informal Formality agro-food smallholders, policies should focus on reducing barriers to formalisation by simplifying administrative processes, expanding access to affordable credit, and providing targeted training programs, potentially leveraging participatory approaches as suggested by

Johnson et al. (2022) to build trust and ensure relevance. For Moderately Formal and Highly Formal groups, interventions should prioritise institutional reforms to improve trust (addressing the distrust highlighted in the Igabi data and echoed in the Dar es Salaam studies), reduce compliance costs, and enhance access to advanced market linkages and mechanisation, ensuring better coordination between formal support and local actors as noted by Kombe et al.. These dynamics hold broader implications for similar contexts globally. The integration of informal actors into formal systems, supported by public-private partnerships, scalable innovations, and crucially, improved governance that fosters dialogue and mutual understanding (Johnson et al., 2022), is essential for fostering inclusive economic growth. The resilience of informal systems must be preserved while addressing their limitations to create pathways for sustainable development.

Informality and Well-Being

The study also found significant disparities in well-being indicators across the formality continuum. Low-formality agro-food smallholders consistently report poorer outcomes in income sufficiency, annual income levels, and access to formal credit. The significant association between formality levels and income sufficiency ($X^2 = 21.241$, $p = 0.000$) reveals that high-formality agro-food smallholders benefit from greater financial stability and structured market opportunities. This vulnerability of low-formality actors is empirically echoed in Kombe et al. (2022), where informal households faced severe income declines and struggled to meet basic needs during the COVID-19 partial lockdown, highlighting the precariousness associated with limited formal integration. This is particularly evident in the distribution of annual farming income in Igabi, where high-formality agro-food smallholders dominate the upper income brackets, particularly ₦100,000 to ₦499,999 (21 out of 34) and ₦1,000,000 to ₦4,999,999 (5 out of 34), as detailed in Table 4.20. These findings substantiate the proposition that informality reduces economic resilience by limiting access to critical resources and stable markets.

Household food security, measured through meal frequency, reflects similar trends. The relationship is statistically significant ($X^2 = 8.762$, $p = 0.033$), with the data indicating that high-formality agro-food smallholders are less likely to consume only two meals per day compared to their low-formality counterparts. This improvement in food security aligns with

broader patterns of resource access and income stability observed in formalized systems. However, the persistence of food insecurity among low-formality agro-food smallholders underscores the limitations of informal support systems. As Kombe et al. (2022) observed, while adaptive and crucial for coping, these informal networks lack the capacity to address systemic challenges like income volatility and access to modern agricultural inputs necessary for significantly enhancing well-being. Furthermore, as Johnson et al. (2022) highlight, well-being in informal contexts is impacted by broader inequalities and risks beyond just income, including social factors like crime and unemployment, which can further compound food insecurity challenges.

The role of GVC engagement in mitigating the limitations of informality provides further insights. The two-way ANOVA results show that while formality significantly influences income levels and access to credit, the marginal interaction effects on savings behavior ($F = 2.318$, $p = 0.021$) suggest that extensive GVC engagement can enhance financial resilience. However, as shown in Table 4.23, savings behavior does not exhibit significant main effects for formality ($X^2 = 2.325$, $p = 0.508$), indicating that deeper systemic and cultural factors—potentially including the institutional trust deficits and governance weaknesses discussed earlier and reflected in the Dar es Salaam studies—remain unaddressed. These findings suggest that although GVC engagement can complement formalization, it cannot fully mitigate the structural disadvantages faced by low-formality agro-food smallholders, highlighting the need for targeted interventions that bridge formal and informal systems effectively.

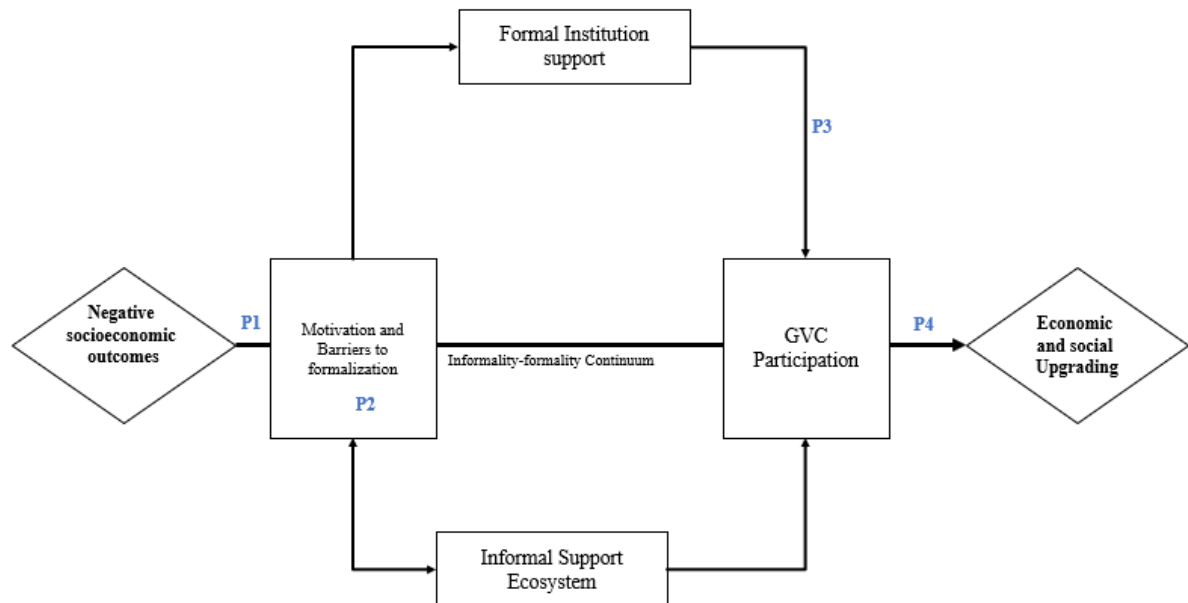


Figure 4.9: Determinants of Informality in DCs

Source: Researcher's Conceptualisation

Figure 4.9 visually synthesizes the key findings from Chapter 4, which examines the dynamics of informality in Kaduna State's agricultural sector. At its core is the "Formality Continuum," representing the spectrum between formal and informal economies. This framework challenges the traditional binary classification of economic activities by illustrating the fluid and adaptive nature of informality. Agro-food smallholders in Igabi LGA exhibit varying degrees of engagement with formal and informal systems, reflecting a dynamic interplay shaped by economic, social, and institutional factors.

The framework highlights the dual influences of "Motivations" and "Constraints" that determine agro-food smallholders' positions along the continuum. Motivations such as profit maximization, flexibility, and autonomy often drive informality, while constraints—including limited market access, high costs of formalization, and institutional inefficiencies—serve as barriers to transitioning toward formal systems. Central to this dynamic is the "Informal Support Ecosystem," which sustains informal activities by providing resources, resilience, and social cohesion through community-based networks and peer mechanisms. The empirical relevance and dual nature of this ecosystem—providing vital support while having limitations for advancement—are strongly supported by studies like Kombe et al. (2022). Furthermore, the need for effective governance and bridging mechanisms to link this ecosystem with formal

opportunities, as highlighted by Johnson et al. (2022), is crucial for overcoming its inherent constraints. These findings support Proposition 1, which links informality to lower well-being indicators, and Proposition 2, which identifies perceived costs as a more significant driver of informality than perceived benefits.

It is important to note that this version of the framework does not explicitly address Global Value Chain (GVC) participation, which will be explored in greater depth in Chapter Five. The subsequent analysis will extend this framework to include GVC-related variables, providing a more comprehensive understanding of the interactions between informality, GVC engagement, and developmental outcomes.

In conclusion, while the findings shed light on the intricate structure and functionality of informality, they also reveal critical gaps that may hinder value capture and economic advancement. These gaps underscore the need for targeted interventions that address barriers to formalization, improve institutional quality and governance (as emphasized by Johnson et al., 2022), leverage the functional strengths of informal systems (Kombe et al., 2022), and strengthen linkages with formal and global markets. Chapter Five will build on these insights by examining how informal actors participate in GVCs, assessing the potential for such engagement to drive value capture, foster economic development, and support upgrading within production hierarchies.

4.4 Chapter Conclusion

This chapter establishes a comprehensive foundation for understanding the intricate interplay between informality and broader economic systems, offering insights that pave the way for transformative solutions in Igabi LGA and comparable contexts worldwide. By critically examining the formality-informality continuum, the chapter underscores that informality is not merely a marginal or transient condition but a strategic and adaptive response to structural constraints. Informal actors exhibit remarkable resilience, leveraging social networks, alternative financial mechanisms, and community-driven knowledge systems to sustain agricultural activities in the absence of adequate formal support structures. However, while these informal adaptations ensure survival and limited growth, they simultaneously expose agro-food smallholders to vulnerabilities associated with market exclusion, financial insecurity, and limited access to productive resources.

The findings reveal that informality operates along a dynamic spectrum, where agro-food smallholders experience varying degrees of engagement with formal institutions. At the Highly Informal end of the continuum, informal support networks serve as the primary economic infrastructure, enabling agro-food smallholders to access credit, training, and market information through peer-based exchange and trust-based transactions. While these mechanisms foster resilience, they also restrict scalability and productivity, as reliance on traditional practices and non-mechanized farming limits long-term economic upgrading. As agro-food smallholders transition toward Moderate Informality, they adopt hybrid strategies, selectively engaging with formal markets, financial institutions, and extension services while retaining informal safety nets. This stage reflects a critical inflection point where economic actors attempt to harness the benefits of formality while mitigating its perceived costs, including regulatory burdens, taxation, and compliance requirements.

At the Highly Formal end of the continuum, agro-food smallholders demonstrate greater integration into structured market systems, benefiting from institutional credit, contractual agreements, and value chain linkages that enhance productivity and competitiveness. However, formalization is neither a linear nor an unequivocally beneficial process. Even at this advanced stage, structural inefficiencies, bureaucratic obstacles, and corruption present formidable challenges, particularly in areas such as land tenure security, mechanization access, and contract enforcement. These findings challenge simplistic narratives that equate formalization with economic prosperity, instead advocating for a more context-sensitive approach to formalization that acknowledges the trade-offs informal actors navigate.

The informal support ecosystem remains indispensable across all levels of the continuum, providing crucial financial, informational, and social capital that enables agro-food smallholders to navigate economic uncertainties. Peer-to-peer knowledge exchange, mentorship programs, and informal credit systems are particularly instrumental in ensuring risk mitigation and adaptive capacity. However, the persistence of financial exclusion, technological gaps, and inadequate institutional support underscores the urgent need for integrated interventions that bridge the divide between informal and formal systems. International case studies, particularly from India and Kenya, illustrate how community-driven solutions, cooperative financing models, and digital financial innovations have successfully facilitated more inclusive economic transitions. These examples highlight the potential for tailored hybrid models that leverage the strengths of informal networks while embedding structured, scalable formal support mechanisms.

The insights from this chapter provide a critical backdrop for the subsequent discussion on Global Value Chain (GVC) participation, which will explore the extent to which informal actors can enhance value capture, strengthen market positioning, and transition to higher-value-added activities. By linking agro-food smallholders to regional and global markets, the next chapter will assess whether GVC engagement serves as a viable pathway for upgrading or further entrenches informality within segmented market structures. Ultimately, the findings from this chapter illuminate a clear policy and development agenda: formalization strategies must move beyond rigid regulatory enforcement and instead focus on reducing transaction costs, fostering inclusive market linkages, and designing adaptive institutional frameworks that reflect the realities of informal actors. Such an approach is essential to unlocking the full economic potential of informal agricultural systems, contributing to sustainable development, poverty reduction, and long-term economic transformation.

Chapter 5: GVC PARTICIPATION AND VALUE CAPTURE

5.0 Introduction

The integration of smallholders into Global Value Chains (GVCs) is widely recognized as a pathway for economic and social upgrading, yet the extent to which this occurs remains uneven, particularly in developing economies. Despite Nigeria's increased engagement in global trade, a significant proportion of agro-food smallholders remain outside structured value chains, relying on informal networks and fragmented market systems. This chapter examines the dynamics of GVC participation among smallholders in Kaduna State, Nigeria, focusing on the role of institutional quality, credit access, and informal support systems in shaping agro-food smallholders' ability to engage with and capture value from formalized markets.

A central argument of this chapter is that participation in GVCs is not a binary process but occurs along a continuum, ranging from deep informality to full integration into structured markets. Agro-food smallholders occupy different positions on this continuum based on their level of engagement with formal institutions, contractual arrangements, and financial markets. The study identifies key structural and institutional factors that influence this positioning, highlighting the persistence of informality as both a barrier to and a strategic adaptation within value chains.

Building on the conceptual and methodological foundations established in previous chapters, this section presents a detailed analysis of patterns of GVC participation, determinants of formalization, and upgrading mechanisms. It systematically explores how access to inputs, market linkages, and institutional frameworks influence agro-food smallholders' ability to move up the value chain. Additionally, the chapter examines the mediating role of the informal support ecosystem, which, while providing critical financial and social safety nets, may also reinforce cycles of low-value production and market exclusion.

To guide the analysis, the chapter repositions two key propositions:

- **Proposition 3:** Improved institutional quality is positively associated with reduced informality and increased upgrading among firms participating in GVCs.
- **Proposition 4:** Access to formal credit and markets mediates the relationship between GVC participation and value capture for informal actors

These propositions are grounded in institutional theory and the broader discourse on informality and development, providing a conceptual framework to guide the analysis.

The chapter is structured as follows: Section 5.1 provides the theoretical and conceptual foundation underpinning the analysis. Section 5.2 outlines the study's methodological approach, detailing the data collection and analytical techniques used to examine agro-food smallholders' participation in GVCs. Section 5.3 presents the findings, covering patterns of engagement, key institutional determinants, and the role of informal mechanisms in market participation. Section 5.4 tests the study's key propositions, evaluating the relationship between GVC participation, institutional support, and value capture. Section 5.5 offers a critical discussion of the results in relation to broader theoretical and empirical literature, while Section 5.6 concludes the chapter with key insights and policy implications. Through this analysis, the study sheds light on the structural constraints and strategic adaptations that shape informality in agricultural value chains, providing a nuanced understanding of how smallholders navigate the complex landscape of formal and informal economic systems

5.1 Theoretical and Conceptual Foundation

5.1.1 Informality and GVCs

Informality remains a defining feature of economic activity in developing countries, particularly in contexts where institutional frameworks are weak or inconsistent. As explored in Chapter Two, a substantial body of literature (Dannenberg, 2011; Chen, 2012; Soundararajan, 2016; Narula, 2019; Montalbano & Nenci, 2020; Ennen & Heilker, 2020; Jan, 2024) highlights that informality is not merely a residual phenomenon but often a deliberate and adaptive response to systemic constraints. These include bureaucratic inefficiencies, limited access to credit, and distrust in regulatory structures. Informal actors, rather than being excluded from markets, strategically engage with both formal and informal systems to mitigate risks and maximize economic opportunities.

In the context of GVCs, informality presents both constraints and opportunities. While informal actors typically operate in lower-value segments, where weak institutional support limits their ability to negotiate favorable terms, their reliance on flexible, low-cost production models and social networks provides them with resilience. The extent to which informal actors participate

in GVCs depends on a range of factors, including institutional quality, access to finance, and market linkages. Understanding these dynamics is crucial for assessing how informality shapes value capture outcomes within structured value chains.

5.1.2 GVC Participation

This study adopts a clear distinction between those who are integrated into GVCs and those who remain outside. Unlike the informality continuum explored in Chapter Four, which mapped varying levels of engagement with formal institutions, the focus here is on whether actors effectively participate in structured value chains or remain confined to alternative, often informal, market arrangements.

Economic actors engaged in GVCs benefit from formal market linkages, structured contracts, and access to higher-value trade networks. In contrast, those excluded from GVCs often rely on local markets, unstructured trade agreements, and informal support mechanisms. While informal actors may still contribute to global markets indirectly—through intermediaries or informal subcontracting arrangements—the absence of direct, structured participation limits their ability to upgrade, negotiate better trade terms, and capture greater economic value.

This approach aligns with institutional theory, which underscores the role of formal rules, informal norms, and economic behaviour in shaping market participation. Informal actors frequently depend on trust-based relationships and social capital to compensate for the absence of institutional support. However, without access to formalized contracts, financial services, and regulatory protections, their capacity to secure long-term economic benefits remains constrained. This reinforces the need to examine how structural barriers prevent actors from transitioning into higher-value market segments.

5.1.3 Institutional Quality and Value Capture

Institutional quality is a key determinant of persistent informality, GVC participation, and value capture. As established by the SEM path diagram in Chapter Four, the effectiveness of regulatory frameworks, contract enforcement mechanisms, and financial systems significantly influences market integration. However, in contexts where these institutions are weak or unreliable, informal actors frequently resort to alternative strategies, including reliance on

social networks, informal financing mechanisms, and trust-based trade relationships to sustain their businesses.

The empirical validation of predefined dimensions in Chapter Four highlights that formal regulatory compliance alone does not necessarily lead to improved market access or information access. Instead, the ability to participate in structured trade relationships and leverage social capital plays a more substantial role in determining the extent to which informal actors engage with GVCs. The study findings reinforce that while robust institutions facilitate GVC integration through predictable enforcement of contracts, streamlined financial access, and stable market linkages, their absence does not preclude participation. Rather, informal actors adapt by establishing flexible arrangements based on trust and reciprocity, substituting for the absence of strong formal institutions.

This dynamic reflects a hybrid model of economic organization, where informal and formal institutions coexist, shaping economic behaviour and market outcomes. On one hand, well-functioning formal institutions provide a stable environment for upgrading within GVCs, allowing actors to capture greater value through increased bargaining power and reduced transaction costs. On the other hand, in institutional environments characterized by high levels of bureaucracy, regulatory inconsistencies, and distrust, informal support ecosystems—such as farmer cooperatives, community-based lending schemes, and informal dispute resolution mechanisms—serve as critical substitutes, enabling continued economic participation despite formal institutional deficiencies.

The findings of this study underscore the need for a comprehensive understanding of how institutional quality mediates economic outcomes. While strengthening formal institutions remains an essential policy objective, interventions should also acknowledge and integrate the role of informal networks in facilitating market access and risk mitigation. This perspective challenges conventional approaches that treat informality as an obstacle to be eradicated and instead recognizes it as an adaptive response to institutional weaknesses. Addressing these gaps requires targeted reforms, including reducing regulatory burdens, improving contract enforcement, and fostering inclusive financial systems that do not exclude smallholders and informal enterprises from benefiting fully from GVC participation.

5.2 Study Methodology

This chapter builds on the mixed-methods approach detailed in Chapter 3. It utilizes the same dataset, combining quantitative survey data from 206 agro-food smallholders with qualitative insights from Focus Group Discussions (FGDs), to provide a comprehensive analysis of GVC participation and value capture. The analysis in this chapter is distinct from Chapter 4. While the previous chapter focused on the determinants of an actor's position on the formality continuum, this chapter specifically investigates the patterns of GVC engagement and the institutional factors that enable or constrain economic upgrading.

To systematically test the propositions related to this chapter (P3 and P4), the analysis will proceed as follows:

- First, **descriptive statistics** and **chi-square tests** will be used to examine the patterns of GVC participation, access to inputs, and market linkages across the different formality clusters.
- Second, the relationship between **institutional quality** (e.g., cooperative membership, contractual engagement) and GVC upgrading will be explored.
- Finally, **mediation regression analysis** will be employed to test the role of formal credit and market access in the relationship between GVC participation and value capture.

This integrated approach allows for a rigorous exploration of the factors shaping GVC engagement and offers insights into potential policy interventions to enhance smallholders' access to high-value markets.

5.3 Analysis of Findings

5.3.1 Patterns of GVC Participation

GVCs are complex networks of production, distribution, and consumption that span multiple countries, with value addition occurring at different stages before a product reaches its final market. In developing countries, GVC participation is often perceived as a pathway to economic growth, poverty alleviation, and productivity enhancement (Gereffi & Lee, 2016; Taglioni & Winkler, 2016). However, the nature of participation varies significantly across sectors and economic actors, reflecting disparities in market access, institutional quality, production capacity, and technological capabilities. Agro-food smallholders' engagement in GVCs is shaped by structural factors such as access to formal contracts, financing options, and quality certification requirements, which determine their positioning within the value chain

(Ponte et al., 2019). Understanding these dynamics requires distinguishing between backward and forward participation, which captures the dual role of agro-food smallholders as both input users and commodity suppliers in global production systems.

Backward and Forward Participation in GVCs

GVC participation is typically categorized into *backward* and *forward* linkages. Backward participation refers to a producer's reliance on imported inputs—such as seeds, fertilizers, pesticides, machinery, and knowledge transfer from international agribusiness firms—used in their production process (Antràs & Chor, 2013; Borin & Mancini, 2015). In agricultural GVCs, contract farming serves as a typical example of backward participation, where multinational corporations provide agro-food smallholders with inputs, technical assistance, and extension services in exchange for guaranteed supply agreements (Barrett et al., 2012; Swinnen & Kuijpers, 2019). While this arrangement facilitates agro-food smallholders' access to high-quality inputs, it also creates dependencies on external suppliers, exposing them to price volatility and contractual risks (Fold & Gough, 2008). For instance, price fluctuations in international markets or changes in contract terms by large agribusiness firms can reduce the profitability of agro-food smallholders, limiting their ability to reinvest in productivity-enhancing activities.

Conversely, forward participation refers to agro-food smallholders' integration into structured market systems through the sale of agricultural produce to domestic or international buyers (Ponte et al., 2019; Gereffi, Humphrey & Sturgeon, 2005). This type of participation occurs through direct sales to processing firms, wholesalers, supermarkets, or export markets. In many developing economies, however, forward participation remains constrained by several factors, including weak infrastructure, limited bargaining power, and stringent quality standards imposed by global buyers (Montalbano & Nenci, 2020). As a result, agro-food smallholders often resort to informal trade channels, such as selling through intermediaries or local markets, where price volatility and transaction uncertainties are high. This trend is particularly evident in Nigeria's agricultural sector, where many agro-food smallholders struggle to meet the certification requirements of large-scale food processors, thereby limiting their ability to engage in formalized GVCs (Narula, 2019).

Recent empirical research suggests that the depth of a country's engagement in GVCs is influenced by its relative balance of backward and forward participation (Borin & Mancini, 2021). Developing economies with high backward participation are typically net importers of

agricultural inputs, while those with high forward participation export a substantial portion of their agricultural commodities in raw or semi-processed form. However, in many cases, both forms of participation coexist, leading to what Baldwin & Lopez-Gonzalez (2015) describe as *import-to-export (I2E) linkages*, where agricultural producers simultaneously depend on imported inputs and engage in exports. This dynamic is particularly relevant in Nigeria's agricultural value chains, where agro-food smallholders rely on imported agrochemicals and machinery while exporting crops such as cocoa, sesame, and ginger.

The measurement of backward and forward participation remains a critical aspect of GVC analysis. According to Borin & Mancini (2019), standard approaches to GVC measurement often overestimate a country's backward dependence due to the assumption that all imported inputs are foreign value-added. A more accurate representation of GVC participation considers not only trade flows but also production linkages within national and regional markets. Recent studies using Inter-Country Input-Output (ICIO) tables have highlighted the importance of *two-sided participation*, where firms simultaneously engage in both upstream and downstream activities, rather than being purely forward- or backward-integrated (Antràs & Chor, 2021). This concept is particularly relevant for agro-food smallholders in developing economies, as their market participation is often fragmented across multiple channels, reflecting the hybrid nature of formal and informal trading systems.

Patterns of GVC Participation Among Agro-food smallholders in Igabi LGA

Understanding the patterns of GVC participation among agro-food smallholders in Igabi LGA requires a detailed examination of their access to farming inputs, the structure of their market transactions, and the extent to which they engage in formalized value chains. The data highlights key trends in agro-food smallholders' reliance on different input sources, challenges in accessing these resources, and the structural factors that shape their participation in GVCs.

A. Access to Farm Inputs:

The use of modern agricultural inputs is a fundamental prerequisite for participation in structured value chains, as it enhances productivity, ensures compliance with quality standards, and facilitates competitiveness in both local and international markets (Swinnen & Kuijpers, 2019). The data in Table 5.1 shows that fertilizers are the most widely used input, with 98.1% of agro-food smallholders applying them. Similarly, improved seedlings (94.7%) and pesticides/herbicides (93.2%) are common among agro-food smallholders across all formality levels. This widespread adoption suggests that most agro-food smallholders recognize the

importance of productivity-enhancing inputs, yet the extent of their integration into formal markets remains uneven.

Farming Input	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Pesticides/Herbicides	18 (8.7%)	86 (41.7%)	46 (22.3%)	42 (20.4%)	192 (93.2%)
Fertilizers	18 (8.7%)	91 (44.2%)	49 (23.8%)	44 (21.4%)	202 (98.1%)
Improved Seedlings	18 (8.7%)	86 (41.7%)	50 (24.3%)	41 (19.9%)	195 (94.7%)
Other Inputs	1 (0.5%)	7 (3.4%)	1 (0.5%)	1 (0.5%)	10 (4.9%)

Table 5.1: Farming Inputs Usage by Formality Level

Source: Author's analysis of survey data (2024)

Despite the high usage of inputs, the study indicates that the primary source of supply remains local markets, with 98.5% of agro-food smallholders procuring their inputs from these informal channels (see Table 5.2). This reliance on local markets suggests limited engagement with formal supply chains and structured agribusiness networks that could provide access to higher-quality inputs and technical support. Cooperatives play a secondary but significant role, supplying 25.2% of agro-food smallholders, particularly those in the moderately formal and highly formal categories. However, government programs (1.9%) and NGOs (8.7%) remain marginal sources, reflecting a gap in public-sector intervention in agricultural input distribution. Notably, imports account for only 1% of input sourcing, indicating that agro-food smallholders in Igabi LGA have minimal direct engagement with global agricultural supply chains.

Source of Farming Inputs	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Local Markets	18 (8.7%)	94 (45.6%)	48 (23.3%)	43 (20.9%)	203 (98.5%)
Government Programs	1 (0.5%)	0 (0.0%)	3 (1.5%)	0 (0.0%)	4 (1.9%)
NGOs	5 (2.4%)	0 (0.0%)	9 (4.4%)	4 (1.9%)	18 (8.7%)
Cooperatives	14 (6.8%)	1 (0.5%)	23 (11.2%)	14 (6.8%)	52 (25.2%)
Imports	0 (0.0%)	0 (0.0%)	2 (1.0%)	0 (0.0%)	2 (1.0%)
Other Sources	0 (0.0%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	1 (0.5%)

Table 5.2: Primary Sources of Farming Inputs by Formality Level

Source: Author's analysis of survey data (2024)

While input usage is high, significant challenges persist in accessing quality agricultural inputs, which limits agro-food smallholders' ability to integrate into structured GVCs. The most pervasive issue is the high cost of inputs, cited by 100% of respondents as presented in Table 5.3. This finding underscores the financial constraints that agro-food smallholders face, restricting their capacity to invest in productivity-enhancing technologies. The dominance of informal markets as the primary source of inputs suggests that agro-food smallholders may also be exposed to price fluctuations and exploitative pricing practices, further exacerbating cost barriers.

Beyond cost, quality concerns affect 64.6% of agro-food smallholders, highlighting a major constraint to meeting the stringent standards required for participation in structured value chains. Agro-food smallholders relying on informal markets often face difficulties in verifying input authenticity, leading to the risk of counterfeit or substandard products that undermine productivity and compliance with export requirements (Barrett et al., 2012). This issue is particularly critical for highly informal agro-food smallholders (32.5%), who have the least access to formal supply networks that could ensure product quality assurance.

Availability and transportation constraints, cited by 48.1% and 46.1% of agro-food smallholders, respectively, further hinder participation in structured markets. Limited availability of quality inputs forces agro-food smallholders to rely on unreliable supply networks, while high transportation costs increase the overall cost burden, reducing their competitiveness. These constraints disproportionately affect moderately informal and moderately formal agro-food smallholders, who are in transitional stages of formalization but still lack fully structured supply chain linkages.

Lastly, knowledge of input use is a challenge for 28.6% of respondents, particularly among highly formal and moderately formal agro-food smallholders. While this percentage appears lower than other barriers, it highlights the need for targeted extension services and training programs to enhance agro-food smallholders' technical capacity. Effective input utilization is essential for productivity gains, market access, and compliance with quality standards, all of which are critical for GVC integration.

Challenge	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
High Cost	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)
Availability	11 (5.3%)	28 (13.6%)	36 (17.5%)	24 (11.7%)	99 (48.1%)
Quality	12 (5.8%)	67 (32.5%)	25 (12.1%)	29 (14.1%)	133 (64.6%)
Transportation	10 (4.9%)	37 (18.0%)	26 (12.6%)	22 (10.7%)	95 (46.1%)
Knowledge of Use	13 (6.3%)	8 (3.9%)	25 (12.1%)	13 (6.3%)	59 (28.6%)

Table 5.3: Challenges in Accessing Farming Inputs by Formality Level

Source: Author's analysis of survey data (2024)

Overall, the findings highlight critical policy gaps and opportunities for enhancing agro-food smallholders' participation in GVCs. The minimal role of government programs (1.9%) and NGO interventions (8.7%) in input provision underscores the need for policy reforms aimed at improving access to subsidized, high-quality inputs. Expanding public-private partnerships (PPPs) in input distribution could help bridge this gap, ensuring that agro-food smallholders have reliable access to affordable and standardized inputs. Additionally, with 25.2% of agro-food smallholders sourcing inputs from cooperatives, strengthening these organizations presents a viable alternative to reliance on informal markets. Policies that incentivize cooperative membership, facilitate bulk purchasing, and establish structured agribusiness partnerships would enhance agro-food smallholders' competitiveness in formalized value chains by improving input affordability and accessibility.

High input costs and quality concerns emerge as the most pressing barriers to formalized market integration, necessitating a two-pronged policy response. First, financial interventions such as targeted subsidies and credit facilities could alleviate the financial burden on agro-food smallholders, increasing their capacity to procure essential inputs. Second, stricter enforcement of input quality standards is essential to eliminate counterfeit or substandard products that undermine productivity and competitiveness. Furthermore, knowledge gaps—particularly among more formalized agro-food smallholders—highlight the need for comprehensive training programs on input usage, with a focus on fertilizers, pesticides, and improved seedlings. Expanding agricultural extension services through government and non-state actors would ensure that agro-food smallholders maximize input efficiency, enhance productivity, and improve market competitiveness.

The dominance of local markets as the primary source of inputs and the limited engagement with structured supply chains point to weak linkages between agro-food smallholders and formal agribusiness firms. Strengthening contract farming models and integrating agro-food smallholders into structured procurement systems could improve access to standardized inputs, enhance compliance with quality standards, and create more stable market relationships. In conclusion, access to quality inputs is a fundamental determinant of agro-food smallholders' ability to participate in structured value chains. While input usage is widespread in Igabi LGA, barriers such as high costs, quality inconsistencies, supply constraints, and knowledge deficits continue to limit agro-food smallholders' capacity to integrate into formal GVCs. Addressing these issues requires a multifaceted policy approach that enhances institutional support, strengthens cooperative structures, enforces input quality regulations, and expands training initiatives to promote long-term sustainability and value chain competitiveness.

B. Structure of Market Transactions

This section presents a sophisticated and integrated analysis of the structure of market transactions among agro-food smallholders in Igabi LGA, focusing on sales channels, market barriers, enterprise linkages, and contractual arrangements. The findings reveal a fragmented market landscape where informal transactions dominate, limiting agro-food smallholders' ability to participate in structured value chains and secure stable market access. The analysis contextualizes these findings across different formality levels, highlighting key structural constraints that shape agro-food smallholders' market engagement.

Sales Channels and Market Fragmentation

The structure of market transactions among agro-food smallholders in Igabi LGA is largely influenced by their formality level, access to buyers, and ability to engage with structured value chains. The study found that the majority of agro-food smallholders rely on mixed farming, engaging in both subsistence and commercial production. However, market engagement remains uneven, with informal sales channels dominating transactions. Table 5.4 illustrates that **direct-to-consumer sales** are the most prevalent, utilized by **82.0%** of agro-food smallholders. While this channel offers immediate cash payments and avoids transaction costs associated with intermediaries, it reflects **limited integration into formalized GVC structures** and often exposes agro-food smallholders to price volatility and demand fluctuations. **Middlemen play a significant role in agricultural trade**, facilitating sales for **58.7%** of agro-food smallholders. Their role is particularly pronounced among highly informal and moderately

informal agro-food smallholders, reinforcing the persistence of informal market transactions where formal procurement structures are weak or inaccessible.

Formal market engagement remains **relatively low**, with only **34.0%** of agro-food smallholders selling directly to companies such as Olam and Tomato Jos. This limited participation suggests that while formal value chains exist, access is concentrated among highly formal and moderately formal agro-food smallholders, **indicating barriers to entry for agro-food smallholders**. Furthermore, **only 2.4%** of agro-food smallholders access faraway markets, reflecting geographical and logistical constraints that hinder broader market integration. These findings align with previous discussions on input access, where informal networks play a dominant role in sustaining agricultural production. Without structured engagement in formal value chains, smallholders remain dependent on unpredictable local markets, making it difficult to plan production and investments effectively.

Sales Channel	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Direct to Consumers	13 (6.3%)	87 (42.2%)	38 (18.4%)	31 (15.0%)	169 (82.0%)
Middlemen	13 (6.3%)	53 (25.7%)	28 (13.6%)	27 (13.1%)	121 (58.7%)
Faraway Markets	0 (0.0%)	0 (0.0%)	3 (1.5%)	2 (1.0%)	5 (2.4%)
Direct to Companies (e.g., Olam, Tomato Jos)	14 (6.8%)	1 (0.5%)	39 (18.9%)	16 (7.8%)	70 (34.0%)
Other Channels	0 (0.0%)	2 (1.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)

Table 5.4: Main Channels for Selling Produce by Formality Level

Source: Author's analysis of survey data (2024)

Barriers to Market Access

Despite varying levels of engagement, agro-food smallholders across all formality categories face significant barriers in accessing structured markets, reinforcing market segmentation and unequal participation in GVCs. As shown in Table 5.5, transportation costs emerge as the most critical constraint, affecting 89.3% of respondents. This is particularly severe for highly informal agro-food smallholders, whose reliance on informal market channels often necessitates expensive logistical arrangements, reducing their ability to scale up production.

The lack of market information (68.0%) further compounds the problem, preventing agro-food smallholders from making informed decisions regarding pricing, demand trends, and potential

buyers. This challenge disproportionately affects highly informal and moderately informal agro-food smallholders, who lack access to structured information networks, leaving them vulnerable to price fluctuations and opportunistic intermediaries. Low prices (62.1%) and payment delays (44.7%) present additional risks, making it difficult for agro-food smallholders to sustain production cycles. Payment delays, in particular, create liquidity constraints, limiting agro-food smallholders' ability to reinvest in production and adopt improved technologies.

Another critical barrier is quality standards (36.9%), which disproportionately affect moderately formal agro-food smallholders seeking to transition into higher-value market segments. The complexity of compliance with formal buyer requirements—including certification, grading, and traceability—excludes many smallholders from structured procurement systems. While export restrictions are minimal (1.0%), this likely reflects the limited engagement of agro-food smallholders in export-oriented GVCs, reinforcing the need for stronger policy interventions that facilitate integration into high-value markets.

Barrier	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Transportation Costs	17 (8.3%)	86 (41.7%)	40 (19.4%)	41 (19.9%)	184 (89.3%)
Lack of Market Information	10 (4.9%)	60 (29.1%)	37 (18.0%)	33 (16.0%)	140 (68.0%)
Low Prices	10 (4.9%)	61 (29.6%)	30 (14.6%)	27 (13.1%)	128 (62.1%)
Payment Delays	11 (5.3%)	33 (16.0%)	28 (13.6%)	20 (9.7%)	92 (44.7%)
Quality Standards	13 (6.3%)	20 (9.7%)	26 (12.6%)	17 (8.3%)	76 (36.9%)
Export Restrictions	0 (0.0%)	1 (0.5%)	1 (0.5%)	0 (0.0%)	2 (1.0%)

Table 5.5: Main Barriers to Market Access by Formality Level

Source: Author's analysis of survey data (2024)

Enterprise Linkages and Contractual Security

The absence of structured enterprise linkages further limits agro-food smallholders' participation in GVCs. Table 5.6 reveals that 69.4% of agro-food smallholders do not sell to or barter with enterprises, with highly informal agro-food smallholders representing the largest share (45.6%). The primary reasons for exclusion include a lack of information (83.2%), limited access to enterprises (62.9%), and insufficient production quantities (54.5%). These findings indicate that while formal market structures exist, most smallholders remain

disconnected due to systemic barriers that prevent them from scaling their operations and establishing long-term buyer relationships

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (No enterprise buyers)	0 (0.0%)	94 (45.6%)	12 (5.8%)	37 (18.0%)	143 (69.4%)
Yes (Has enterprise buyers)	18 (8.7%)	0 (0.0%)	38 (18.4%)	7 (3.4%)	63 (30.6%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.6: Enterprise Linkages and Reasons for Non-Engagement

Source: Author's analysis of survey data (2024)

Additionally, contractual agreements—an essential mechanism for securing stable market linkages—are largely absent among informal agro-food smallholders. Table 5.7 shows that only 25.7% of respondents reported having contractual arrangements with buyers, with the highest participation recorded among highly formal (8.7%) and moderately formal (15.5%) agro-food smallholders. This low level of formal contracting suggests that informal relationships still dominate agricultural trade, exposing agro-food smallholders to price fluctuations, inconsistent demand, and unfavorable bargaining terms. The data further reveals that contractual obligations (78.6%) are the most significant challenge for agro-food smallholders engaged in formal markets, followed by difficulties related to market information (63.6%), payment terms (59.2%), and certification costs (31.6%).

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not under contract)	0 (0.0%)	94 (45.6%)	18 (8.7%)	41 (19.9%)	153 (74.3%)
Yes (Under contract)	18 (8.7%)	0 (0.0%)	32 (15.5%)	3 (1.5%)	53 (25.7%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.7: Engagement in Contractual Agreements by Formality Level

Source: Author's analysis of survey data (2024)

Challenge	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Contractual Obligations	18 (8.7%)	69 (33.5%)	40 (19.4%)	35 (17.0%)	162 (78.6%)
Quality Standards	11 (5.3%)	52 (25.2%)	34 (16.5%)	25 (12.1%)	122 (59.2%)
Payment Terms	10 (4.9%)	59 (28.6%)	27 (13.1%)	26 (12.6%)	122 (59.2%)
Access to Market Information	14 (6.8%)	61 (29.6%)	32 (15.5%)	24 (11.7%)	131 (63.6%)
Certification Costs	2 (1.0%)	45 (21.8%)	5 (2.4%)	13 (6.3%)	65 (31.6%)

Table 5.8: Challenges of Formal Market Participation by Formality Level

Source: Author's analysis of survey data (2024)

These findings underscore the structural constraints that discourage formal market participation, reinforcing the earlier discussion on input access, where informal systems compensate for institutional deficiencies. The continued dominance of informal transactions and the absence of contract-based trade mechanisms suggest a weak institutional framework for enforcing agreements, ensuring price stability, and providing market security for agro-food smallholders. This raises critical concerns regarding market structure, access, and contractual security. For instance, the dominance of direct-to-consumer sales and middlemen highlights the continued fragmentation of market transactions, which limits smallholders' ability to capture value within formal supply chains. Strengthening formal procurement mechanisms like cooperative-based aggregation and contract farming models could improve market predictability and reduce dependence on intermediaries. Additionally, addressing logistical constraints, particularly transportation costs, is essential for enabling agro-food smallholders to expand their market reach beyond localized transactions.

Furthermore, the absence of structured enterprise linkages and the widespread lack of market information underscore the need for institutional interventions that improve agro-food smallholders' access to buyers, pricing intelligence, and contract-based arrangements. Expanding digital platforms for agricultural marketing, facilitating training programs on quality compliance, and promoting collective bargaining through farmer cooperatives can enhance the ability of smallholders to integrate into structured value chains.

The next subsection examines how these structural constraints impact actual GVC engagement and value capture.

C. Actual Engagement in Formalized Value Chains

The extent to which agro-food smallholders participate in formalized Global Value Chains (GVCs) is a key determinant of their ability to access structured markets, capture higher economic value, and upgrade within production systems. Unlike informal or fragmented market transactions, participation in GVCs requires compliance with quality standards, engagement in contractual agreements, and integration into structured procurement systems. However, as is often observed in developing economies, agro-food smallholders face significant barriers to participation due to institutional limitations, market asymmetries, financial constraints, and scale-related challenges (Gereffi & Lee, 2016; Swinnen & Kuijpers, 2019).

Within Igabi LGA, where informal trade mechanisms dominate agricultural transactions, assessing actual engagement in GVCs is critical for identifying the structural barriers that prevent smallholders from accessing high-value markets. This subsection examines the proportion of agro-food smallholders actively engaged in GVCs, their perceptions of the benefits and risks of formalized market participation, and the systemic factors influencing their ability to integrate into structured value chains. The findings reveal low levels of GVC participation, with engagement concentrated among agro-food smallholders with higher degrees of formality, while highly informal actors remain largely disconnected from structured global markets.

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not involved in GVCs)	13 (6.3%)	94 (45.6%)	42 (20.4%)	43 (20.9%)	192 (93.2%)
Yes (Involved in GVCs)	5 (2.4%)	0 (0.0%)	8 (3.9%)	1 (0.5%)	14 (6.8%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.9: Participation in Global Value Chains (GVCs) by Formality Level

Source: Author's analysis of survey data (2024)

The data presented in Table 5.9 illustrates the extent of farmer engagement in GVCs, revealing a stark gap between formal and informal actors. A striking 93.2% of respondents reported no involvement in GVCs, with highly informal agro-food smallholders (45.6%) making up the

largest proportion of those entirely excluded from structured global markets. Conversely, only 6.8% of agro-food smallholders reported active participation in GVCs, with engagement highest among highly formal (2.4%) and moderately formal (3.9%) agro-food smallholders.

The absence of participation among highly informal agro-food smallholders (0%) underscores the structural barriers limiting access to formalized value chains, reinforcing earlier findings on market fragmentation, heavy reliance on informal trading networks, and exclusion from high-value markets. Smallholders with lower formality levels often lack certification, stable market linkages, and production capacity necessary to meet the stringent requirements of structured supply chains.

Furthermore, as highlighted in the analysis of market transactions (Section 5.3.2), the dominance of middlemen and localized informal trading systems reinforces the exclusion of smallholders from formal export-oriented markets. This aligns with broader research showing that agro-food smallholders in developing economies struggle to participate in GVCs due to financial, regulatory, and logistical constraints (Swinnen & Kuijpers, 2019; Montalbano & Nenci, 2020).

Perception	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Very Beneficial	5 (2.4%)	2 (1.0%)	3 (1.5%)	1 (0.5%)	11 (5.3%)
Somewhat Beneficial	6 (2.9%)	5 (2.4%)	7 (3.4%)	4 (1.9%)	22 (10.7%)
Neutral	7 (3.4%)	86 (41.7%)	38 (18.4%)	39 (18.9%)	170 (82.5%)
Somewhat Detrimental	0 (0.0%)	1 (0.5%)	2 (1.0%)	0 (0.0%)	3 (1.5%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.10: Perceived Value of GVC Participation by Formality Level

Source: Author's analysis of survey data (2024)

Despite the low levels of actual participation, analyzing agro-food smallholders' perceptions of GVC engagement provides insights into their awareness, attitudes, and expectations regarding formalized value chains. As shown in Table 5.10, a significant 82.5% of respondents expressed a neutral stance, indicating limited awareness, minimal exposure, or perceived irrelevance of GVCs to their farming operations.

Among those who expressed a definitive view, only 5.3% considered GVCs highly beneficial, with optimism highest among highly formal agro-food smallholders. This suggests that agro-food smallholders with stronger institutional linkages and structured market access recognize the advantages of GVC participation, such as:

- i. Higher income potential
- ii. Greater price stability
- iii. Access to premium markets

However, only 10.7% of respondents found GVCs somewhat beneficial, further emphasizing the lack of exposure or tangible benefits for most smallholders.

Interestingly, 1.5% of agro-food smallholders viewed GVCs as somewhat detrimental, possibly reflecting concerns about:

- i. Stringent quality standards
- ii. Contract enforcement challenges
- iii. Dependence on formal buyers

These findings underscore the trade-offs associated with formalization, where some agro-food smallholders fear loss of autonomy, delayed payments, and additional regulatory burdens when engaging in structured value chains. The lack of enthusiasm among highly informal agro-food

smallholders (only 3.4% perceiving GVCs as beneficial) suggests deep-rooted skepticism and exclusion from formal market networks.

The findings reinforce previous discussions on market fragmentation, input access challenges, and contractual limitations, illustrating why agro-food smallholders in Igabi LGA remain largely disconnected from GVCs. The overwhelming neutrality towards GVCs suggests a lack of structured engagement opportunities, where smallholders have minimal exposure to formalized supply chains, compliance standards, or structured market agreements.

Several structural constraints emerge as key impediments to GVC participation:

1. **Limited Institutional Linkages** – The absence of cooperatives, aggregators, or structured procurement mechanisms prevents smallholders from establishing stable relationships with formal buyers.
2. **Market Access Gaps** – Low levels of contract farming and direct sales to agribusiness firms reinforce dependency on middlemen, limiting price negotiation power.
3. **Lack of Awareness and Information** – Smallholders remain largely unaware of how to access and benefit from GVCs, leading to low engagement despite potential opportunities.
4. **Stringent Entry Barriers** – Compliance with grading, certification, and traceability requirements poses a challenge for informal agro-food smallholders with limited capacity to meet formal standards.

These constraints reinforce the dominance of informal trade mechanisms and suggest that without targeted interventions, agro-food smallholders will remain excluded from structured market opportunities.

Having examined the patterns of GVC participation (focusing on access to farm inputs, the structure of market transactions, and actual engagement in formalized value chains), the next sections will shift towards analyzing the determinants of GVC participation and its implications for value capture. A key area of focus will be assessing whether improved institutional quality is positively correlated with reduced informality and increased upgrading among firms engaged in GVCs. Additionally, the study will explore the mediating role of access to formal credit and markets in shaping the relationship between GVC participation and value capture for informal actors. This analysis, aligned with the study's third and fourth propositions, will provide deeper insights into the structural and institutional factors influencing agro-food smallholders' ability to integrate into high-value market systems. By unpacking these relationships, the study aims

to offer an empirically grounded understanding of how policy interventions, market access dynamics, and financial mechanisms interact to shape outcomes for agro-food smallholders along the formal-informal continuum.

5.3.2 Determinants of GVC Participation

This subsection examines the key drivers influencing agro-food smallholders' participation in Global Value Chains (GVCs), focusing on three critical dimensions. First, it explores institutional quality and the formalization-participation nexus, assessing the role of regulatory frameworks, contract enforcement mechanisms, and governance structures in reducing informality and enabling market entry. Understanding how institutional quality shapes agro-food smallholders' ability to transition into structured value chains is essential for identifying policy gaps and structural barriers to formalization.

Second, the analysis considers the role of informal support ecosystems in facilitating or constraining GVC participation. Given the prevalence of trust-based transactions and social networks in informal economies, this section evaluates how informal arrangements—such as farmer cooperatives, traditional credit systems, and community-based market linkages—serve as substitutes or complements to formal institutional mechanisms.

Finally, the study investigates the role of credit and market access in driving GVC participation, analyzing whether access to formal financial services and structured market opportunities acts as a catalyst for deeper engagement in high-value chains. Given that limited access to credit and market linkages often constrains agro-food smallholders from upgrading within GVCs, this section evaluates the extent to which these factors shape participation patterns and economic outcomes. Through this comprehensive approach, the study provides empirical insights into the structural and institutional factors determining agro-food smallholders' integration into formalized value chains.

A. Institutional Quality and the Formalization-Participation Nexus The ability of agro-food smallholders to participate in GVCs is inextricably linked to the broader institutional environment that governs market access, contract enforcement, and regulatory compliance. Institutional quality plays a pivotal role in shaping economic behaviour, influencing the extent to which agro-food smallholders transition from informal transactions to structured, high-value market engagements. In contexts where formal institutions are weak, fragmented, or inaccessible, informal actors often rely on alternative governance mechanisms such as social networks, trust-based agreements, and community enforcement structures. However, while

these informal arrangements provide short-term stability, they often limit scalability, reduce bargaining power, and constrain opportunities for long-term upgrading within GVCs.

This subsection examines the interplay between **regulatory frameworks, contract enforcement mechanisms, and governance structures** in facilitating or hindering agro-food smallholders' entry into GVCs. It analyzes the extent to which improved institutional quality reduces informality and fosters greater participation in structured value chains. Furthermore, it explores how institutional gaps—such as regulatory inconsistencies, inadequate legal protections, and high formalization costs—create barriers to entry, reinforcing the persistence of informal trade mechanisms. By evaluating the relationship between formalization and GVC engagement, this section provides critical insights into the structural conditions necessary for enhancing agro-food smallholders' market participation and improving value capture within formalized supply chains

Agro-food smallholders' Cooperatives and Institutional Linkages

Institutional quality plays a fundamental role in shaping agro-food smallholders' ability to transition from informal to structured value chains, and collective organization, particularly through farmer cooperatives, emerges as a key enabler of market access like GVC participation. As illustrated in Table 5.11, membership in cooperatives is significantly higher among highly formal and moderately formal agro-food smallholders, while highly informal agro-food smallholders exhibit the lowest participation rates.

Membership Status	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not a member)	7 (3.4%)	88 (42.7%)	33 (16.0%)	31 (15.0%)	159 (77.2%)
Yes (Member)	11 (5.3%)	6 (2.9%)	17 (8.3%)	13 (6.3%)	47 (22.8%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.11: Membership in Farmer Cooperatives by Formality Level

Source: Author's analysis of survey data (2024)

These cooperatives serve as essential platforms for agro-food smallholders to access structured markets, negotiate better prices, benefit from economies of scale, and comply with regulatory standards. The strong correlation between cooperative membership and formality level suggests that as agro-food smallholders integrate into formal market structures, they recognize the strategic benefits of collective action. This aligns with the validated dimensions in Chapter Four, where formal exchange arrangements were found to be a significant predictor of market access and upgrading opportunities in structured value chains.

The disparity in cooperative membership across formality levels can be attributed to several interrelated factors. First, agro-food smallholders operating in more formalized settings often possess higher levels of awareness and information about the existence and benefits of cooperatives. Their proximity to structured markets and engagement with formal institutions enhance their likelihood of participating in such organizations. Second, formal actors generally have better access to resources, financial capital, and knowledge, which lowers the barriers to cooperative engagement. This is further supported by statistical findings from Chapter Four, which highlight that formalization is positively associated with improved institutional trust and reduced market frictions, thereby increasing agro-food smallholders' willingness to engage in collective structures. However, for highly informal agro-food smallholders, the lack of trust in institutional frameworks, coupled with financial constraints and limited exposure to cooperative models, perpetuates their exclusion from these potentially transformative networks.

Despite the evident advantages of cooperative membership, the data indicates that 77.2% of respondents (predominantly highly informal agro-food smallholders) are not part of any farmer group. This exclusion limits their access to collective bargaining mechanisms, technical support, and structured procurement channels, thereby reinforcing informality in market participation. The findings align with broader research emphasizing that cooperatives play a critical role in reducing transaction costs, mitigating risks, and providing technical assistance to help agro-food smallholders meet GVC standards (Ponte et al., 2019). However, persistent institutional gaps—particularly in accessibility, awareness, and trust in formal organizational structures—continue to hinder cooperative participation among informal agro-food smallholders. This reinforces the argument that while cooperatives offer a viable pathway for integration into structured value chains, targeted institutional interventions are required to bridge participation gaps and extend the benefits of collective action to marginalized farming groups.

The implications of these findings are twofold. First, enhancing institutional quality, through regulatory reforms, capacity-building initiatives, and improved access to cooperative networks, could facilitate greater participation in formalized market structures. Second, addressing the structural barriers preventing informal agro-food smallholders from joining cooperatives like information asymmetry, financial constraints, and distrust in formal institutions, could significantly reduce informality and create more inclusive pathways for agro-food smallholders to engage in high-value markets. By strengthening collective organization mechanisms and fostering an enabling institutional environment, agro-food smallholders in Igabi LGA can improve their market positioning, enhance value capture, and accelerate their transition into structured GVCs.

Contractual Engagement and Enterprise Linkages

A key dimension of institutional quality in facilitating GVC participation is the extent to which agro-food smallholders engage in formal contractual agreements and structured partnerships with enterprises. Table 5.7 illustrates that a significant majority of agro-food smallholders operate without legally binding agreements, with highly formal agro-food smallholders exhibiting the highest levels of contractual engagement, while highly informal agro-food smallholders overwhelmingly depend on ad-hoc, trust-based transactions. The absence of formal contracting exacerbates market volatility, exposes agro-food smallholders to price fluctuations and payment delays, and limits their access to high-value supply chains.

Enterprise linkages further highlight the role of institutional quality in shaping market participation. Table 5.6 reveals that only a small proportion of agro-food smallholders engage in structured partnerships with enterprises, with participation concentrated among more formalized agro-food smallholders. The limited presence of informal agro-food smallholders in these linkages suggests that regulatory barriers—such as certification requirements, contract enforcement risks, and the high cost of formalization—constrain their ability to transition into structured supply chains. These findings underscore the dual challenge of weak regulatory enforcement and the limited capacity of smallholders to meet the stringent requirements imposed by agribusiness firms and export-oriented markets.

Empirical evidence suggests that contractual security and enterprise linkages are not merely individual farmer decisions but are deeply influenced by broader institutional conditions. First, access to legal protections plays a pivotal role in determining engagement in formal contracts. Highly formal agro-food smallholders, benefiting from stronger institutional support, are

significantly more likely to secure enforceable agreements. In contrast, highly informal agro-food smallholders—who lack confidence in legal enforcement mechanisms—avoid formal contracts and rely on informal trade relationships, reinforcing their exclusion from structured markets. The high cost of legal recourse further discourages smallholders from seeking contractual protection, making them more vulnerable to opportunistic buyers and price manipulation.

Second, information asymmetry (cited by 83.2% of total respondents across formality level) perpetuates informality in market participation. Agro-food smallholders with limited access to market intelligence like price trends, buyer requirements, and contract terms, struggle to assess the benefits and risks of formal agreements. The data suggest that highly informal agro-food smallholders (85 out of 94), who overwhelmingly lack structured enterprise partnerships, are often excluded from critical market information channels, leaving them vulnerable to exploitative trade practices. In contrast, agro-food smallholders with stronger institutional linkages (often through cooperatives or government-supported initiatives) have greater access to reliable market insights, enabling them to negotiate better terms and integrate into structured value chains more effectively.

Third, transaction costs associated with formalization serve as a major barrier to enterprise linkages. Certification requirements, compliance costs, and administrative burdens disproportionately impact agro-food smallholders, particularly those at lower levels of formality. The data indicate that highly formal agro-food smallholders have significantly higher rates of participation in structured enterprise relationships, while highly informal agro-food smallholders are almost entirely absent from such partnerships. This suggests that without targeted interventions like subsidized certification programs, simplified contract processes, and institutional guarantees, smallholders will remain excluded from high-value markets. Addressing these institutional constraints is essential for reducing informality, enhancing contractual security, and fostering greater smallholder integration into structured GVCs.

Government Support

The ability of agro-food smallholders to transition from informal to structured markets is significantly influenced by access to institutional support, which often requires certain forms

of registration, financial documentation, or bank account ownership. Institutional mechanisms, including government programs, financial support schemes, and regulatory frameworks, play a crucial role in enabling market participation and ensuring smallholders can meet the formal requirements of structured value chains. However, the extent to which agro-food smallholders are aware of and benefit from such institutional support varies widely across formality levels, reflecting deeper structural barriers that perpetuate informality.

As shown in Table 5.11, only 35.9% of respondents are aware of government agricultural policies affecting their farming activities, while a substantial 64.1% remain uninformed. The lack of awareness is most pronounced among highly informal agro-food smallholders, with 79 out of 94 respondents (84%) reporting no knowledge of relevant policies. This information gap significantly limits agro-food smallholders' ability to leverage existing government interventions aimed at enhancing market participation. Furthermore, even among those aware of government support programs, actual participation remains low. Only 5.8% of agro-food smallholders have accessed financial support such as loans or grants, while 8.7% have benefited from market access facilitation. These findings underscore critical deficiencies in the institutional support landscape, particularly in areas most crucial for strengthening smallholders' competitiveness in GVCs—access to finance, improved infrastructure, and structured market linkages.

Awareness Status	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not aware)	3 (1.5%)	79 (38.3%)	27 (13.1%)	23 (11.2%)	132 (64.1%)
Yes (Aware)	15 (7.3%)	15 (7.3%)	23 (11.2%)	21 (10.2%)	74 (35.9%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.12: Awareness of Government Agricultural Policies by Formality Level

Source: Author's analysis of survey data (2024)

Beyond awareness and access to support, local governance structures and regulatory barriers also shape agro-food smallholders' market engagement. While 21.4% of respondents perceive local institutions like **agricultural laws, trade regulations, and customary governance structures** as beneficial to their farming activities, a significant proportion (61.2%) remains neutral. This neutrality suggests that existing institutional frameworks neither actively facilitate market access nor significantly enhance smallholders' business environments. In practice, this

translates to weak enforcement of policies designed to support agro-food smallholders and a lack of targeted interventions that directly address their needs.

Barrier	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Lack of Information	13 (6.3%)	70 (34.0%)	30 (14.6%)	27 (13.1%)	140 (68.0%)
Complicated Procedures	11 (5.3%)	44 (21.4%)	30 (14.6%)	24 (11.7%)	109 (52.9%)
Corruption	15 (7.3%)	79 (38.3%)	45 (21.8%)	42 (20.4%)	181 (87.9%)
Ineligibility	8 (3.9%)	42 (20.4%)	19 (9.2%)	22 (10.7%)	91 (44.2%)
Lack of Resources in Area	13 (6.3%)	41 (19.9%)	23 (11.2%)	19 (9.2%)	96 (46.6%)
No Barrier	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.5%)	1 (0.5%)

Table 5.13: Barriers to Accessing Government Support by Formality Level

Source: Author's analysis of survey data (2024)

Barriers to accessing government support further illustrate the institutional constraints limiting smallholders' participation in structured value chains. As shown in Table 5.13, corruption (87.9%) is the most frequently cited obstacle, followed by lack of information (68.0%) and complicated application procedures (52.9%). These barriers disproportionately affect highly informal and moderately informal agro-food smallholders, reinforcing their exclusion from formal agricultural support programs. The high prevalence of corruption and bureaucratic inefficiencies suggests that even when institutional support mechanisms exist, they are often inaccessible to the agro-food smallholders who need them the most. Ineligibility for support programs (44.2%) and the unavailability of resources in agro-food smallholders' localities (46.6%) further highlight the systemic constraints that hinder institutional effectiveness. These findings reinforce the argument that without targeted reforms—such as streamlined application processes, anti-corruption measures, and localized support initiatives—smallholders will continue to rely on informal networks rather than formal institutions, thereby limiting their capacity to integrate into structured agricultural value chains.

Regulatory Compliance and Perceived Institutional Barriers

The role of regulatory frameworks in shaping agro-food smallholders' market participation cannot be overstated. Institutional quality, measured through agro-food smallholders'

engagement with compliance mechanisms, perceptions of regulatory effectiveness, and the burden of formalization, plays a decisive role in determining whether smallholders transition into structured value chains or remain in informal market arrangements. Regulatory compliance serves as a crucial proxy for institutional quality because it reflects the extent to which agro-food smallholders believe that engaging with formal rules and regulations affects their operations. **Positive perceptions suggest that agro-food smallholders see value in compliance, indicating that institutions are perceived as supportive and effective.** Conversely, negative or indifferent perceptions may signal institutional weaknesses, such as cumbersome bureaucratic processes, corruption, high compliance costs, or a disconnect between regulation and tangible benefits. These perceptions are not just reflections of individual experiences but provide insights into the broader structural barriers that influence agro-food smallholders' positioning on the informality continuum.

Perception	Highly Formal (n=17)	Highly Informal (n=91)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=202)
Significantly Positive	8 (4.0%)	5 (2.5%)	7 (3.5%)	6 (3.0%)	26 (12.9%)
Moderately Positive	3 (1.5%)	16 (7.9%)	18 (8.9%)	11 (5.4%)	48 (23.8%)
Neutral	6 (3.0%)	69 (34.2%)	25 (12.4%)	26 (12.9%)	126 (62.4%)
Moderately Negative	0 (0.0%)	1 (0.5%)	0 (0.0%)	1 (0.5%)	2 (1.0%)
Total	17 (8.4%)	91 (45.0%)	50 (24.8%)	44 (21.8%)	202 (100.0%)

Table 5.14: Perceived Impact of Regulatory Compliance by Formality Level

Note: N=202 as 4 respondents did not provide an answer to this question.

Source: Author's analysis of survey data (2024)

As shown in Table 5.14, 62.4% of respondents adopt a neutral stance on regulatory compliance, suggesting that many agro-food smallholders do not perceive formal regulations as having a substantial impact on their operations. This widespread neutrality may stem from several institutional deficiencies, including weak enforcement mechanisms, a lack of awareness regarding compliance benefits, or the perception that regulatory costs outweigh potential economic gains.

However, a closer examination of the data highlights significant variation across formality levels. Agro-food smallholders with higher formality levels are more likely to view compliance positively. Among highly formal agro-food smallholders, 8 out of 17 perceive compliance as significantly beneficial, compared to only 5 out of 94 highly informal agro-food smallholders. This suggests an "**experience effect**," where agro-food smallholders engaged in structured markets, particularly those participating in GVCs, recognize the value of compliance in securing stable market access, premium pricing, and long-term buyer relationships.

In contrast, highly informal agro-food smallholders, who predominantly operate in fragmented and unregulated markets, often perceive compliance as an unnecessary burden, given the lack of tangible benefits associated with formalization. A farmer who had transitioned from informal to formalized market participation explained:

"At first, the paperwork and inspections were frustrating, but once I started selling regularly, I realized I no longer had to worry about finding buyers or negotiating prices every season."

This statement reinforces the argument that while regulatory compliance may initially appear burdensome, its long-term advantages—such as predictable income streams, reduced transaction uncertainty, and improved bargaining power—become evident once agro-food smallholders integrate into formal value chains. The fact that only a negligible percentage of respondents perceive compliance negatively suggests that reluctance towards formalization is not necessarily due to outright opposition, but rather to a lack of exposure to its benefits.

While compliance offers advantages for those integrated into formal markets, structural barriers prevent many agro-food smallholders from transitioning beyond informal trade. Table 5.13 highlights the most frequently cited barriers to accessing government support, reinforcing the argument that weak institutional quality perpetuates informality. Corruption (87.9%) is overwhelmingly identified as the leading constraint, followed by lack of information (68.0%) and complicated administrative procedures (52.9%). These barriers disproportionately affect highly informal and moderately informal agro-food smallholders, who are already excluded from structured enterprise relationships and formal financing mechanisms.

Moreover, the issue of ineligibility (44.2%) suggests a fundamental misalignment between policy frameworks and the realities of smallholder farming. Many government programs impose rigid eligibility criteria—such as proof of land ownership, business registration, or

collateral for credit—which agro-food smallholders struggle to meet. This reinforces a cycle in which informal agro-food smallholders remain excluded from institutional support, limiting their ability to transition into structured value chains.

One farmer expressed frustration with the bureaucratic hurdles, stating: *"I don't see any reason to register my business when nothing changes. I still have to struggle for inputs, and buyers don't care if I have papers or not."*

This underscores a fundamental disconnect between regulatory intent and practical implementation. While formalization is often promoted as a pathway to greater market stability, the lack of complementary institutional support like streamlined administrative processes, financial inclusion mechanisms, and enforcement of fair trade practices means that many agro-food smallholders perceive regulatory engagement as costly and ineffective.

Implications for Formalization and Market Participation

The cumulative impact of these institutional barriers is reflected in agro-food smallholders' plans for formalization. Surprisingly, 58.3% of respondents expressed an intention to formalize their farming operations, with the highest percentage observed among highly informal agro-food smallholders (32.5%). This finding suggests a recognition of the benefits of formalization, despite widespread challenges in accessing institutional support. It also aligns with the notion that agro-food smallholders engaging in mixed or commercial farming, rather than purely subsistence agriculture, are more likely to pursue formalization as they recognize its advantages through direct experience with market integration.

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not planning to formalize)	10 (4.9%)	27 (13.1%)	30 (14.6%)	19 (9.2%)	86 (41.7%)
Yes (Planning to formalize)	8 (3.9%)	67 (32.5%)	20 (9.7%)	25 (12.1%)	120 (58.3%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.15: Plans to Formalize Farming Operations by Formality Level

Source: Author's analysis of survey data (2024)

The strong intent to formalize among highly informal agro-food smallholders challenges the assumption that informality is always a preferred state. Instead, it suggests that many agro-food

smallholders remain informal not by choice but due to structural barriers that make formalization costly or impractical. Addressing these barriers—whether through improved policy communication, streamlined administrative processes, or greater institutional accountability—would be crucial in enabling smallholders to transition into structured market systems. Moreover, improving financial inclusion, particularly access to credit and market-based incentives, could serve as a key catalyst for translating formalization intent into actual participation in GVCs.

In sum, institutional quality plays a decisive role in shaping smallholders' engagement with formalized value chains. While many agro-food smallholders recognize the potential benefits of transitioning from informal to structured markets, persistent institutional challenges (ranging from poor policy awareness to bureaucratic inefficiencies and corruption), continue to limit their ability to capitalize on available support mechanisms. Strengthening institutional frameworks, ensuring more transparent and accessible government programs, and improving farmer education on the benefits of formalization are critical for fostering greater participation in GVCs and enhancing smallholder competitiveness in structured agricultural markets.

B. The Role of the Informal Support Ecosystem

As established in Chapter 4, the informal support ecosystem (ISE)—comprising informal credit, information networks, and trust-based relationships—serves as a critical substitute for weak or inaccessible formal institutions. While the ISE provides essential resilience, its role in the context of GVC participation is dual-edged. It can inadvertently reinforce the **'Informality Trap'** by reducing the perceived need for formalization, thereby limiting actors' ability to upgrade and integrate into higher-value chains. The reliance on informal financial networks highlights a fundamental gap in access to formal credit and structured financing. Agro-food smallholders consistently emphasized that informal credit mechanisms, such as rotating savings schemes (*esusu*), community lending groups, and trust-based borrowing, offer a far more predictable and accessible alternative to banks and microfinance institutions. A farmer in Igabi LGA explained:

"If I need money for my farm, I go meet my brother or go to our contribution money. If I waka go bank, dem go ask me paper wey I no get. But with baturiya, I fit take small money and pay small small."

This reliance on informal credit underscores the institutional constraints preventing agro-food smallholders from transitioning to formal financing, including stringent collateral

requirements, high-interest rates, and bureaucratic lending procedures. The persistence of informal credit systems reinforces existing market structures, where smallholders transact primarily through unregulated trade relationships rather than structured enterprise partnerships. Consequently, while these informal mechanisms provide immediate liquidity and flexibility, they also deter agro-food smallholders from engaging with formal financial institutions, further entrenching informality.

Beyond financial support, informal networks serve as vital platforms for knowledge transfer, production coordination, and market access. In the absence of reliable government extension services, agro-food smallholders depend on peer learning, mentorship arrangements, and local farmer associations to navigate agricultural challenges. The *Kangimi Agro-food smallholders' Association*, for instance, has become an indispensable conduit for sharing best practices, negotiating better prices with buyers, and collectively responding to market shifts. One member of the association noted:

"We dey help each other know wetin dey work. If price go rise, we fit hear before e happen. If one person try new seed and e work, we go sabi."

This informal exchange of knowledge allows agro-food smallholders to adapt quickly to price fluctuations and input shortages. However, while these networks facilitate resilience, they also reinforce a cycle of dependence on traditional farming methods and local market linkages. Without access to structured training, certification programs, or research-driven innovations, informal agro-food smallholders are more likely to adopt suboptimal production techniques that limit their potential for upgrading within GVCs.

Trust-Based Transactions and Market Participation

Trust remains the foundation of informal economic transactions in Kaduna State. In the absence of enforceable contracts or legal protections, agro-food smallholders regulate market relationships through social reputation and community-based accountability. The *baturiya* credit system, for example, thrives because borrowers understand that defaulting on a loan carries severe social consequences, including ostracization from the community. This informal enforcement mechanism strengthens reciprocal economic arrangements, ensuring that financial support remains accessible without the rigidity of formalized lending structures.

Mentorship and apprenticeship programs further demonstrate the embedded role of trust in shaping agricultural knowledge and skill transfer. Many agro-food smallholders in Igabi LGA acquire expertise through family-based training or farmer cooperatives, rather than

institutionalized extension programs. These informal mentorship structures significantly lower entry barriers for aspiring agro-food smallholders, equipping them with essential production techniques, market strategies, and risk management practices without requiring formal credentials or government intervention. However, as with informal credit systems, the reliance on trust-based transactions limits scalability. Agro-food smallholders operating within these networks often find it difficult to transition into structured contractual agreements or high-value supply chains, where formalized quality standards and traceability requirements necessitate regulatory compliance.

The significance of trust-based relationships is further evident in agro-food smallholders' cooperative membership patterns, as shown in Table 5.11 presented earlier. The data in the table reveals a clear correlation between formality levels and cooperative participation. Highly informal agro-food smallholders report the lowest rates of cooperative membership (2.9%), reflecting their continued reliance on independent, trust-based transactions. Conversely, highly formal and moderately formal agro-food smallholders exhibit higher rates of participation, suggesting that as agro-food smallholders move toward formalization, they begin to recognize the strategic advantages of collective action. Cooperatives provide structured pathways for bulk purchasing, collective bargaining, and improved market access, offering a clear incentive for agro-food smallholders to engage in more formalized market arrangements. However, the low overall membership rate (22.8%) suggests that even among formalizing agro-food smallholders, institutional distrust and bureaucratic barriers may hinder broader cooperative participation.

Overall, the findings reinforce the central proposition that institutional weaknesses, manifested in weak regulatory enforcement, limited access to credit, and exclusionary government programs, sustain the dominance of informal support networks. The informal support ecosystem offers immediate relief and economic security but is not structured for long-term upgrading or market integration. As such, while informal networks provide resilience in the face of institutional failures, they simultaneously discourage agro-food smallholders from engaging in the formalization processes necessary for GVC participation, leading to ***“informality trap”***.

The *Informality Trap* arises when agro-food smallholders become locked into informal exchanges and production systems due to the inaccessibility, inefficiency, or outright exclusionary nature of formal institutions. While informal support networks, including trust-

based credit mechanisms, informal cooperatives, and community-based trading arrangements serve as vital safety nets, their very existence reduces the incentive for smallholders to engage with formal credit markets, structured procurement systems, or regulatory frameworks. This results in an economic environment where informality is not merely a *choice* but a *strategic adaptation* to institutional deficiencies.

Several reinforcing mechanisms sustain this trap. First, weak contract enforcement and regulatory inconsistencies discourage smallholders from entering formalized agreements with agribusiness firms, financial institutions, or government programs. Agro-food smallholders perceive these arrangements as unreliable or bureaucratically cumbersome, opting instead for informal trading systems where transactions are based on social capital rather than legal guarantees. While this approach reduces immediate transaction costs, it simultaneously limits their ability to secure stable, long-term market access.

Second, exclusion from formal credit markets forces agro-food smallholders to rely on community savings groups or informal lenders, whose lending terms are often less predictable and offer smaller capital injections. This financial constraint prevents investment in productivity-enhancing technologies, mechanization, or improved inputs - all of which are critical for upgrading within GVCs. Without access to formal financing, agro-food smallholders struggle to meet the quality standards and production volumes required by structured value chains, reinforcing their marginalization from high-value markets.

Third, informal information-sharing networks, though effective in diffusing local knowledge, can limit exposure to modern agricultural innovations and best practices. Agro-food smallholders embedded in these networks primarily receive experiential knowledge rather than scientifically validated techniques, creating a gap in technical skills necessary for compliance with global production standards. This lack of structured training perpetuates low productivity and market exclusion, as informal agro-food smallholders remain disconnected from capacity-building initiatives that could enhance their competitiveness.

The persistence of the *Informality Trap* presents a significant policy challenge, as it entrenches structural inequalities within agricultural markets and limits the potential for agro-food smallholders to engage in higher-value economic activities. Informality sustains a fragmented agricultural system where smallholders operate at the periphery of formal markets, unable to leverage economies of scale, benefit from secure pricing mechanisms, or access structured value chains. This has far-reaching implications for rural development, poverty alleviation, and the overall competitiveness of the agricultural sector.

For policymakers, breaking the *Informality Trap* requires a dual approach: strengthening formal institutions to offer real economic advantages while ensuring that formal services are more accessible, adaptive, and responsive to the realities of informal actors. Rather than enforcing a rigid transition from informality to formalization, the goal should be to expand the reach of formal institutions in ways that enhance service delivery to informal agro-food smallholders *where they are*. This means designing policies that acknowledge the strengths of existing informal networks while integrating them into broader agricultural support frameworks without imposing prohibitive compliance costs or administrative burdens.

A more effective strategy involves embedding formal mechanisms within informal structures to improve access to critical resources such as finance, extension services, market linkages, and legal protections. For example, cooperative models that accommodate varying levels of formality can act as conduits for government-backed agricultural programs, allowing informal agro-food smallholders to benefit from subsidized inputs, credit facilities, and training without requiring immediate, full-scale formalization. Similarly, mobile-based financial solutions and decentralized certification processes can enable smallholders to engage with formal credit markets and structured value chains without disrupting their existing trade practices.

C. The Role of Credit and Market Access in Facilitating GVC Participation

Access to formal credit and structured markets is widely recognized as a critical determinant of agro-food smallholders' ability to participate in high-value Global Value Chains (GVCs). In developing economies, financial constraints and weak market linkages often act as structural barriers that prevent informal actors from scaling their operations, meeting quality standards, and integrating into competitive supply chains. While informal financing mechanisms like community savings groups and trust-based lending offer short-term liquidity, they lack the scale and stability required for sustained upgrading. Similarly, limited access to structured markets forces many smallholders to rely on informal trade channels, where price volatility, exploitative middlemen, and inconsistent demand further reinforce economic precarity.

This subsection examines the extent to which access to formal credit and structured markets facilitates deeper GVC engagement. Specifically, it analyzes agro-food smallholders' primary sources of credit, their experiences with financial support from cooperatives and government schemes, and the barriers preventing their integration into structured markets. Additionally, it evaluates whether participation in export-certified markets serves as a pathway to upgrading, allowing smallholders to capture greater value from their produce.

While existing literature acknowledges the critical role of credit and structured markets in enabling smallholder participation in GVCs, empirical findings from Igabi LGA reveal that financial exclusion remains a major barrier, with formal credit sources largely underutilized. As presented in Table 5.16, an overwhelming 98.5% of agro-food smallholders rely on personal and family savings as their primary source of credit, with highly informal and moderately formal agro-food smallholders being the most dependent on self-financing. Informal loans like those from local lending groups and trust-based borrowing constitute the second most common source, accessed by 48.1% of respondents. In stark contrast, only 1.0% of agro-food smallholders reported accessing bank loans or government grants, underscoring the widespread inaccessibility of formal financial institutions. This financial exclusion restricts smallholders' ability to invest in productivity-enhancing technologies, acquire high-quality inputs, and meet the capital-intensive requirements of structured value chains.

Source of Credit	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Personal & Family Savings	17 (8.3%)	94 (45.6%)	50 (24.3%)	42 (20.4%)	203 (98.5%)
Informal Loans (Local)	15 (7.3%)	23 (11.2%)	32 (15.5%)	29 (14.1%)	99 (48.1%)
Bank Loans	0 (0.0%)	1 (0.5%)	1 (0.5%)	0 (0.0%)	2 (1.0%)
Investor Loans	5 (2.4%)	1 (0.5%)	8 (3.9%)	4 (1.9%)	18 (8.7%)
Association/Cooperative Loans	7 (3.4%)	0 (0.0%)	2 (1.0%)	1 (0.5%)	10 (4.9%)
Government Grants	0 (0.0%)	0 (0.0%)	2 (1.0%)	0 (0.0%)	2 (1.0%)
Other Sources	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	2 (1.0%)

Table 5.16: Main Sources of Credit for Farming by Formality Level

The limitations of formal credit access are further reflected in agro-food smallholders' experiences. A follow-up interview with a farmer in Igabi LGA highlighted the constraints of the formal banking system:

"If you go to the bank, they will ask for documents that we don't have. We can't meet their requirements, so we rely on our small savings or borrow from friends to finance our farming."

This sentiment aligns with the data, where more than half of the respondents rely exclusively on informal savings or borrowing within social networks. Compounding this financial

exclusion, only 5.8% of agro-food smallholders reported receiving financial support from government schemes (Table 5.17). The vast majority (94.2%) did not benefit from public-sector financial assistance, with highly informal agro-food smallholders (44.2%) representing the largest excluded group. This finding suggests that despite various financial inclusion programs, government-backed credit remains largely inaccessible to most smallholders, particularly those operating informally. Barriers to access range from bureaucratic bottlenecks and stringent eligibility requirements to a lack of awareness and trust in formal financial institutions. These constraints reinforce a cycle in which informal agro-food smallholders, unable to access capital, remain locked out of productivity-enhancing investments, limiting their potential for upgrading and integration into structured value chains.

Support Status	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Did not receive financial support)	14 (6.8%)	91 (44.2%)	46 (22.3%)	43 (20.9%)	194 (94.2%)
Yes (Received financial support)	4 (1.9%)	3 (1.5%)	4 (1.9%)	1 (0.5%)	12 (5.8%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.17: Government Financial Support (Loans, Grants) by Formality Level

Beyond access to finance, market exclusion remains a critical constraint on GVC participation. As shown in Table 5.17, only 34.0% of agro-food smallholders sell directly to companies, while 66.0% remain dependent on informal trade intermediaries. The disparity is most pronounced among highly informal agro-food smallholders, of whom only one respondent engages in direct enterprise sales, compared to 14 out of 18 highly formal agro-food smallholders and 39 out of 50 moderately formal agro-food smallholders. The data underscores that formalized market linkages are strongly correlated with agro-food smallholders' level of formality, with informal actors struggling to meet the stringent quality, volume, and contractual requirements demanded by large agribusiness firms. The absence of structured market access not only exposes agro-food smallholders to price volatility and exploitative middlemen but also limits their ability to capture higher returns through direct GVC engagement. The reliance on informal market exchanges often exposes agro-food smallholders to price fluctuations and weak bargaining power. A respondent in the follow-up interviews explained:

"If you don't have a contract, the middleman will set the price. Today, the price might be high; tomorrow, it could drop, and there's nothing we can do about it."

This illustrates the precariousness of informal market participation, where the absence of structured contracts leaves agro-food smallholders vulnerable to fluctuating market conditions. This sentiment reflects a deep-seated distrust in formalized market structures and contracts, primarily driven by concerns about fairness and flexibility. While the price guarantees offered by contracts are appreciated, agro-food smallholders' frustration lies in the rigidity of these agreements—especially when market prices rise but they are still bound to deliver at the old price. This concern presents a significant barrier to greater GVC participation, as agro-food smallholders are hesitant to engage in contractual arrangements that may limit their ability to capitalize on price increases. The sentiment expressed by agro-food smallholders about contract sign-ups has clear implications for value capture in the agricultural sector. Many agro-food smallholders opt out of GVC participation due to these perceived disadvantages, missing the potential benefits of structured market access. Their reluctance to formalize business relationships results in limited opportunities for scaling, higher value capture, and broader market integration. Without the security and support offered by formal agreements, agro-food smallholders remain confined to inefficient, informal market channels that offer fewer opportunities for value retention. The limited GVC engagement reflects not only a lack of trust in formal institutions but also the ongoing challenge of fostering equitable participation in global value chains.

In terms of export markets, only seven out of 206 respondents participated in export trade. Contrary to common assumptions, export restrictions were not identified as a significant barrier to participation, as 99.0% of agro-food smallholders reported no challenges related to export regulations. This suggests that the primary market focus for smallholders in Kaduna State remains local and regional rather than international. However, the minimal engagement in export-certified markets represents a missed opportunity for value addition and premium pricing, particularly in light of recent Central Bank of Nigeria (CBN) exchange rate policies that have made Nigerian exports more competitive. Given the financial and technical barriers associated with export readiness, smallholders without institutional support struggle to navigate these requirements, further reinforcing their dependence on informal trade networks.

These findings collectively illustrate the structural impediments preventing agro-food smallholders from leveraging formal credit and structured markets to deepen their engagement in GVCs. The dominance of self-financing and informal lending highlights the urgent need for financial inclusion policies that bridge the gap between smallholders and formal credit institutions. Likewise, strengthening cooperative-based aggregation models and contract farming initiatives could help agro-food smallholders transition from informal sales channels to structured enterprise partnerships. Without targeted interventions that address both financial constraints and market exclusion, the informal sector will continue to dominate agricultural trade, limiting agro-food smallholders' capacity for economic upgrading and long-term competitiveness within GVCs.

5.3.3 Upgrading and Value Capture Mechanisms

While participation in Global Value Chains (GVCs) represents an important step for agro-food smallholders, the extent to which they derive meaningful benefits depends on their ability to upgrade their production processes and capture greater economic value. **Upgrading entails adopting improved farming techniques, enhancing productivity, and strengthening market positioning, while value capture refers to the ability of agro-food smallholders to retain financial and non-financial gains from their engagement in structured markets.** Both processes are crucial for ensuring that agro-food smallholders not only participate in GVCs but also achieve sustainable livelihoods and long-term economic resilience.

This section examines the pathways through which agro-food smallholders in Kaduna State upgrade their production systems and capture value within GVCs. The analysis focuses on two key proxies for upgrading: land cultivation methods across the formality continuum and receipt of extension services, both of which are critical for improving productivity and market competitiveness. Additionally, the study evaluates multiple dimensions of value capture, including annual income and savings from farming activities, the sufficiency of income/produce for household expenses, and the distribution of other benefits from contracts or agreements. Through this lens, the study assesses the structural and institutional conditions that enable or constrain agro-food smallholders' movement beyond subsistence-level engagement into higher-value economic activities.

Upgrading:

Upgrading in agricultural value chains is often characterized by process upgrading (improving efficiency and productivity), product upgrading (enhancing quality and meeting market standards), functional upgrading (shifting to higher-value activities), and inter-sectoral upgrading (diversifying into complementary industries). Among these, process upgrading—particularly through mechanization—plays a crucial role in improving farm efficiency and increasing yield potential. However, the data in Table 5.18 suggests that significant upgrading has not yet materialized among agro-food smallholders in Kaduna State.

Cultivation Method	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Manual Labour (Yes)	16 (7.8%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	204 (99.0%)
Manual Labour (No)	2 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)
Animal Draught Power (Yes)	15 (7.3%)	60 (29.1%)	42 (20.4%)	35 (17.0%)	152 (73.8%)
Animal Draught Power (No)	3 (1.5%)	34 (16.5%)	8 (3.9%)	9 (4.4%)	54 (26.2%)
Use of Tractor (Yes)	16 (7.8%)	7 (3.4%)	32 (15.5%)	16 (7.8%)	71 (34.5%)
Use of Tractor (No)	2 (1.0%)	87 (42.2%)	18 (8.7%)	28 (13.6%)	135 (65.5%)

Table 5.18: Mechanization and Land Cultivation Practices

Source: Field Survey, 2024

The overwhelming reliance on **manual labour (99.0%)** across all formality levels indicates that most agro-food smallholders have not transitioned beyond traditional farming methods, undermining expectations of process upgrading. Mechanization, a key driver of agricultural productivity, remains limited—only **34.5%** of agro-food smallholders reported using tractors. Among highly informal agro-food smallholders, mechanization is virtually absent, with just **3.4%** utilizing tractors. The use of **animal draught power** remains more prevalent (73.8%), yet it also reflects a reliance on semi-traditional techniques rather than full mechanization.

This lack of mechanization suggests two major structural constraints:

1. **Limited Institutional Support for Mechanization:** Government-backed credit schemes and agricultural extension programs remain insufficiently targeted towards low-formality agro-food smallholders, preventing them from accessing tractors or modern farming equipment.
2. **Constraints of the Informal Support Ecosystem:** While informal networks help agro-food smallholders access essential inputs, they lack the financial depth to support capital-intensive investments such as mechanized farming. A highly informal farmer described the issue: *"Even if I wan buy tractor, who go give me loan? My people fit help me buy fertilizer or pay labourers, but nobody get that kind money for tractor."*

However, a progressive increase in tractor use along the formality continuum suggests that as agro-food smallholders integrate more into formal systems and gain access to institutional support, their capacity for mechanization improves. Among moderately informal agro-food smallholders, 28.4% reported tractor use, rising to 44.9% among moderately formal agro-food smallholders and 76.5% among highly formal agro-food smallholders. This pattern reinforces the argument that institutional quality plays a crucial role in enabling upgrading, with formalized agro-food smallholders more likely to access mechanization due to stronger institutional linkages.**Access to Extension Services:**

Access to agricultural extension services is a critical enabler of **process upgrading**, allowing agro-food smallholders to acquire essential knowledge, improve productivity, and enhance their market competitiveness. Extension services provide agro-food smallholders with technical training, improved production techniques, and access to critical resources such as inputs and equipment. These services are particularly vital for smallholders seeking to transition from subsistence farming into structured markets and GVCs. However, as the data in **Table 5.19** reveals, access to extension services remains uneven across the **formality continuum**, reinforcing disparities in upgrading potential.

Access to Extension Services	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Does not receive services)	0 (0.0%)	82 (39.8%)	9 (4.4%)	13 (6.3%)	104 (50.5%)
Yes (Receives services)	18 (8.7%)	12 (5.8%)	41 (19.9%)	31 (15.0%)	102 (49.5%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.19: Receipt of Extension Services Across Formality Continuum

Source: Field Survey, 2024

The data in Table 5.19 underscores a stark contrast between formal and informal agro-food smallholders in terms of extension service access. All highly formal agro-food smallholders (100%) receive extension services, whereas 82 out of 94, representing 87% of highly informal agro-food smallholders lack access. This disparity highlights the institutional barriers preventing smallholders, particularly those operating outside formalized systems, from benefiting from structured agricultural knowledge-sharing and support programs. The moderately formal (19.9%) and moderately informal (15.0%) categories show comparatively higher rates of extension service access than their highly informal counterparts, reinforcing the notion that as agro-food smallholders integrate more into formal networks, their access to institutional support improves. However, the fact that nearly half of the total respondents (50.5%) do not receive any extension support suggests a major gap in agricultural knowledge dissemination, particularly among lower-formality agro-food smallholders. This limitation hinders the adoption of improved technologies, reduces productivity, and ultimately constrains agro-food smallholders' ability to upgrade within GVCs. One farmer in the highly informal category emphasized this issue:

"We no get people wey dey teach us better farming way. Na only wetin we sabi from our papa we dey use. If we fit learn new thing, maybe we go fit sell better."

This highlights a key issue: the reliance on traditional knowledge transfer rather than formal extension programs, which limits agro-food smallholders' ability to modernize their farming techniques, improve yields, and meet market requirements for higher-value agricultural products. The data suggests that while informal learning mechanisms like peer-to-peer knowledge sharing, mentorship structures, and community-based training serve as critical

substitutes, they do not provide the structured technical expertise required for process upgrading and sustained productivity improvements.

Further analysis of the specific types of extension support services received provides a deeper understanding of the upgrading process and the structural conditions enabling or constraining agro-food smallholders' participation in GVCs. Among the surveyed agro-food smallholders, training emerges as the most widely accessed form of extension support, with 96 agro-food smallholders across all GVC engagement levels receiving training. This highlights the importance of knowledge and skills development in facilitating upgrading, as agro-food smallholders gain technical expertise on improved farming practices, exposure to market requirements, and insights into better input utilization.

However, access to training opportunities is skewed toward agro-food smallholders in higher formality levels, reinforcing the information disadvantage of highly informal actors and limiting their ability to transition into structured markets. The data reveals that moderately formal and highly formal agro-food smallholders receive disproportionately higher levels of technical assistance compared to their highly informal counterparts. This finding aligns with the broader argument that institutional quality plays a critical role in enabling upgrading, as agro-food smallholders who are more integrated into formal systems have greater access to structured capacity-building programs.

Additionally, the provision of equipment and inputs like fertilizers and seedlings is particularly notable among moderately formal agro-food smallholders, further reinforcing the positive association between formality and structured support access. However, the data also underscores a substantial gap in access to these critical resources among highly informal agro-food smallholders, who often lack the institutional connections required to benefit from such programs. As previously highlighted in Chapter Four, highly informal agro-food smallholders remain heavily reliant on social networks, trust-based lending, and informal extension mechanisms, which, while effective in the short term, do not provide the structured support needed for long-term upgrading.

The limited access to extension services among informal agro-food smallholders can be attributed to several institutional constraints, particularly inadequate government support and bureaucratic inefficiencies. This limited access to extension services can be attributed to several institutional constraints. As established in the analysis of institutional barriers (see Section

5.3.2, Table 5.13), the key challenges preventing smallholders from accessing government-backed agricultural support programs include:

- Corruption (87.9%) emerges as the most widely cited barrier, disproportionately affecting highly informal (38.3%) and moderately informal (20.4%) agro-food smallholders. Many agro-food smallholders reported that agricultural support programs were often captured by elite networks or allocated through opaque processes, making access highly restrictive for those without the right political or social connections. One highly informal farmer expressed frustration:

"Dem say government get program wey go help agro-food smallholders, but na only big men dem dey give. Agro-food smallholders like us no dey see anything."

- Lack of information (68.0%) is another major barrier, particularly among highly informal (34.0%) and moderately informal (13.1%) agro-food smallholders. Many smallholders remain unaware of existing support programs, often due to poor dissemination strategies, limited literacy levels, or the absence of effective rural outreach mechanisms. This reinforces information asymmetry, where more formalized agro-food smallholders—who are better connected to cooperative networks—gain preferential access to government programs, while informal agro-food smallholders remain excluded.
- Complicated administrative procedures (52.9%) also deter many smallholders from seeking formal support. Bureaucratic inefficiencies—including lengthy application processes, excessive documentation requirements, and unclear eligibility criteria—disproportionately affect informal agro-food smallholders who lack formal registration or financial documentation. This creates an additional hurdle, preventing them from accessing the very support systems designed to enhance their productivity and market integration.
- Perceived ineligibility (44.2%) and lack of resources in rural areas (46.6%) further exacerbate the exclusion of informal agro-food smallholders. Many government programs require official farm registration, proof of land ownership, or formal bank accounts, all of which highly informal agro-food smallholders are less likely to possess. Additionally, weak rural infrastructure and the concentration of extension services in urban or commercial farming zones mean that even when support exists, it rarely reaches the most vulnerable agro-food smallholders.

These structural barriers, which disproportionately impact highly informal actors, further entrench the "Informality Trap," where smallholders remain excluded from formal support

systems, perpetuating low productivity, subsistence-level engagement, and restricted access to structured value chains. The persistent marginalization of highly informal agro-food smallholders from extension services underscores the failure of formal institutions to effectively reach the most disadvantaged actors, compelling them to depend on informal knowledge-sharing networks and traditional farming techniques. This systemic exclusion not only limits their ability to upgrade within agricultural value chains but also reinforces their vulnerability to market volatility and institutional neglect.

Addressing this gap requires a fundamental shift in agricultural policy—one that does not seek to merely relocate informal agro-food smallholders into the formal sector but instead expands the reach of formal services into informal farming communities. This approach necessitates a decentralized, community-based extension service delivery model, leveraging existing structures such as local farmer associations, religious groups, and cooperative networks to improve outreach to marginalized agro-food smallholders. Additionally, simplifying access to government support programs by reducing documentation burdens and ensuring that extension services are available to unregistered agro-food smallholders would lower entry barriers for informal actors. Crucially, transparent and corruption-free allocation of agricultural support is needed to prevent elite capture and ensure that resources reach beneficiaries based on need rather than political affiliation. Furthermore, targeted incentives for informal agro-food smallholders to participate in structured training programs like such as mobile-based advisory services, subsidized inputs for training participants, and **localized farmer field schools** would enhance knowledge dissemination and encourage gradual integration into structured value chains.

Value Capture Mechanisms

While participation in GVCs is a critical step for agro-food smallholders, the ultimate measure of success lies in their ability to capture value, (i.e. to retain and benefit from the economic gains derived from their engagement in structured value chains). Value capture is conceptualised as both financial and non-financial returns, influencing agro-food smallholders' capacity to reinvest in production, improve household well-being, and transition from subsistence-level agriculture to more commercialized and competitive farming practices.

In the context of GVC participation, value capture can be assessed across multiple dimensions. Economic value capture refers to the monetary returns that agro-food smallholders generate from their agricultural activities, measured through income levels, savings, and access to

financial resources. Productivity-based value capture is reflected in the extent to which agro-food smallholders gain access to better production inputs, training, and market information, allowing them to improve efficiency and meet high-value market standards. Social value capture involves the non-monetary benefits that arise from structured market participation, including enhanced market access, improved contractual security, and integration into support networks that provide long-term economic stability.

Despite the recognized importance of value capture, empirical studies show that participation in GVCs does not automatically translate into economic gains for smallholders. Structural constraints, including weak institutional linkages, market power asymmetries, and financial exclusion often limit the extent to which agro-food smallholders benefit from structured agricultural markets. Thus, the question is not merely whether agro-food smallholders participate in GVCs, but whether and how they capture value within them. To assess value capture among agro-food smallholders in Kaduna State, this study evaluates three key indicators:

1. **Annual Income and Savings from Farming Activities** – This reflects the financial returns generated from market participation, shedding light on income distribution and financial resilience across different formality levels.
2. **Sufficiency of Income/Produce for Household Expenses** – This examines whether agro-food smallholders' earnings and food production are adequate to meet basic household needs, providing insight into the sustainability of farming as a livelihood.
3. **Distribution of Other Benefits from Contracts or Agreements** – This captures the non-monetary advantages derived from structured market participation, such as access to farming equipment, subsidized inputs, technical training, and price stability.

Annual Income and Savings from Farming Activities

Agro-food smallholders' annual income is a fundamental measure of value capture, determining the extent to which agricultural participation translates into tangible economic benefits. The ability to retain earnings influences agro-food smallholders' capacity to reinvest in production, sustain household expenses, and achieve financial resilience. However, income levels among agro-food smallholders vary significantly, shaped by factors such as formality level, access to structured markets, financial inclusion, and market positioning.

The data in Table 5.15 reveals that the most common income range among surveyed agro-food smallholders is ₦100,000 – ₦499,999, with 37.9% of respondents earning within this bracket. This suggests that a substantial share of agro-food smallholders operate at relatively low-income levels, limiting their ability to scale production, invest in productivity-enhancing

technologies, or upgrade within value chains. At the same time, 60.2% of agro-food smallholders earn at least ₦500,000 annually, and 30.1% report earnings of ₦1,000,000 or more, indicating that a segment of agro-food smallholders is successfully generating higher returns, likely due to better market access, economies of scale, and participation in premium value chains.

The data further highlights a strong correlation between formality and income stability. Highly formal and moderately formal agro-food smallholders are more concentrated in the middle and upper-income brackets, reinforcing the argument that formality enhances income predictability. Agro-food smallholders in these categories benefit from structured markets, long-term contracts, access to financial institutions, and government-backed support schemes, which contribute to more stable cash flows and reduced exposure to economic volatility. These findings align with previous analyses on market structure, which indicate that formalized agro-food smallholders have greater access to premium buyers, cooperative-based aggregation models, and institutional support mechanisms.

Conversely, the dominance of low-to-mid income levels among agro-food smallholders across all formality categories underscores the structural constraints limiting reinvestment and long-term economic mobility. While some agro-food smallholders are able to generate relatively high annual earnings, their capacity to expand operations and move beyond subsistence farming is restricted by financial exclusion, weak access to mechanization, and the high cost of inputs. Without affordable credit, extension services, or targeted institutional support, agro-food smallholders may remain trapped in low-value production cycles, unable to sustain or grow their earnings despite active participation in agricultural markets.

Income Range (₦)	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Below ₦100,000	1 (0.5%)	1 (0.5%)	1 (0.5%)	1 (0.5%)	4 (1.9%)
₦100,000 – ₦499,999	11 (5.3%)	26 (12.6%)	25 (12.1%)	16 (7.8%)	78 (37.9%)
₦500,000 – ₦999,999	4 (1.9%)	33 (16.0%)	11 (5.3%)	14 (6.8%)	62 (30.1%)
₦1,000,000 and above	2 (1.0%)	34 (16.5%)	13 (6.3%)	13 (6.3%)	62 (30.1%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.20: Income Distribution Across Formality Levels

Source: Field Survey, 2024

A further reflection on the income data in relation to international poverty benchmarks provides critical insights into the financial precarity of agro-food smallholders. At an exchange rate of ₦1,600 per USD1, the USD2 per day poverty line translates to an annual income of approximately ₦1,168,000. By this measure, only 30.1% of agro-food smallholders surpass the USD2/day benchmark, while a staggering 69.9% earn below this threshold, reinforcing concerns about economic vulnerability, weak reinvestment capacity, and financial insecurity. For agro-food smallholders earning ₦100,000 – ₦499,999 annually (37.9%), their income equates to approximately USD63 – USD313 per year, translating to USD0.17 – USD0.86 per day—well below the USD1.90 extreme poverty threshold set by the World Bank. Similarly, agro-food smallholders earning ₦500,000 – ₦999,999 per year (30.1%) generate only USD313 – USD625 annually, or USD0.86 – USD1.71 per day, still falling below the widely accepted USD2 per day poverty line.

These findings underscore the persistent financial fragility of smallholders, even as they actively participate in agricultural markets. The fact that a majority of agro-food smallholders remain below the USD2/day poverty threshold suggests that GVC integration alone is insufficient to drive broad-based financial resilience. Instead, access to credit, structured market linkages, and productivity-enhancing interventions are critical for agro-food smallholders to break out of subsistence-level production and transition toward more lucrative value chain positions.

Despite the clear association between formality and income stability, a substantial proportion of even formalized agro-food smallholders still earn below ₦1,000,000 annually. This would mean that structural barriers like high production costs, limited mechanization, and weak institutional frameworks continue to restrict value capture and economic upgrading. Thus, improving agro-food smallholders' earnings requires a holistic strategy that extends beyond market participation to include financial inclusion, extension services, and infrastructure investments.

The findings reinforce the urgent need for targeted institutional interventions that enhance access to affordable credit, facilitate market integration, and improve access to productivity-enhancing inputs. Without such measures, agro-food smallholders will remain trapped in cycles of low-value capture, economic stagnation, and financial precarity, unable to fully leverage their participation in GVCs for sustained income growth and economic resilience.

Sufficiency of Income/Produce for Household Expenses

Income sufficiency is a crucial dimension of value capture, reflecting the extent to which farming provides a stable and sustainable livelihood for agro-food smallholders. Beyond absolute income figures, sufficiency measures whether agro-food smallholders can consistently meet household expenses, maintain financial security, and reinvest in their agricultural activities. The ability to sustain livelihoods through farming earnings is influenced by factors such as market access, production costs, seasonal income variability, and participation in structured value chains.

The data in Table 5.15 reveals that 56.3% of surveyed agro-food smallholders report that their farming income or produce is insufficient to cover household expenses, indicating widespread economic precarity. This insufficiency is most pronounced among highly informal agro-food smallholders, where 32.0% struggle to meet basic needs. In contrast, 43.7% of respondents consider their farming income sufficient, with a relatively even distribution across formality levels. Notably, highly formal agro-food smallholders (6.3%) are the most likely to report sufficiency, suggesting that stronger institutional linkages, diversified income sources, and better market positioning enhance financial stability.

Response	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
No (Not sufficient)	5 (2.4%)	66 (32.0%)	23 (11.2%)	22 (10.7%)	116 (56.3%)
Yes (Sufficient)	13 (6.3%)	28 (13.6%)	27 (13.1%)	22 (10.7%)	90 (43.7%)
Total	18 (8.7%)	94 (45.6%)	50 (24.3%)	44 (21.4%)	206 (100.0%)

Table 5.21: Income Sufficiency by Formality Level

These findings underscore a key paradox: while some agro-food smallholders generate relatively high annual earnings, a significant proportion still struggles with income sufficiency, suggesting that factors such as high production costs, income seasonality, and weak financial planning mechanisms reduce their ability to sustain household needs throughout the year.

A closer examination reveals that highly informal agro-food smallholders disproportionately experience income insufficiency, reflecting their limited access to financial safety nets, structured markets, and institutional support. These agro-food smallholders are more vulnerable to price fluctuations, exploitative middlemen, and low-value transactions, which restrict their ability to accumulate surplus income or savings.

Conversely, highly formal and moderately formal agro-food smallholders report higher income sufficiency, reinforcing the argument that formality enhances financial stability rather than just absolute income levels. Agro-food smallholders in these categories often benefit from contract-based sales, cooperative membership, and access to structured financial services, allowing them to stabilize income flows, manage production costs, and cushion against seasonal volatility.

From an international poverty perspective, the USD2 per day benchmark (₦1,168,000 annually at ₦1,600/USD) provides a critical lens for assessing income sufficiency. Despite 30.1% of surveyed agro-food smallholders earning ₦1,000,000 or more annually, a large proportion remains below the USD2/day threshold, reinforcing concerns about low purchasing power, financial precarity, and limited reinvestment capacity. This suggests that, beyond income levels, other structural factors—such as high input costs, post-harvest losses, and inefficient market linkages—erode agro-food smallholders' ability to sustain their livelihoods from agriculture alone.

Implications for Value Capture and Economic Mobility

The findings highlight a major concern regarding the sustainability of farming as a livelihood. While GVC participation offers opportunities for higher earnings, market access, and financial inclusion, it does not automatically translate into economic security. Agro-food smallholders who earn substantial annual income may still face financial instability if production costs remain high, access to credit is constrained, or price volatility erodes purchasing power.

The continued prevalence of income insufficiency suggests that value capture within agricultural markets remains uneven, with many smallholders struggling to translate participation in GVCs into tangible financial resilience. Addressing these gaps requires complementary interventions, including:

- Targeted financial inclusion strategies to expand access to affordable credit, savings mechanisms, and crop insurance, reducing vulnerability to seasonal income fluctuations.
- Improved access to structured markets, allowing agro-food smallholders to secure premium prices, reduce dependency on intermediaries, and negotiate better contractual terms.
- Strengthened institutional support mechanisms, particularly in extension services, cooperative-based aggregation, and post-harvest infrastructure, to reduce production costs and improve value retention.

Ultimately, while participation in agricultural markets is a necessary first step, sustained value capture requires a multidimensional approach that integrates financial stability, productivity gains, and institutional support. Without such interventions, many agro-food smallholders will remain trapped in cycles of economic precarity, limiting their ability to leverage agriculture as a pathway for long-term economic mobility.

Distribution of Other Benefits from Contracts or Agreements

Beyond direct income generation, participation in formal contracts and structured value chains provides additional non-monetary benefits that enhance agro-food smallholders' ability to sustain and expand their agricultural activities. These benefits include access to farming equipment, training, input loans, financial assistance, and price advantages, all of which contribute to long-term value capture and economic resilience. The ability to secure these benefits often depends on the degree of formality, with agro-food smallholders engaged in structured markets and contractual arrangements more likely to access institutional support and agricultural resources.

The data in Table 5.22 reveals that the most commonly received benefits from contractual engagements are farming equipment (40.3%) and training (37.9%), underscoring the role of structured partnerships in enhancing productivity, mechanization, and knowledge transfer. These findings highlight the fact that contracts serve as more than just price-determining mechanisms—they facilitate capability development, technology adoption, and long-term investment in agricultural operations.

Benefit	Highly Formal (n=18)	Highly Informal (n=94)	Moderately Formal (n=50)	Moderately Informal (n=44)	Total (n=206)
Farming Equipment	18 (8.7%)	0 (0.0%)	48 (23.3%)	17 (8.3%)	83 (40.3%)
Training	18 (8.7%)	3 (1.5%)	44 (21.4%)	13 (6.3%)	78 (37.9%)
Financial Loans	3 (1.5%)	0 (0.0%)	14 (6.8%)	12 (5.8%)	29 (14.1%)
Input Loans	18 (8.7%)	0 (0.0%)	31 (15.0%)	10 (4.9%)	59 (28.6%)
Better Prices	15 (7.3%)	0 (0.0%)	32 (15.5%)	9 (4.4%)	56 (27.2%)
Other Benefits	0 (0.0%)	91 (44.2%)	2 (1.0%)	20 (9.7%)	113 (54.9%)

Table 5.22: Non-Monetary Benefits from Contractual Agreements by Formality Level

While input loans (28.6%) and better prices (27.2%) also emerge as significant advantages of contractual agreements, the low percentage of financial loans (14.1%) suggests that formal contracts primarily facilitate access to essential inputs rather than direct financial assistance. This reflects the structural bias of agricultural financing, where agro-food smallholders may receive in-kind support (e.g., fertilizers, seeds, or equipment) rather than cash-based credit that would allow greater financial flexibility and investment decisions.

The data also reveals a stark divide between highly formal and highly informal agro-food smallholders, further reinforcing formality as a key enabler of value capture within GVCs. Highly formal and moderately formal agro-food smallholders are the primary recipients of farming equipment, training, and input loans, indicating that structured agreements provide mechanisms for resource access and capability-building. Conversely, highly informal agro-food smallholders—who remain largely disconnected from structured markets—are overwhelmingly concentrated in the "Other Benefits" category, with 91 out of 94 farmers (or 96.8%) in this group reporting benefits that fall outside of tangible categories like equipment or training. This suggests their benefits are likely related to informal trade security or social capital rather than concrete economic assets.

This exclusion of highly informal agro-food smallholders from key contractual benefits suggests that their continued dependence on trust-based, ad-hoc market arrangements limits their ability to capture long-term value. Unlike formal actors who benefit from structured pricing, technical support, and institutional linkages, informal agro-food smallholders lack access to quality-enhancing resources, financial protections, and price stabilization mechanisms, making them more vulnerable to market volatility and fluctuating production costs.

A farmer in the moderately formal category described the impact of structured contracts on resource access:

"Before joining the cooperative, I had to cover all my farming costs alone. Now, they provide fertilizers and seedlings, allowing me to repay with my harvest. Farming is much easier when you don't have to bear the full financial burden upfront."

This statement illustrates the role of structured agreements in easing liquidity constraints, allowing agro-food smallholders to manage input costs more effectively and reduce production risks. By contrast, highly informal agro-food smallholders, who remain disconnected from such agreements, must rely on personal savings or informal lending, often at higher costs and with greater uncertainty.

These findings emphasize that participation in formal contracts extends beyond price guarantees—it fundamentally reshapes agro-food smallholders' access to productive assets and financial security mechanisms. The provision of farming equipment, training, and input loans suggests that contractual engagement is a pathway toward long-term upgrading, equipping agro-food smallholders with the tools and knowledge needed to increase productivity, meet market standards, and improve competitiveness.

However, the exclusion of highly informal agro-food smallholders from these benefits reinforces structural inequalities in value capture, where only agro-food smallholders with some degree of formality can access mechanisms for upgrading and financial stability. Without targeted interventions that bridge this gap, informal actors will remain locked out of structured value chains, limiting their ability to transition from subsistence-level engagement to commercially viable production.

To bridge this disparity, policymakers must prioritize expanding formal service delivery mechanisms to reach informal agro-food smallholders rather than focusing solely on incentivizing their transition into formal markets. A more inclusive approach would involve hybrid financing models that combine input-based support with cash-flow assistance, ensuring both resource access and financial autonomy. Additionally, decentralized contract farming schemes, facilitated through cooperatives and local aggregators, can extend the benefits of structured agreements beyond highly formal agro-food smallholders, creating broader access to essential resources and market linkages. Gradual formalization pathways should also be established, allowing informal actors to engage with structured agreements in incremental stages, thereby lowering barriers to entry while maximizing economic benefits. Ultimately, while contractual engagement remains a critical determinant of value capture, its benefits remain unevenly distributed. Ensuring the inclusivity of structured agreements will be essential in equipping all agro-food smallholders—regardless of their formality level—with the necessary tools to sustain growth, enhance productivity, and build long-term financial resilience within GVCs.

5.4 Test of propositions

Having examined the patterns and determinants of GVC participation, as well as upgrading and value capture mechanisms, this section empirically tests the propositions central to this study. The goal is to assess how institutional quality, financial inclusion, and market access shape agro-food smallholders' ability to transition from informal to structured value chains and retain economic benefits from their participation. The analysis leverages cross-tabulations, chi-

square tests, and mediation regression techniques to establish statistical relationships between key institutional and market variables.

The first test (Section 5.4.1) evaluates the third proposition, which posits that improved institutional quality is positively associated with reduced informality and increased upgrading among agro-food smallholders participating in GVCs. This proposition is rooted in the argument that strong institutions—through regulatory enforcement, cooperative membership, contract enforcement, and structured support systems—facilitate a shift towards greater formality while enhancing agro-food smallholders' capacity to integrate into high-value markets. The analysis examines various dimensions of institutional quality, including awareness of agricultural policies, access to government support, cooperative participation, and regulatory compliance, in relation to agro-food smallholders' GVC participation and upgrading trajectories.

The second test (Section 5.4.2) investigates the fourth proposition, which argues that access to formal credit and markets significantly mediates the relationship between GVC participation and value capture for informal actors. The study employs mediation regression analysis to determine whether formal financial access and structured market participation serve as key enablers that translate GVC engagement into tangible economic benefits. Using the Baron and Kenny method, the analysis explores both the direct and indirect pathways through which financial and market inclusion influence agro-food smallholders' ability to retain value from agricultural trade.

5.4.1 3rd Proposition: Institutional Quality, Informality, and Upgrading

Institutional quality plays a pivotal role in shaping the market participation and economic upgrading of agro-food smallholders. In contexts where formal institutions are weak, fragmented, or inaccessible, informal actors often rely on alternative governance mechanisms such as social networks, trust-based agreements, and community enforcement structures. However, while these informal arrangements provide short-term stability, they often limit agro-food smallholders' ability to transition into structured, high-value market engagements within Global Value Chains (GVCs). This segment of the study empirically tests the third proposition, which posits that:

Improved institutional quality is positively associated with reduced informality and increased upgrading among firms participating in Global Value Chains (GVCs).

This proposition is grounded in the argument that well-functioning institutions—characterized by regulatory clarity, enforceable contracts, cooperative structures, and access to structured

support programs—facilitate a shift towards greater formality while enhancing agro-food smallholders' capacity to upgrade within GVCs. In contrast, weak institutional quality may perpetuate informality, as agro-food smallholders find regulatory frameworks burdensome, financial services inaccessible, and formal market structures exclusionary.

To evaluate this proposition, the study examines the relationship between institutional quality indicators and agro-food smallholders' participation in GVCs, formalization intent, and upgrading trajectories. The analysis is based on cross-tabulations and chi-square tests, which assess whether higher institutional quality is statistically associated with increased formalization and participation in structured market arrangements. Key institutional quality measures include awareness of agricultural policies, access to government support, cooperative membership, and production under contractual agreements. These are tested against indicators of GVC engagement, structured market access, and agro-food smallholders' willingness to formalize their operations.

Relationship Examined	Chi-square (χ^2) Statistic (df)	P-value	Conclusion
Awareness of policies $\times$ GVC participation	0.000 (1)	0.987	No significant association
Access to support $\times$ Intent to formalize (Financial Support)	0.371 (1)	0.542	No significant association
Access to support $\times$ Intent to formalize (Subsidized Inputs)	5.738 (1)	0.017	Significant association
Access to support $\times$ Intent to formalize (Equipment)	6.936 (1)	0.008	Significant association
Access to support $\times$ Intent to formalize (Training)	14.942 (1)	0.000	Significant association
Access to support $\times$ Intent to formalize (Market Access)	3.041 (1)	0.081	No significant association
Access to support $\times$ Intent to formalize (Infrastructure)	8.030 (1)	0.005	Significant association
Cooperative membership $\times$ Market access channel (Direct to Consumers)	0.037 (1)	0.848	No significant association
Cooperative membership $\times$ Market access channel (Middlemen)	0.018 (1)	0.895	No significant association
Cooperative membership $\times$ Market access channel (Faraway Markets)	0.859 (1)	0.354	No significant association
Cooperative membership $\times$ Market access channel (Direct to Companies - Olam, Tomato Jos, etc.)	6.071 (1)	0.014	Significant association
Cooperative membership $\times$ Market access channel (Other)	0.597 (1)	0.440	No significant association
Contractual engagement $\times$ Value chain upgrading (Expansion Plans)	19.785 (3)	0.000	Significant association
Contractual engagement $\times$ Value chain upgrading (Training Benefits)	84.243 (1)	0.000	Significant association
Contractual engagement $\times$ Value chain upgrading (Financial Loans Benefits)	2.630 (1)	0.105	No significant association

Contractual engagement × Value chain upgrading (Input Loans Benefits)	59.182 (1)	0.000	Significant association
Contractual engagement × Value chain upgrading (Farming Equipment Benefits)	92.805 (1)	0.000	Significant association
Contractual engagement × Value chain upgrading (Better Prices)	44.363 (1)	0.000	Significant association
Contractual engagement × Value chain upgrading (Other Benefits)	69.735 (1)	0.000	Significant association
Contractual engagement × Perceived Value of GVC Participation	29.902 (3)	0.000	Significant association
Primary Source of Farming Inputs (Government Programs) × Formalization Intent	5.692 (1)	0.017	Significant association
Credit Source (Government Grants) × Formalization Intent	2.818 (1)	0.093	No significant association
Extension Support (Federal Government) × Formalization Intent	0.744 (1)	0.388	No significant association
Extension Support (State Government) × Formalization Intent	12.154 (1)	0.000	Significant association
Extension Support (Local Government) × Formalization Intent	5.235 (1)	0.022	Significant association

Table 5.23: Summary of Chi-square Test Results (Institutional Quality vs. Informality)

The results of the chi-square tests provide empirical insights into the relationship between institutional quality, informality, and upgrading among agro-food smallholders in Kaduna State. The findings reveal that while some institutional quality measures are significantly associated with formalization and upgrading, others appear to have little or no influence, highlighting the complexity of the formalization process and the limitations of current institutional frameworks.

Institutional Quality and Formalization Intent

The analysis demonstrates that certain forms of institutional support, particularly subsidized inputs ($\chi^2 = 5.738$, $p = 0.017$), equipment support ($\chi^2 = 6.936$, $p = 0.008$), training ($\chi^2 = 14.942$, $p = 0.000$), and infrastructure provision ($\chi^2 = 8.030$, $p = 0.005$), are significantly associated with agro-food smallholders' intent to formalize their operations. This suggests that access to tangible resources—such as inputs, infrastructure, and skills development—creates incentives for agro-food smallholders to transition into structured markets. Notably, market access support ($\chi^2 = 3.041$, $p = 0.081$) and financial aid ($\chi^2 = 0.371$, $p = 0.542$) do not exhibit significant associations with formalization intent, suggesting that while financial resources are important, they may not be sufficient on their own to drive formalization.

These findings reinforce the argument that institutional support must be tailored beyond financial interventions to include capacity-building and resource access. Merely providing financial aid without addressing broader structural barriers—such as access to infrastructure, equipment, and input security—may not be enough to encourage smallholders to formalize.

Institutional Quality and Market Access

The study also tested whether cooperative membership influences agro-food smallholders' market access strategies. The results indicate that cooperative membership is significantly associated with direct sales to companies ($\chi^2 = 6.071$, $p = 0.014$) but does not significantly affect sales through other channels such as middlemen, informal markets, or distant market centers. This suggests that cooperatives serve as a critical bridge for agro-food smallholders seeking structured and high-value market linkages, facilitating direct engagement with agribusiness firms like Olam and Tomato Jos. However, the lack of association with other market access channels suggests that not all cooperative members automatically benefit from improved market positioning, possibly due to internal inefficiencies or restrictive buyer requirements.

The findings highlight the need for cooperative strengthening initiatives, ensuring that these organizations serve as effective conduits for broader market access and not just exclusive arrangements for a select few agro-food smallholders.

Contractual Engagement and Value Chain Upgrading

Contractual engagement emerges as one of the strongest predictors of upgrading within GVCs. The study finds highly significant associations between contractual participation and key upgrading indicators, including:

- Expansion plans ($\chi^2 = 19.785$, $p = 0.000$)
- Training benefits ($\chi^2 = 84.243$, $p = 0.000$)
- Access to input loans ($\chi^2 = 59.182$, $p = 0.000$)
- Provision of farming equipment ($\chi^2 = 92.805$, $p = 0.000$)
- Better pricing outcomes ($\chi^2 = 44.363$, $p = 0.000$)
- Overall perceived benefits of GVC participation ($\chi^2 = 29.902$, $p = 0.000$)

These results suggest that contractual agreements provide agro-food smallholders with structured pathways to economic upgrading, particularly through resource access, training, and price security. This underscores the importance of fostering contract-based agricultural models, particularly for smallholders who remain trapped in informal, exploitative trade relationships. However, the findings also reveal that contractual engagement does not significantly influence access to financial loans ($\chi^2 = 2.630$, $p = 0.105$), suggesting that while contracts facilitate input support and equipment access, they do not necessarily translate into broader financial inclusion. This raises concerns about the lack of credit integration within contractual models, limiting agro-food smallholders' ability to make long-term investments.

Government Support and Formalization Pathways

The study also examines whether government-led interventions—such as credit access, extension services, and input programs—affect agro-food smallholders' willingness to formalize. The findings indicate that:

- Government farming input programs ($\chi^2 = 5.692$, $p = 0.017$) and state/local extension services ($\chi^2 = 12.154$, $p = 0.000$; $\chi^2 = 5.235$, $p = 0.022$) have a significant association with formalization intent.
- Federal government extension support ($\chi^2 = 0.744$, $p = 0.388$) and government grants ($\chi^2 = 2.818$, $p = 0.093$) do not show a significant association.

This suggests that localized interventions—such as state-level extension services and decentralized input distribution—are more effective in influencing formalization behavior compared to centralized federal initiatives. The lack of significance for government grants also highlights the limitations of financial aid as a standalone formalization strategy.

The findings provide several critical policy insights regarding the role of institutional quality in reducing informality and facilitating upgrading within Global Value Chains (GVCs). While financial support remains an important factor, tangible resource access—such as inputs, equipment, and infrastructure—plays a more significant role in driving formalization. Policies should therefore prioritize expanding non-financial support mechanisms that enable agro-food smallholders to overcome structural constraints and integrate more effectively into formal markets.

Cooperative membership emerges as a key enabler of structured market access, yet the current cooperative model requires reform to ensure inclusivity and efficiency. Strengthening governance frameworks, minimizing elite capture, and enhancing transparency will help position cooperatives as effective vehicles for market integration. Similarly, contractual arrangements remain one of the most effective pathways for upgrading, providing agro-food smallholders with access to resources, training, and price security. However, the benefits of contracts are not evenly distributed, necessitating targeted policies that encourage agribusinesses to engage with smallholders under fair and transparent agreements.

The study also underscores the importance of localized institutional strengthening. State and local government interventions demonstrate stronger links to formalization than centralized federal programs, suggesting that decentralized approaches to extension services and input

delivery are more effective. Expanding community-based agricultural support systems would bridge accessibility gaps and improve smallholder engagement with formal institutions.

Despite the benefits of contractual engagement, the study finds that contracts alone do not significantly enhance agro-food smallholders' access to formal credit. This highlights a critical gap in the institutional framework, where structured agreements provide input access but fail to integrate financial support mechanisms. Bridging this gap requires embedding loan schemes within contract farming models, ensuring that agro-food smallholders have access to the capital necessary for sustained upgrading.

Overall, the results strongly support the proposition that institutional quality is positively associated with reduced informality and increased upgrading among agro-food smallholders participating in GVCs. However, the findings emphasize that institutional support must extend beyond financial incentives to include structured resource access, cooperative efficiency, and contract-based inclusion. These insights set the stage for the next section, which explores the role of credit and market access in shaping value capture within GVCs.

5.4.2 4th Proposition

The relationship between Global Value Chain (GVC) participation and value capture is complex, often influenced by various factors, including access to formal credit and market opportunities. Understanding the pathways through which GVC engagement translates into tangible economic outcomes is critical for both policymakers and practitioners. The study employed mediation regression analysis to test the fourth proposition, which posits that: *Access to formal credit and markets mediates the relationship between GVC participation and value capture for informal actors*. This proposition is grounded in the premise that institutional and market access serve as critical enablers, shaping how effectively informal actors translate GVC participation into tangible economic benefits. The test of this proposition leverages the Value Capture Composite Index (VCI) as the dependent variable, representing the economic outcomes derived from GVC participation. Formal credit and market access proxies were used to develop composite indices, and they are evaluated as mediating variables, while GVC engagement serves as the independent variable.

The study used the Baron and Kenny method (Baron & Kenny, 1986). This method is a widely used statistical procedure for testing mediation, which involves assessing whether a third variable (the mediator) explains the relationship between an independent variable and a dependent variable. In this context, GVC participation is the independent variable, value

capture is the dependent variable, and access to formal credit and markets serve as the mediators. The Baron and Kenny method employs a series of regression analyses to establish mediation. First, it assesses whether GVC participation predicts value capture. Second, it examines if GVC participation predicts access to formal credit and markets. Finally, it analyzes whether access to formal credit and markets predicts value capture, while controlling for the influence of GVC participation. If all three relationships are statistically significant, then mediation is supported.

The results of the mediation analysis, as presented in Table 5.22, provide valuable insights into the relationship between GVC participation, access to formal credit and markets, and value capture. Model 1 demonstrates a significant total effect of GVC participation on value capture ($B = 0.931, p < .001$), indicating that agro-food smallholders engaged in GVCs tend to experience higher levels of value capture. This aligns with previous findings that highlight the potential benefits of GVC participation for agro-food smallholders, such as increased income, access to resources, and improved market access.

Model 2 examines the relationship between GVC participation and the two proposed mediators: formal credit access and formal market access. The results show that GVC participation significantly predicts formal credit access ($B = 0.279, p < .001$), suggesting that agro-food smallholders engaged in GVCs are more likely to access formal credit. This could be attributed to several factors, such as increased visibility to financial institutions, greater perceived creditworthiness due to potential for higher income, and stronger relationships with formal actors within the value chain. However, GVC participation does not significantly predict formal market access ($B = 0.088, p = .148$), indicating that GVC engagement alone may not be sufficient to ensure access to formal markets. This could be due to other barriers, such as lack of information, inadequate infrastructure, or inability to meet quality standards.

Model 3 assesses the mediating effects of formal credit access and the direct effect of GVC participation on value capture. The results show that formal credit access significantly mediates the relationship between GVC participation and value capture ($B = 0.854, p = .006$). This indicates that access to formal credit plays a crucial role in enabling agro-food smallholders to capture value from their GVC participation, potentially by providing the necessary capital for investment, expansion, and upgrading. However, GVC participation also retains a significant direct effect on value capture ($B = 0.692, p = .001$), suggesting that other factors beyond formal credit access contribute to value capture. This could include factors such as improved market access, enhanced bargaining power, and access to technology and information.

These findings provide support for the proposition that access to formal credit and markets mediates the relationship between GVC participation and value capture for informal actors. However, the mediation is partial, indicating that formal credit access is one of several pathways through which GVC participation enhances value capture, whereas formal market access does not play a significant mediating role. These findings underscore the critical importance of strengthening institutional frameworks to improve access to formal credit, which serves as a vital enabler for enhancing the value capture potential of informal actors engaged in GVCs.

Model	Path	Unstandardized Coefficient (B)	Standardized Coefficient (Beta)	t-Value	p-Value	Interpretation
Model 1	GVC → DV (Total Effect)	0.931	0.322	4.863	< 0.001	GVC participation significantly influences value capture.
Model 2	GVC → Formal Credit Access (Path a)	0.279	0.413	6.477	< 0.001	GVC participation significantly predicts formal credit access.
	GVC → Formal Market Access (Path a)	0.088	0.101	1.453	0.148	GVC participation does not significantly predict formal market access.
Model 3	Formal Credit Access → DV (Path b)	0.854	0.200	2.794	0.006	Formal credit access significantly mediates the relationship with value capture.
	GVC → DV (Direct Effect, c')	0.692	0.240	3.348	0.001	GVC participation retains a significant direct effect on value capture (partial mediation).

Table 5.24: Summary of Mediation Analysis Results Using Baron and Kenny Method Notes:

- DV = Value Capture
- Mediator = Formal Credit Access and Formal Market Access
- Model 1 tests the total effect.
- Model 2 examines the effect of the GVC on each mediator (Path a).
- Model 3 assesses the mediating effects (Path b) and the direct effect (c').

Overall, the study highlights that GVC participation directly influences value capture and also operates through an indirect pathway mediated by formal credit access as shown in Figure 5.1 below. While formal market access was proposition ed to play a mediating role, the analysis suggests its contribution is insignificant in this context.

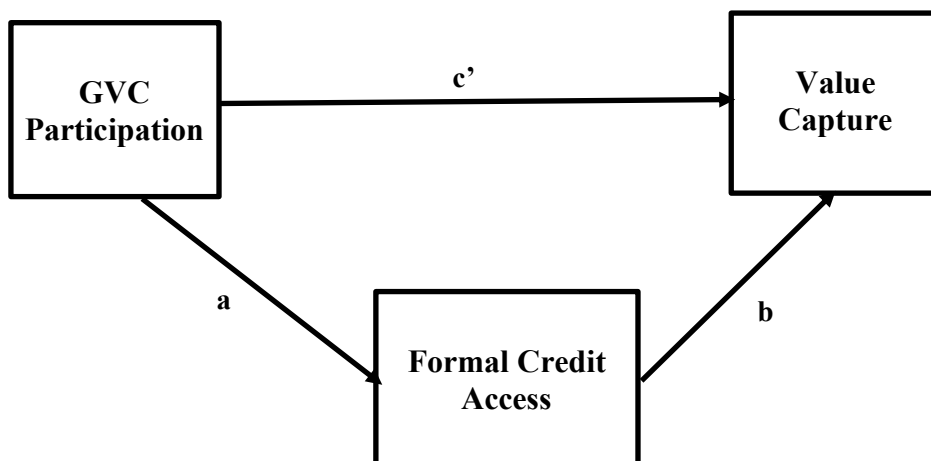


Figure 5.1: Mediation Model of GVC Participation, Formal Credit Access, and Value Capture

The process unfolds as follows:

1. **Direct Pathway (c'):** GVC participation positively impacts value capture through direct mechanisms, such as enhanced access to high-value markets and increased opportunities for economic gains.
2. **Indirect Pathway via Formal Credit Access:**
 - GVC participation significantly improves actors' ability to access formal credit (path a).
 - Formal credit access, in turn, enables actors to scale operations, invest in productivity-enhancing inputs, and achieve greater economic resilience (path b). This leads to increased income, better prices, and the ability to sustain household needs, collectively enhancing value capture.
3. **Limited Role of Formal Market Access:** Despite the potential for formal market access to improve value capture, the study finds that GVC participation does not significantly impact formal market access, nor does it mediate the value capture process.

5.5 Discussion of Findings

The findings of this study provide critical insights into the structural and institutional factors shaping agro-food smallholders' participation in Global Value Chains (GVCs). While formalization and market integration are widely recognized as pathways for economic upgrading, this study reveals that institutional quality, access to essential inputs, cooperative participation, contractual engagement, and financial inclusion significantly influence agro-food

smallholders' ability to transition from informality to structured markets. These findings align with global research on agricultural value chains, which emphasize the role of institutional frameworks, financial access, and structured markets in enhancing smallholder competitiveness (Barrett et al., 2019; Reardon et al., 2018). However, unlike in advanced economies where institutional efficiency enables seamless market integration, weak regulatory enforcement, fragmented input distribution, and the persistence of informal support networks continue to define the experience of agro-food smallholders in Kaduna State.

A central finding of this study is the continued dominance of informal market transactions among agro-food smallholders, which underscores the limited role of formal institutions in facilitating access to critical inputs. Government programs account for only 1.9% of input provision, while NGO interventions contribute just 8.7%, leaving the majority of agro-food smallholders reliant on informal sources. This trend mirrors findings in other developing economies, where weak public-sector agricultural support systems force smallholders to depend on informal networks for input procurement (Minten, Reardon, & Chen, 2017). In contrast, developed economies with robust agricultural policies like the European Union's Common Agricultural Policy (CAP), provide structured input access through subsidies, cooperative-led procurement systems, and financial support, reducing reliance on informal markets (Swinnen & Kuijpers, 2019). Addressing this gap in developing countries like Nigeria requires policy reforms that strengthen public-private partnerships (PPPs) in input distribution, ensuring reliable access to standardized, high-quality inputs at affordable prices.

Institutional quality emerges as a key determinant of GVC participation, reinforcing the study's third proposition that improved institutional frameworks are positively associated with reduced informality and increased upgrading. Agro-food smallholders with access to structured support mechanisms, such as cooperatives and contractual agreements, were significantly more likely to integrate into formal value chains. The data reveal that 25.2% of agro-food smallholders source inputs from cooperatives, highlighting their role in aggregating demand, improving market access, and enhancing bargaining power. However, governance challenges, elite capture, and inefficiencies limit cooperatives' potential as effective market intermediaries. Evidence from Brazil and India demonstrates that well-governed cooperatives can enhance smallholder participation in export markets by negotiating favorable contracts and providing technical and financial assistance (Bijman et al., 2008). Strengthening the cooperative model in developing countries (Nigeria inclusive) through policy incentives that promote inclusivity,

transparency, and institutional linkages with agribusinesses could significantly improve agro-food smallholders' competitiveness in formalized value chains.

Beyond cooperatives, contractual arrangements have emerged as a powerful tool for enabling value capture, facilitating access to essential resources, technical training, and price stability. However, this study highlights the exclusionary nature of contract farming, as highly informal agro-food smallholders are largely unable to access such arrangements due to financial constraints, lack of legal awareness, and perceived risks. Comparative studies in Southeast Asia reveal that structured contract farming models have successfully integrated smallholders into formal markets through gradual formalization pathways (World Bank, 2020). Nigerian policymakers should consider hybrid contractual models that offer incremental access to structured agreements, allowing informal agro-food smallholders to integrate into value chains while mitigating initial risks and compliance burdens.

Another major barrier to formal market participation is the high cost and poor quality of agricultural inputs, which hinder productivity improvements. This challenge is exacerbated by financial constraints that prevent agro-food smallholders from investing in mechanization or improved inputs. While targeted subsidy programs and financial interventions, such as microcredit schemes, have proven effective in countries like Kenya and Bangladesh (Swinnen & Kuijpers, 2019), the findings indicate that existing financial inclusion mechanisms in Kaduna remain poorly integrated into agricultural value chains. With 98.5% of surveyed agro-food smallholders relying on personal savings or informal lending for financing, it is clear that financial exclusion limits investment capacity and long-term upgrading. Strengthening microfinance integration, cooperative-backed credit schemes, and digital financial solutions tailored to agro-food smallholders would be essential in overcoming these constraints.

The role of extension services in upgrading agro-food smallholders is also a significant finding of this study. Although 49.5% of agro-food smallholders report receiving some form of extension support, highly informal agro-food smallholders remain largely excluded, limiting their ability to adopt improved farming practices and integrate into structured markets. This contrasts with developed economies where decentralized extension systems, such as the U.S. Cooperative Extension Service and Germany's industry-led advisory networks, provide continuous training, digital advisory platforms, and on-the-ground support to ensure smallholders' competitiveness (OECD, 2021). Given the exclusion of highly informal agro-food smallholders from extension programs in Kaduna, a decentralized, community-based

extension model that leverages local farmer groups, cooperatives, and digital advisory tools is necessary to improve knowledge dissemination and enhance technical capacity.

A particularly striking insight from the study is the possibility of an ***Informality Trap***. Many highly informal smallholders operate on the margins of structured markets, facing significant barriers that limit their participation in more formalized and higher-value economic activities. While they recognize the potential benefits of formalization like improved market access, stability, and income growth, they are deterred by institutional inefficiencies, including corruption, complex bureaucratic procedures, and weak contract enforcement. These challenges make formalization both costly and uncertain, leading many smallholders to remain in low-value, informal arrangements where entry barriers are lower but opportunities for scaling and upgrading are limited.

At the same time, their operations are sustained by informal support ecosystems, which provide crucial short-term buffers but offer limited prospects for long-term transformation. These networks, including community lending groups, social trust mechanisms, and local trade relationships help mitigate immediate financial constraints and ensure business continuity. This finding resonates strongly with Kombe et al. (2022), who documented how informal social capital and community networks in Dar es Salaam provided vital safety nets, enabling residents to cope with the economic shocks of the COVID-19 pandemic. However, while these systems serve as essential coping mechanisms, Kombe et al. also highlighted their limitations in driving substantial economic improvement or overcoming structural vulnerabilities. Thus, these informal ecosystems, while crucial for survival, can inadvertently reinforce a cycle of informality by discouraging long-term investment in formalization, contributing directly to the informality trap.

These dynamics can be effectively interpreted through the lens of **Rational Choice Theory (RCT)**, which posits that actors make strategic decisions to maximize their utility based on perceived incentives. The findings of this study demonstrate a clear trade-off between **short-term and long-term incentives**. For many smallholders, particularly those in the 'Highly Informal' cluster, the **short-term incentives** of the informal economy—such as immediate cash payments, avoidance of bureaucratic costs, and the flexibility to adapt to market volatility—are highly valued and rationally chosen. In contrast, the **long-term incentives** of formal GVC participation—such as price stability, access to better inputs, and potential for higher income—are often perceived as uncertain, difficult to access, or contingent on high upfront costs. The

'Informality Trap' can thus be understood as a rational equilibrium where the immediate, certain benefits of the informal system outweigh the perceived risks and delayed rewards of the formal system.

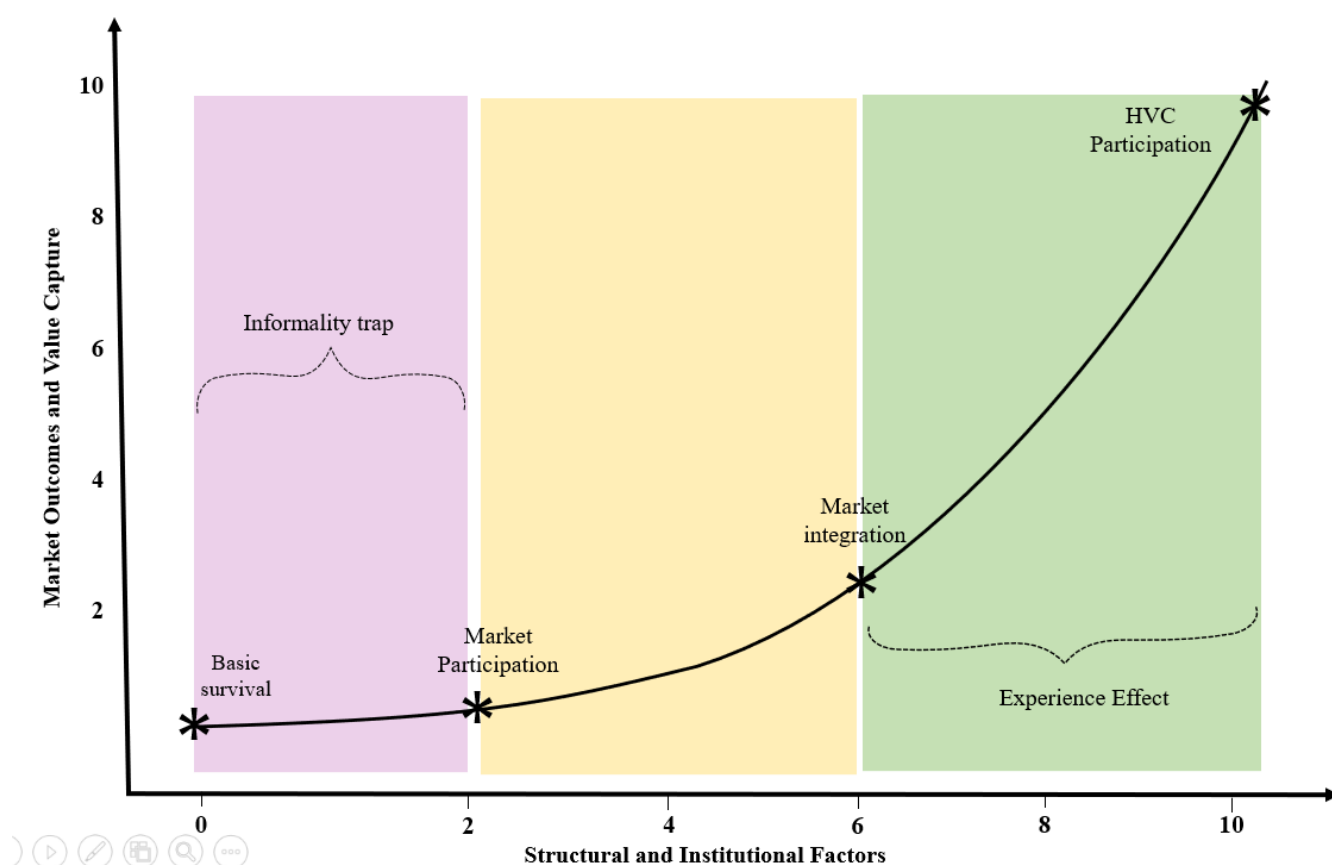


Figure 5.2: Continuum of Formality and Market Participation

As illustrated in Figure 5.2, positioning agro-food smallholders along the *Formality Continuum* reveals that their ability to upgrade is shaped by the interplay of institutional conditions, market incentives, and the mediating role of informal support systems. Institutional conditions—such as regulatory stability, contract enforcement, and access to structured finance—play a decisive role in shaping agro-food smallholders' economic decisions. Weak institutions, characterized by inconsistent regulations and high compliance costs, increase the risks of formal market participation, discouraging agro-food smallholders from transitioning out of informality. Market outcomes further reinforce this process: agro-food smallholders integrated into structured value chains benefit from greater price stability, higher incomes, and improved resource access, while those in informal markets remain vulnerable to price volatility and exploitative intermediaries.

The figure further illustrates the varying degrees of market engagement among agro-food smallholders, shaped by institutional conditions, market incentives, and informal support systems. Agro-food smallholders' positions along this continuum range from extreme informality, where survival depends on subsistence farming and informal networks, to full integration into high-value chains with access to structured markets and formal financial mechanisms. Progression along these stages is neither automatic nor guaranteed, as barriers such as weak institutional frameworks, high compliance costs, and the persistence of informal coping mechanisms often limit upward mobility. The four stages - **Basic Survival, Market Participation, Market Integration, and HVC Participation** - highlight the structural constraints and opportunities that define agro-food smallholders' economic trajectories.

1. **Basic Survival** – Agro-food smallholders at this stage operate in conditions of extreme informality, relying on subsistence farming small-scale trade with no or minimal market linkages. They lack access to formal credit, structured markets, and institutional support, making them highly vulnerable to economic shocks. Their operations are sustained by informal support networks, such as family assistance, community lending, which provide short-term stability but do not facilitate long-term economic mobility. This reliance on informal networks for survival mirrors the findings of Kombe et al. (2022), where such networks were essential coping strategies during crisis but insufficient for advancement.
2. **Market Participation** – At this stage, agro-food smallholders begin engaging with markets, though primarily through informal channels. They sell their produce to local traders or intermediaries but remain outside structured value chains. Institutional inefficiencies (e.g complex regulations, weak contract enforcement) discourage formalization. While informal networks help mitigate risks, they also reinforce dependency on low-value, informal arrangements that limit opportunities for scaling.
3. **Market Integration** – Agro-food smallholders in this category have stronger ties to structured markets, often through cooperatives. They have partial access to formal financing or extension services, but high compliance costs and institutional bottlenecks remain significant challenges. The potential benefits of formalization like stable prices and better market access are recognized, yet the risks and uncertainties keep some from fully transitioning.

4. **HVC Participation** – At the highest level of the continuum, agro-food smallholders are fully integrated into high-value chains, benefiting from structured contracts, formal financing, and institutional support. They experience higher productivity, income stability, and resilience against market volatility. Exposure to formal market benefits reinforces their long-term commitment to regulatory compliance and structured market participation. Unlike agro-food smallholders in earlier stages, they are significantly less likely to revert to informality, as the advantages of formal engagement outweigh the barriers.

Between the dynamics pushing towards formalization (market incentives, institutional improvements) and those reinforcing informality (barriers, risks) lies the ***Informal Support Ecosystem***, which plays a dual role. On one hand, informal networks—such as trust-based lending, community savings groups, and informal extension services—offer immediate economic security, particularly for highly informal agro-food smallholders who lack institutional access. This function as a safety net was empirically demonstrated by Kombe et al. (2022). However, while these systems provide short-term resilience, they also entrench agro-food smallholders in a cycle of economic stagnation by limiting their incentives and capacity to transition to formal structures, again aligning with the limitations observed by Kombe et al.. This dynamic mirrors patterns observed in Latin America, where informal economies persist due to the perceived risks and costs of formalization (Pietrobelli & Rabellotti, 2011).

At the opposite end of the Formality Continuum is the ***Experience Effect***, where agro-food smallholders who successfully integrate into structured markets develop a sustained appreciation for formalization due to repeated exposure to its benefits. Agro-food smallholders engaged in formal contracts, cooperatives, and structured financial systems are less likely to revert to informality, as they recognize the advantages of regulatory compliance, price stability, and financial inclusion. Similar trends have been observed in Southeast Asia, where participation in structured agricultural programs fosters learning effects that enhance productivity and income stability (Swinnen & Kuijpers, 2019).

The ability of smallholders to transition from the ***Informality Trap*** to the ***Experience Effect*** depends on how institutional policies, market incentives, and informal support networks

interact. Without targeted interventions that lower the barriers to formalization and enhance the benefits of structured market participation, many smallholders will remain trapped in informality—not necessarily as a preference, but as a rational response to an unfavorable institutional environment. However, when regulatory frameworks provide clear and sustained advantages—such as transparent contract enforcement, reduced compliance burdens, and accessible financial mechanisms—agro-food smallholders are more likely to integrate into structured markets and sustain their engagement, reinforcing long-term upgrading. This underscores the urgent need for policy interventions that not only reduce structural barriers to formalization but also leverage the demonstrated resilience of informal support networks (as seen in Kombe et al., 2022) to facilitate smoother transitions.

5.6 Chapter conclusion

This chapter has provided an in-depth analysis of agro-food smallholders' participation in GVCs, highlighting the structural, institutional, and market-related dynamics that shape their engagement. The findings reveal that while formalization and integration into structured markets offer clear economic benefits (like price stability, improved income, and access to productive resources) many smallholders remain trapped in informality due to institutional inefficiencies, financial constraints, and reliance on informal support systems. These structural barriers create a self-reinforcing cycle, where the costs and uncertainties of formalization deter smallholders from transitioning into structured markets, while informal mechanisms provide only temporary relief rather than a sustainable pathway for economic upgrading.

The analysis further demonstrates that participation in GVCs is not a uniform process but occurs along a continuum, ranging from basic survival in informal markets to full integration into high-value chains. Agro-food smallholders' positioning along this continuum is influenced by institutional conditions, market incentives, and the role of the informal support ecosystem. At one end, the Informality Trap captures smallholders who, despite recognizing the benefits of formalization, remain excluded due to bureaucratic hurdles, lack of financial access, and weak contract enforcement. At the other end, the Experience Effect describes smallholders who, through repeated exposure to structured markets and formal institutions, develop sustained participation patterns, benefiting from regulatory compliance, contract stability, and financial inclusion. The ability to transition between these two states is contingent upon targeted policy interventions that address structural disincentives while reinforcing the advantages of formalization.

The study's empirical findings reinforce the third and fourth propositions tested in this chapter. The results confirm that institutional quality plays a decisive role in reducing informality and facilitating upgrading among agro-food smallholders. Agro-food smallholders with access to structured support mechanisms—such as cooperatives, contractual agreements, and government-backed initiatives—are more likely to integrate into formalized value chains. Additionally, the availability of formal credit and structured market access significantly mediates the relationship between GVC participation and value capture. Agro-food smallholders who can secure financial resources and direct market linkages demonstrate higher levels of income stability and reinvestment capacity, reinforcing the critical role of financial inclusion in economic upgrading.

However, the study also highlights persistent policy gaps that hinder effective formalization. Current institutional frameworks remain fragmented, with government support mechanisms failing to reach the most vulnerable smallholders. The low participation rates in government-backed financial and extension services suggest that existing programs either lack accessibility or fail to address the real constraints facing smallholders. Additionally, while cooperatives and contractual arrangements are effective in bridging market gaps, governance challenges, elite capture, and trust deficits limit their inclusivity and efficiency.

To break the Informality Trap and reinforce Experience Effects, the findings underscore the need for a dual policy approach: reducing structural barriers to formalization while leveraging informal support networks to facilitate gradual integration into structured markets. Policymakers should focus on simplified regulatory frameworks, financial inclusion strategies, and decentralized agricultural support services to create an enabling environment for formalization. Moreover, strengthening cooperative governance, expanding contractual engagement with agribusinesses, and embedding financial services within structured farming agreements could enhance smallholders' ability to sustain long-term participation in GVCs.

Overall, the findings of this chapter contribute to a deeper understanding of how structural and institutional conditions shape smallholders' market participation. By conceptualizing GVC engagement as a continuum rather than a binary process, the study provides critical insights into how smallholders navigate between informality and structured market systems.

Chapter 6: SUMMARY, CONCLUSION, RESEARCH CONTRIBUTIONS, AND FUTURE DIRECTIONS

6.1 Summary

The persistence of informality in developing economies, despite their integration into Global Value Chains (GVCs), presents significant challenges to economic and social development. This study investigates the impact of informality within GVCs on development, focusing on Nigeria's agricultural sector. The research aims to understand the determinants of persistent informality, evaluate the influence of institutional factors, and propose strategies for enhancing value capture among informal actors within GVCs. The study is guided by four primary objectives:

- To examine the relationship between informality among agro-food smallholders and their income levels, access to credit, and overall well-being, considering the influence of GVC participation.
- To assess the relative importance of perceived costs versus perceived benefits of formalization in predicting continued informality.
- To evaluate the impact of improved institutional quality on reducing informality and facilitating upgrading among firms engaged in GVCs.
- To investigate the mediating role of access to formal credit and markets in the relationship between GVC participation and value capture for informal actors.

Recognizing the diversity of informal actors, the study moves beyond a binary distinction between formal and informal economies. Instead, it conceptualizes informality as a **continuum**, where actors transition through varying degrees of engagement with formal institutions. This approach allows for a more nuanced analysis of policies that support informal actors without overburdening them - a critical concern in developing economies like Nigeria, where traditional economic structures such as village-based finance and cooperative models play a significant role in market participation.

The research employs a mixed-methods approach, combining quantitative and qualitative data. Structured surveys provide robust statistical insights, while semi-structured interviews with agro-food smallholders, policymakers, and representatives of agricultural organizations capture the lived experiences of informal actors. Structural Equation Modeling (SEM)

identifies key drivers of informality, including regulatory compliance, access to formal credit, structured exchange participation, market integration, and access to information. Cluster analysis then categorizes respondents into four distinct groups along the formality-informality continuum, highlighting variations in market access, income stability, and institutional engagement. Findings underscore that financial constraints and regulatory barriers inhibit formalization, but informality is not merely a function of resistance to compliance. Instead, informal actors navigate institutional structures based on cost-benefit trade-offs.

To test the study's propositions, mediation regression analysis and cross-tabulation techniques were employed. The findings challenge the conventional assumption that regulatory compliance alone drives formalization. Instead, the results underscore the dominant role of structured exchange relationships, contract-based trade, and informal support networks in shaping market participation. Formal regulatory compliance and access to formal credit were found to have weak and statistically insignificant effects on market access, highlighting the limitations of generic financial inclusion strategies in fostering formalization. The study's findings reveal that informal actors do not resist formalization outright; rather, they navigate existing institutions based on rational cost-benefit trade-offs. Many perceive formalization as imposing higher costs than benefits, leading them to rely on informal market linkages and community-based financial mechanisms. Other key findings are summarised below:

A. Dominance of Informal Transactions and Implications for Well-Being

Despite the recognized benefits of formalization, informal transactions continue to dominate agricultural trade in Kaduna State, shaping agro-food smallholders' economic trajectories and well-being. The study finds that the vast majority of agro-food smallholders rely on informal input sources and trade networks, primarily due to inefficiencies within formal institutions. This reliance is driven by structural constraints, including limited financial inclusion, weak state support, and the high transaction costs associated with formalization. While formal market participation offers potential advantages such as stable pricing, access to high-quality inputs, and structured buyer agreements, agro-food smallholders perceive these benefits as inaccessible or insufficient to justify the costs of compliance. Instead, informal trade networks provide immediate access to essential inputs and flexible credit arrangements, reinforcing their dominance in agricultural markets.

The absence of structured institutional support significantly contributes to this informality trap. The study reveals that government programs account for only 1.9% of input provision, while

NGO interventions contribute just 8.7%, leaving the overwhelming majority of smallholders reliant on local traders, middlemen, and community-based financing. Unlike in advanced economies, where structured procurement mechanisms and cooperative-led financing models reduce informality, agro-food smallholders in Kaduna operate within fragmented value chains characterized by fluctuating prices, unreliable input distribution, and exploitative intermediaries. This lack of state-backed interventions creates an environment where informal credit systems and community lending groups fill the institutional void, offering agro-food smallholders temporary financial relief while limiting long-term investment in productivity-enhancing activities.

The dominance of informal transactions extends beyond input access, negatively affecting agro-food smallholders' income sufficiency, credit access, and overall economic stability. The study's well-being indicators reveal that agro-food smallholders in low-formality categories consistently report poorer financial outcomes, while those with higher levels of formality benefit from increased income security, improved creditworthiness, and greater resilience against market shocks. The findings from a two-way ANOVA confirm that informality has a statistically significant negative impact on access to credit ($p < 0.001$) and income levels ($p < 0.01$), even after controlling for GVC participation. This evidence suggests that, while informal markets provide short-term economic flexibility, they do not facilitate sustained income growth or financial security—key determinants of long-term economic well-being.

High-formality smallholders, in contrast, demonstrate greater financial stability, with higher reported income sufficiency and lower dependency on informal credit networks. Their ability to access structured buyer agreements, government-backed financial schemes, and cooperative loan programs enables them to reinvest in productivity-enhancing technologies, reinforcing a cycle of economic upgrading. The study highlights that formal market engagement provides the stability and predictability necessary for long-term business planning, whereas informality exposes smallholders to income volatility, price manipulation by middlemen, and high-interest informal loans.

Addressing these disparities requires a multi-pronged policy approach that acknowledges the structural barriers preventing agro-food smallholders from transitioning into formal markets. Expanding input subsidies, streamlining credit access, and ensuring regulatory protections against market exploitation would create a more enabling environment for smallholders to

formalize their operations. Additionally, integrating informal credit mechanisms with formal financial services—such as microfinance-backed cooperative loans—could offer a transition pathway that preserves the flexibility of informal financing while providing structured investment opportunities.

B. The Formality-Informality Continuum, Strategic Adaptation, and Formalization Barriers

Findings from this study reveal that informality in Nigeria's agricultural sector is not merely a residual of economic underdevelopment but a strategic adaptation influenced by economic, institutional, and cognitive factors. Informal actors make rational decisions when opting for informal arrangements due to cost-benefit considerations, including high taxation, complex bureaucratic processes, and limited trust in state institutions. The informal support ecosystem—social networks, community-based credit schemes, and traditional cooperatives such as *esusu* and *adashi*—functions as an alternative governance structure, sustaining economic activity in rural areas where formal institutions remain weak or inaccessible. This aligns with historical patterns of informal financial institutions in Nigeria, where trust-based systems have long provided liquidity and stability in the absence of structured financial inclusion.

Informality persists as an adaptive response to inefficiencies within the formal economy. Agro-food smallholders, constrained by restrictive regulatory frameworks and prohibitive compliance costs, often resort to informal structures that offer greater operational flexibility. The burdens of registration, taxation, and bureaucratic red tape render full formalization unattractive. Rather than being a sign of backwardness, this strategic informality allows economic actors to navigate institutional voids, ensuring business continuity despite governance shortcomings. Cognitive biases and social norms further reinforce informality, with many agro-food smallholders inheriting informal agricultural practices that foster a deep-rooted distrust of formal financial and regulatory institutions. Government inefficiency and corruption exacerbate this resistance, as informal institutions often provide faster, more reliable access to credit, dispute resolution, and market information than formal mechanisms.

This study challenges the conventional binary distinction between formal and informal economies, instead conceptualizing informality as a continuum where actors engage with formal structures to varying degrees. Agro-food smallholders make calculated decisions rather than being passively constrained by institutional barriers. The study identifies five core

dimensions shaping informality: Formal Regulatory Compliance (FRC), Access to Formal Credit (AFC), Formal Exchange Arrangements (FEA), Formal Market Access (FMA), and Information Access (IA). These factors influence how smallholders navigate market participation and institutional engagement, leading to the formation of four distinct clusters: Highly Informal, Moderately Informal, Moderately Formal, and Highly Formal. Agro-food smallholders in the Highly Informal cluster operate predominantly within trust-based community networks, while those in the Highly Formal cluster are integrated into structured value chains with access to financial institutions and regulatory stability. The Moderately Informal and Moderately Formal groups represent transitional spaces where hybrid strategies are employed based on market conditions and regulatory constraints.

Financial exclusion is a significant barrier to formalization. While structured financing mechanisms exist, many smallholders remain excluded due to stringent collateral requirements and limited financial literacy. Informal credit arrangements—such as rotating savings groups and trust-based borrowing—are preferred for their flexibility but ultimately trap smallholders in low-capital cycles that limit productivity-enhancing investments and prevent compliance with the quality standards required for integration into high-value supply chains. Institutional inefficiencies further exacerbate informality, as the regulatory environment in Kaduna State presents substantial bureaucratic obstacles. Agro-food smallholders report lengthy registration processes, inconsistent policy enforcement, and excessive taxation as deterrents to formalization. Even those who attempt to transition toward formal market structures often face governance barriers that erode trust in formal institutions, reinforcing reliance on informal networks. While these networks offer accessibility, they also constrain long-term economic scalability and upgrading opportunities.

A recurring theme from the empirical findings is the perceived asymmetry between the costs and benefits of formalization. Informal actors who engage in structured value chains do not always experience significant income gains or improved market positioning. Instead, formal engagement frequently entails compliance costs—such as licensing fees and tax obligations—without guaranteeing higher-value trade opportunities. As a result, many informal actors adopt a hybrid approach, selectively participating in formal markets while maintaining informal mechanisms to preserve flexibility, resilience, and immediate liquidity. These findings underscore that formalization is not a straightforward path to economic prosperity, suggesting that policy interventions should prioritize reducing transaction costs, improving institutional

efficiency, and designing hybrid formal-informal systems that facilitate smoother transitions along the continuum.

C. The Role of Institutional Quality in Informality Reduction and Upgrading

Institutional quality plays a decisive role in shaping smallholders' ability to transition from informal market participation to structured engagement within Global Value Chains (GVCs). The findings of this study reveal that smallholders with access to well-structured institutional mechanisms—such as cooperatives, contractual agreements, and government-backed support programs—demonstrate a higher likelihood of formalization. However, persistent weaknesses in regulatory enforcement, fragmented institutional support, and deep-seated distrust in formal mechanisms have prevented widespread upgrading. These institutional deficiencies reinforce informality, as smallholders often perceive formal market participation as costly, uncertain, and administratively burdensome.

A critical insight from the study is that formalization is more effectively driven by market-based incentives rather than regulatory enforcement. While compliance with formal regulations—such as tax registration and licensing—is traditionally seen as the hallmark of formalization, the study finds that smallholders are more inclined to transition into formal markets when doing so yields tangible economic benefits. Specifically, structured trade arrangements—such as contract farming and cooperative-led aggregation—create incentives for compliance by offering better prices, more stable demand, and access to essential production inputs. These findings challenge conventional regulatory approaches that emphasize punitive measures for non-compliance, instead advocating for policies that lower the economic and administrative burdens of formalization while strengthening the financial benefits of structured market participation.

One of the most significant findings is the role of cooperatives as a bridge to formalization. Cooperative membership emerged as the most consistent predictor of regulatory compliance, significantly increasing agro-food smallholders' access to credit, structured markets, and extension services. Unlike direct regulatory interventions, cooperatives function as intermediaries that reduce transaction costs, aggregate smallholder produce, and improve collective bargaining power. However, despite their potential, cooperatives in Kaduna State face governance challenges, including elite capture, poor leadership structures, and financial mismanagement, which undermine their effectiveness. Strengthening cooperative governance and linking them with agribusiness firms could enhance their capacity to facilitate formal market integration. Evidence from successful cooperative models in Brazil and India suggests

that well-governed cooperatives play a transformative role in scaling up smallholder participation in formalized value chains by improving creditworthiness, reducing market uncertainty, and enhancing access to high-value agricultural markets.

Beyond cooperatives, the absence of structured procurement and financial support mechanisms exacerbates agro-food smallholders' reliance on informal trade networks. Unlike in developed economies, where institutional efficiency facilitates seamless market integration, Kaduna's agricultural sector is characterized by fragmented input supply chains, weak contract enforcement, and a lack of financial incentives for formalization. The study finds that, in the absence of reliable institutional frameworks, smallholders gravitate towards informal channels where flexibility and trust-based transactions provide short-term stability, even if they limit long-term upgrading opportunities. The limited penetration of formal credit further reinforces this cycle, as smallholders unable to access institutional financing remain dependent on informal lending networks that do not support large-scale investment in production.

To bridge this institutional gap, the study highlights the need for targeted policy reforms that strengthen institutional linkages between agro-food smallholders and structured value chains. Expanding structured procurement through Public-Private Partnerships (PPPs) could enhance smallholders' access to high-quality inputs, financial services, and stable market linkages. Countries like Kenya and India have successfully implemented cooperative-led financing models that combine institutional credit with market-based incentives, allowing smallholders to transition from informal trade networks to structured value chains. Similarly, streamlining contract enforcement through simplified legal frameworks and dispute-resolution mechanisms could reduce the perceived risks of formal participation, encouraging greater engagement in contract farming and enterprise partnerships.

Ultimately, the findings suggest that institutional reforms should focus on reducing the cost of formalization while maximizing its economic benefits. This requires a shift from rigid regulatory compliance measures toward incentive-driven approaches that align formalization with economic upgrading. By strengthening cooperatives, improving contract enforcement, and enhancing institutional efficiency, policymakers can create an enabling environment where smallholders view formal market participation not as an administrative burden, but as a pathway to greater economic resilience, competitiveness, and long-term value capture.

D. Informal Support Ecosystems as Substitutes for Formal Institutions

The informal support ecosystem plays a dual role in shaping agro-food smallholders' economic decisions—acting as both a stabilizing force and a barrier to formalization. In environments

where institutional inefficiencies persist, informal networks serve as essential mechanisms for mitigating risks, providing financial liquidity, and facilitating market access. However, while these networks offer short-term resilience, they also reinforce long-term informality by discouraging smallholders from engaging with structured markets, limiting their ability to scale operations and integrate into higher-value agricultural chains.

A key feature of this ecosystem is the informal credit system, which serves as a primary financial lifeline for many smallholders. The study finds that only 1% of respondents accessed formal bank credit, while an overwhelming majority relied on alternative financing mechanisms, such as rotating savings groups, community lending, and trust-based financial arrangements. These informal financial structures provide liquidity in the absence of accessible institutional credit, allowing smallholders to cover immediate production costs without the burden of collateral requirements or high-interest rates. However, while these mechanisms reduce short-term financial strain, they do not facilitate large-scale investments needed for productivity-enhancing innovations, such as mechanization or advanced input adoption. This finding aligns with studies from Latin America, where informal economies persist not due to a lack of awareness about formal credit but because institutional lending frameworks remain restrictive and unresponsive to the needs of smallholders (Pietrobelli & Rabellotti, 2011).

Beyond financial support, social networks and information-sharing mechanisms also play a crucial role in sustaining informal agricultural activities. Smallholders in highly informal and moderately informal clusters depend heavily on trust-based relationships to navigate market uncertainties, secure inputs, and negotiate prices. These informal trade arrangements reduce transaction costs and offer a degree of security in environments where formal contract enforcement is weak. However, they also perpetuate low-value production cycles by limiting agro-food smallholders' exposure to structured value chains. Unlike formal cooperatives, which facilitate bulk purchasing and structured negotiations, informal trade networks remain fragmented, reinforcing asymmetric power dynamics where smallholders are dependent on middlemen and informal traders.

Another critical dimension of the informal support ecosystem is the preference for alternative market structures, where many agro-food smallholders deliberately choose direct sales to consumers or informal traders over structured market participation. The study finds that informal sales channels remain dominant due to lower transaction costs, immediate cash payments, and flexible pricing mechanisms. While these arrangements provide a safety net, they also prevent agro-food smallholders from benefiting from economies of scale, price stability, and structured input supply chains. In contrast, high-value agricultural exporters in

Southeast Asia and Latin America have leveraged structured procurement systems to improve smallholder market access and ensure compliance with international quality standards, demonstrating the potential benefits of integrating smallholders into formalized trade networks (Swinnen & Kuijpers, 2019).

Despite their stabilizing function, informal support ecosystems ultimately entrench economic stagnation by discouraging long-term investment in formalization. Agro-food smallholders who rely heavily on these networks struggle to transition into higher-value agricultural markets due to their limited exposure to formal credit, structured contracts, and institutional extension services. This dynamic underscores the need for policies that bridge the gap between informal and formal structures—rather than attempting to dismantle informal support systems, policymakers should integrate them into hybrid financing models, digital trading platforms, and cooperative-based market linkages. By leveraging informal structures as an entry point to formalization, smallholders can gradually transition toward structured value chains without facing prohibitive compliance costs or institutional barriers.

Ultimately, addressing the persistence of informality requires a nuanced policy approach that does not simply force informal actors into rigid formal structures but instead enhances their capacity to engage with structured markets on their own terms. Strengthening microfinance integration, formalizing cooperative-led aggregation models, and expanding digital payment solutions can help reduce informality's economic constraints while maintaining the flexibility that makes informal networks resilient. By recognizing the strengths of the informal support ecosystem and strategically linking it to formal institutional frameworks, policymakers can create a pathway for smallholders to scale operations, enhance productivity, and capture greater value within GVCs.

E. The Role of Credit and Market Access in Value Capture

Access to formal credit and structured markets significantly mediates the relationship between Global Value Chain (GVC) participation and value capture. However, the findings indicate that existing financial inclusion strategies have had limited success in incentivizing formalization due to exclusionary lending practices, high transaction costs, and weak linkages to formal buyers. Despite the theoretical availability of credit, stringent collateral requirements, high-interest rates, and bureaucratic inefficiencies deter agro-food smallholders from accessing institutional financing. Instead, informal credit networks—such as rotating savings groups and trust-based lending—continue to serve as the primary financial lifeline for the vast majority of

agro-food smallholders. While these informal financial arrangements provide much-needed liquidity and flexibility, they do not support the kind of large-scale capital investments required for sustained productivity enhancement and upgrading within GVCs.

Mediation analysis using the Baron and Kenny method confirmed the critical role of formal credit as an enabler of value capture, revealing a statistically significant indirect effect ($p < 0.01$). The results demonstrated that agro-food smallholders with access to formal credit achieved substantially higher scores on the Value Capture Composite Index compared to those without access. This suggests that financial inclusion—when effectively structured—plays a fundamental role in enhancing agro-food smallholders' ability to reinvest in productivity-enhancing inputs, mechanization, and high-value market integration. In contrast, formal market access did not exhibit a significant mediating effect, largely due to structural inefficiencies such as high transaction costs, contract enforcement challenges, and limited trust in formal institutions. This aligns with findings from other developing economies, where weak financial intermediation restricts access to growth capital, thereby reinforcing the cycle of informality (IMF, 2021; Sposi, Yi, & Zhang, 2021).

The study further reveals that 82% of agro-food smallholders rely on direct-to-consumer sales, reflecting a strong preference for informal market transactions that provide immediate liquidity and pricing flexibility. Only 34% engage with corporate buyers, citing bureaucratic inefficiencies, regulatory complexities, and lack of contract enforcement as primary deterrents. Highly informal actors predominantly avoid structured markets to minimize regulatory exposure, whereas highly formal agro-food smallholders leverage contractual agreements to secure stable market access and negotiate better terms. This divergence underscores the role of transaction costs in shaping informality, as many agro-food smallholders perceive that the cost of compliance—such as adhering to licensing requirements, taxation, and documentation—outweighs the potential benefits of formalization.

Despite these challenges, the study highlights that contractual engagement with agribusiness firms significantly improves agro-food smallholders' ability to capture higher value from their production. Agro-food smallholders engaged in structured agreements reported:

- Higher income stability, as contractual arrangements shield them from price volatility.
- Increased reinvestment in productivity-enhancing inputs, leading to improved yields and quality compliance.

- Greater participation in high-value market segments, where structured buyers demand higher standards but offer premium pricing.

The persistence of credit constraints, however, continues to entrench informality by limiting agro-food smallholders' ability to finance their transition into structured value chains. Without affordable credit, informal actors lack the financial leverage required to scale operations, improve competitiveness, and integrate into high-value agricultural markets. To bridge this gap, the study suggests hybrid financing models that integrate cooperative-backed credit schemes, government-supported agricultural finance, and digital financial inclusion initiatives.

F. Cooperatives and Contract Farming as Market Enablers

Cooperatives and contract farming represent two of the most effective mechanisms for integrating agro-food smallholders into structured value chains. When well-managed, they enhance market access, input availability, and price stability, reducing the risks and uncertainties that discourage formalization. However, in Kaduna State, the study reveals that governance challenges, lack of trust, and structural inefficiencies limit the effectiveness of these mechanisms.

i. The Role of Cooperatives in Market Integration

Cooperatives serve as crucial intermediaries in agricultural markets, allowing agro-food smallholders to aggregate demand, negotiate better input prices, and improve their bargaining power with buyers. The study finds that 25.2% of agro-food smallholders source inputs through cooperatives, underscoring their role in input distribution. However, many agro-food smallholders remain skeptical about their reliability in ensuring fair pricing, consistent market linkages, and transparent management. Weak governance structures, characterized by elite capture, poor leadership, and inadequate financial oversight, create barriers to participation, limiting the full potential of cooperatives as facilitators of formal market engagement. This reflects broader concerns in developing economies, where poorly managed cooperatives often fail to deliver meaningful benefits to agro-food smallholders (Bijman et al., 2016).

Despite these challenges, successful cooperative models in Brazil, India, and Kenya demonstrate that targeted policy incentives—such as cooperative reform programs, capacity-building initiatives, and enhanced financial linkages—can

significantly improve their effectiveness. Strengthening cooperative governance through institutional partnerships, transparency requirements, and accountability frameworks could increase participation and trust. By addressing these governance issues, cooperatives in Kaduna State could evolve into stronger market enablers, reducing transaction costs for agro-food smallholders and facilitating smoother integration into formal value chains.

ii. **Contract Farming as a Pathway to Formalization**

Contract farming has emerged as a powerful tool for enabling value capture, providing agro-food smallholders with stable prices, access to essential resources, and technical training. Structured contracts reduce market volatility, guarantee off-take agreements, and create incentives for quality improvement. However, the study reveals that highly informal agro-food smallholders are largely excluded from contract farming due to financial constraints, lack of legal awareness, and perceived risks associated with rigid contract terms. Many smallholders view formal contracts as inflexible, with strict quality and supply requirements that they struggle to meet.

In environments with weak institutional support and poor contract enforcement mechanisms, contractual disputes frequently arise between agro-food smallholders and buyers, eroding trust and discouraging participation. This aligns with findings from Latin America and Southeast Asia, where contract enforcement failures often lead to side-selling, disputes over quality standards, and breakdowns in buyer-seller relationships (Barrett et al., 2012). Addressing these issues in Nigeria requires robust contract enforcement policies, transparent dispute resolution mechanisms, and contract models that account for the realities of informal actors.

G. Socio-Cultural Norms and Their Influence on Formalization Decisions

The role of social and cultural norms in shaping agro-food smallholders' engagement with formality cannot be overstated. The study finds that 41.7% of respondents have no plans to formalize, while 55.7% perceive informality positively, largely due to its flexibility, autonomy, and adaptability to local economic conditions. Agro-food smallholders who prefer informality often cite historical reliance on non-state economic structures, distrust in government institutions, and language barriers as key reasons for avoiding formalization.

Community-based trade practices, traditional credit systems, and local governance mechanisms have long provided agro-food smallholders with stability and predictability. Many agro-food smallholders perceive government interventions as disruptive rather than enabling,

viewing formalization as an avenue that primarily increases business visibility without necessarily improving profitability, efficiency, or access to better markets. This perception is reinforced by past experiences with inconsistent policy enforcement, where compliance with regulations did not always yield economic benefits. As a result, agro-food smallholders remain skeptical of structured interventions, preferring to operate within familiar and trust-based informal networks rather than navigating bureaucratic formal structures that may expose them to higher costs, taxation, and increased regulatory scrutiny.

Beyond outright resistance to formalization, the study identifies a group of agro-food smallholders who strategically engage in both formal and informal economic activities. These Moderately Informal actors, who represent a significant portion of the surveyed population, participate selectively in formal structures while maintaining informal business practices. For example, 39.91% of these agro-food smallholders comply with tax obligations, but they remain hesitant to fully transition into formality due to fears of additional regulatory burdens, increased financial obligations, and restrictive bureaucratic controls.

H. The Informality Trap and Economic Mobility

The persistence of informality among agro-food smallholders is not merely a result of reluctance to comply with regulations; rather, it is a rational response to high compliance costs, weak institutional support, and economic uncertainty. The study finds that many agro-food smallholders perceive regulatory procedures as excessively complex, time-consuming, and financially burdensome, discouraging them from engaging with formal institutions. Agro-food smallholders in the Moderately Informal and Highly Informal clusters highlight the challenges of navigating bureaucratic inefficiencies, high registration fees, inconsistent policy enforcement, and uncertainty regarding the benefits of compliance. These constraints make formalization both expensive and uncertain, reinforcing their reliance on informal trade networks that offer greater flexibility, lower transaction costs, and reduced exposure to regulatory scrutiny.

A defining characteristic of the Informality Trap is the lack of clear incentives to transition into structured markets. Agro-food smallholders carefully weigh the economic trade-offs of formalization, considering whether the potential benefits—such as better market access, price stability, and financial security—justify the costs associated with registration, taxation, and compliance. The study finds that without strong institutional mechanisms that facilitate clear

economic advantages, many agro-food smallholders conclude that the costs of formal engagement outweigh its benefits, keeping them locked in a cycle of informality. This aligns with findings from Latin America, where the persistence of informal economies is often attributed to institutional inefficiencies rather than a lack of awareness of formal market benefits (Pietrobelli & Rabelotti, 2011).

While weak formal institutions contribute to informality, the presence of robust informal support networks further reinforces it. The study highlights the critical role of informal credit systems, social trust networks, and local trade relationships in sustaining smallholder agricultural activities. Community lending groups, rotating savings associations, and informal credit arrangements help agro-food smallholders navigate financial shocks and access capital without the bureaucratic hurdles associated with formal banking. Given that only 1% of surveyed agro-food smallholders access formal bank loans, informal financial mechanisms act as a substitute for weak formal credit systems, allowing agro-food smallholders to continue operating outside structured financial markets.

Similarly, informal trade relationships—based on trust, verbal agreements, and long-standing social ties—help agro-food smallholders secure market access and reduce transaction risks. While these networks provide short-term economic stability, they also create a dependency cycle that discourages investment in formalization. Agro-food smallholders who rely heavily on informal mechanisms lack the necessary exposure to structured market transactions, standardized pricing systems, and formal credit-building processes, making the transition to high-value agricultural chains more difficult. Without targeted interventions that offer a viable bridge between informal resilience and formal economic opportunities, many agro-food smallholders remain locked in subsistence-level participation, unable to scale their operations.

To enhance economic mobility and encourage formalization, policy interventions must focus on reducing structural barriers while strategically integrating informal networks into formal frameworks. The study underscores that simplifying regulatory processes, lowering compliance costs, and strengthening contract enforcement are critical steps toward creating a more enabling environment for agro-food smallholders. By reducing registration fees, streamlining documentation requirements, and improving regulatory transparency, policymakers can alleviate some of the key disincentives that currently prevent agro-food smallholders from formalizing their businesses. By addressing institutional weaknesses while maintaining the economic security provided by informal networks, policymakers can create a

structured pathway for agro-food smallholders to escape the Informality Trap. This ensures that formalization is not perceived as a financial burden, but rather as an economically viable strategy for long-term sustainability and growth.

6.2 Conclusion

This study has undertaken an in-depth exploration of the complex interplay between strategic informality, participation in Global Value Chains (GVCs), the quality of formal institutions, and the dynamics of value capture among agro-food smallholders, specifically focusing on the context of Kaduna State, Nigeria. Through a robust mixed-methods approach, incorporating quantitative and qualitative data, the research provides valuable insights into the determinants and impacts of informality, as well as potential pathways for enhancing value capture for informal participants operating within this intricate environment.

A central contribution of this thesis is its reconceptualization and empirical validation of informality not as a binary state but as a dynamic “Formality-Informality Continuum.” This perspective challenges conventional assumptions that often portray informal actors as merely resistant to compliance or existing in a separate, disconnected economic sphere. Instead, the findings reveal that Nigerian agro-food smallholders in Kaduna State make calculated, rational decisions, strategically weighing the perceived economic advantages of informality—such as operational flexibility, reduced transaction costs, and immediate liquidity—against the potential long-term benefits of formalization, which include structured market access, enhanced financial security, and productivity-enhancing opportunities. This strategic positioning is a response to, and a navigation of, the prevailing institutional landscape.

A key insight emerging from this research is the decisive role that institutional quality plays in shaping agro-food smallholders' market engagement and their choices along the formality continuum. The study finds that pervasive weaknesses in formal regulatory frameworks, the high perceived and actual costs of compliance, fragmented input distribution systems, and unreliable contract enforcement mechanisms actively discourage many agro-food smallholders from transitioning into more formalized value chains. While formal financial inclusion programs theoretically exist, their practical inaccessibility for most informal actors—due to stringent collateral requirements, prohibitive interest rates, and bureaucratic complexities—is a stark reality. This institutional void reinforces the dominance of informal financial networks,

community-based lending groups (such as *Esusu* and *Adashe*), and trust-based trade relationships. These informal mechanisms serve as critical short-term buffers and enablers of economic activity but, as the study demonstrates, do not inherently facilitate long-term economic upgrading or seamless integration into higher-value GVC segments.

The research also casts a critical light on the Informal Support Ecosystem (ISE), highlighting its profound dual role as both an enabler and a constraint. These networks, built on social trust, informal cooperatives, and alternative credit structures (like the local *Baturiya* system), are indispensable for smallholders, helping them mitigate risks and sustain livelihoods in the conspicuous absence of reliable formal institutional support. However, this study concurs with the notion that while these informal arrangements provide immediate economic security and operational flexibility, they can also inadvertently entrench economic stagnation by reducing the perceived urgency or capacity for investment in formalization and structured market participation. The persistence of informality, therefore, is not merely a function of regulatory non-compliance or a desire to evade the state, but rather a deeply embedded, rational adaptation to enduring institutional inefficiencies and structural constraints within the Nigerian agricultural sector.

Moreover, the findings robustly challenge the conventional assumption that regulatory enforcement alone can effectively drive formalization. Instead, this study reveals that market-based incentives—particularly those embedded in structured Formal Exchange Arrangements (FEA), such as contract-based trade, participation in well-governed cooperatives, and direct engagement with formal enterprises—are far more potent in encouraging smallholders to transition toward more formal operational modalities. Agro-food smallholders who participate in such arrangements demonstrate a significantly greater likelihood of engaging in structured markets, accessing financial resources, benefiting from technical training, and securing more stable buyer agreements. However, the research also identifies substantial governance challenges, issues of elite capture, and operational inefficiencies that currently limit the effectiveness and inclusivity of many existing cooperative structures in Kaduna State, necessitating targeted policy interventions to strengthen their transparency, accountability, and institutional linkages with the broader agricultural GVC ecosystem.

The “Informality Trap” emerges as a critical concern from this research, vividly illustrating how many smallholders remain ensnared in low-value, predominantly informal transactions due to a confluence of regulatory unpredictability, the high costs associated with formalization,

and limited tangible support from formal institutions. The findings strongly suggest that informal actors will only undertake the risks and costs of formalization when its perceived benefits clearly and consistently outweigh these deterrents. This underscores the urgent need for a hybrid approach to formalization—one that acknowledges and seeks to preserve the functional strengths of informality, such as its inherent flexibility and reliance on social trust mechanisms, while simultaneously creating viable pathways for integrating agro-food smallholders into structured value chains. Such pathways should involve gradual formalization processes, the promotion of adaptable hybrid contract models, and the implementation of incentive-driven, rather than purely coercive, regulatory compliance mechanisms.

From a policy perspective, this study emphatically argues that formalization should not be treated as a monolithic, all-or-nothing endeavor. Instead of relying on coercive compliance measures, which often prove counterproductive, policymakers should focus on developing differentiated, tiered interventions that accommodate the diverse levels of formality observed along the continuum. These could range from supporting village-based informal financial models for actors at the lower end of the formality spectrum, to facilitating digital trade and financial literacy for those in transition, and expanding robust credit-market linkages for highly formalized agro-food smallholders. Crucially, targeted efforts to simplify regulatory procedures, reduce the tangible and perceived costs of compliance, and strengthen contract enforcement mechanisms are paramount to lowering the barriers to formalization. This will enable agro-food smallholders in Nigeria to transition toward structured markets without jeopardizing their economic security or dismantling the informal support systems upon which they currently depend.

Ultimately, this research illuminates that informality in Nigeria's agricultural sector, while deeply entrenched, is not an immutable condition. Given appropriately designed institutional interventions, market-based incentives that reward formal engagement, and inclusive financial strategies, agro-food smallholders can progressively integrate into formalized, higher-value agricultural markets. Such integration is key to enhancing their economic well-being, fostering long-term resilience, and allowing them to more effectively participate in and benefit from Global Value Chains.

6.3 Research Contributions

This study offers multifaceted contributions that enhance the understanding of strategic informality, institutional dynamics, and Global Value Chain (GVC) engagement, particularly within the context of Nigeria and similar developing economies. The section focuses on the theoretical, empirical, and policy contributions.

6.3.1 Contribution to Debates and Literature on Informality and Related Theories

This research contributes to ongoing academic debates and enriches the literature surrounding informality, institutional economics, and FDI-assisted investment analysis, primarily by offering empirically grounded insights from the Nigerian agricultural sector.

1. **Advancing the Conceptualization of Informality as a Strategic Continuum:**

A cornerstone of this study is the development and empirical grounding of the “Formality-Informality Continuum” as a core conceptual framework. This framework moves significantly beyond traditional binary (formal/informal) or unidimensional spectrum views often found in the literature (e.g., Perry et al., 2007; Chen, 2012). The research demonstrates that economic actors, specifically agro-food smallholders in Kaduna State, Nigeria, strategically position themselves along this multi-dimensional continuum. This positioning is shown to be a dynamic outcome of their rational (though bounded by imperfect information and cognitive limitations) assessment of institutional incentives and disincentives, prevailing market conditions, socio-cultural norms, and individual behavioural drivers. This conceptualization offers a more granular analytical lens for understanding the “hybrid market model” where actors selectively and strategically engage with both formal and informal institutions. This perspective contributes to the broader literature on economic development by providing a more realistic model of actor behaviour in institutionally complex environments.

2. **Informing Institutional Theory by Empirically Highlighting the Primacy of Market-Based Incentives:** The study contributes to the debates within New Institutional Economics (NIE) and Legalist perspectives on informality (De Soto, 1989; North, 1990) by empirically demonstrating that market-based incentives—particularly those embedded in Formal Exchange Arrangements (FEA) such as contract-based trade and effective cooperative engagement—are significantly stronger predictors of formal market participation and favourable positioning on the continuum than regulatory compliance or state enforcement in isolation. While much of the literature emphasizes

regulatory stringency or its absence as primary drivers of informality, this research provides empirical weight to the argument that transaction costs, the reliability of contract enforcement, and trust in specific institutional arrangements (like well-governed cooperatives or direct buyer contracts) more directly shape the cost-benefit calculus and strategic choices of informal actors. This finding offers an empirical insight to institutional theories by emphasizing the agency of informal actors and the "pull" factors of tangible market opportunities, rather than focusing predominantly on the "push" factors of state coercion or regulatory escape.

3. **Providing Context-Specific Insights for GVC Theory in Developing Country Agriculture:** This research contributes to the literature on GVCs in developing countries by providing critical empirical evidence from Nigeria's agricultural sector that mere participation in GVCs does not automatically ensure economic upgrading or equitable value capture for smallholders, particularly in institutionally weak environments. While GVC frameworks often highlight the potential benefits of global market integration (Gereffi et al., 2005), this study reveals how domestic institutional inefficiencies, pervasive financial constraints, and market fragmentation significantly mediate and often curtail the ability of informal actors to translate GVC participation into sustainable economic benefits. The empirical validation that formal credit access significantly mediates the positive relationship between GVC participation and value capture, whereas formal market access alone does not, offers a crucial insight for understanding upgrading pathways within GVCs in such contexts.
4. **Elaborating on the Dual Role of Informal Support Ecosystems (ISEs) within Informal Economy Literature:** The study makes a notable contribution to the understanding of the informal economy by offering a detailed, empirically grounded exploration of the profoundly dual role of Informal Support Ecosystems (ISEs) in the Nigerian agricultural context. Moving beyond simplistic portrayals of ISEs, this research provides compelling evidence that the ISE (comprising informal credit mechanisms like Esusu and Baturiya, social networks, trust-based exchange, and peer-to-peer knowledge sharing) functions simultaneously as a "lifeline" and an "anchor." As a lifeline, it provides essential liquidity, risk mitigation, and operational support where formal institutions are deficient or absent. As an anchor, however, deep reliance on the ISE can reduce the perceived urgency or capacity for actors to invest in formalization and integrate into higher-value formal markets, thus potentially reinforcing economic stagnation.

5. **Developing and Empirically Grounding the Conceptual Framework of the "Informality Trap" and "Experience Effect":** As part of its core theoretical framework developed and tested within the thesis, this research introduces and provides initial empirical grounding for two dynamic conceptual constructs: the “Informality Trap” and the “Experience Effect.” The Informality Trap describes a self-reinforcing cycle where high perceived costs of formality, deep institutional distrust, and strong reliance on the ISE deter formalization, confining actors to low-value, predominantly informal arrangements even when they recognize potential long-term benefits of formality. Conversely, the Experience Effect posits that positive, repeated, and reliable engagement in structured markets and formal arrangements can build trust, enhance capabilities, reduce perceived risks, and thereby incentivize sustained formal participation and further movement along the continuum. These concepts, central to the thesis's unique framework, offer a dynamic theoretical lens to understand both the persistence of informality and the potential pathways for transition, moving beyond static explanations.

In essence, this study contributes to the broader literature by offering a contextually rich, actor-centric, and dynamic framework for understanding strategic informality. It integrates and provides empirical insights relevant to institutional theory, GVC analysis, and informal economy debates, particularly by highlighting the interplay of institutional environments, market incentives, informal support systems, and the rational (though bounded) decision-making of economic actors in shaping their engagement with formality and their pathways within Global Value Chains in a developing country context like Nigeria.

6.3.2 Empirical Contribution

This study provides novel and contextually rich empirical evidence that significantly advances the understanding of informality, its determinants, and its consequences in the Nigerian agricultural sector, with broader implications for similar developing economies.

1. **Empirically validated a Multi-Dimensional Formality-Informality Continuum:** A major empirical contribution is the first known empirical validation of a multi-dimensional Formality-Informality Continuum specifically within the Nigerian smallholder agricultural context. The study moves beyond anecdotal descriptions or binary classifications to statistically identify and characterize four distinct actor profiles (Highly Informal, Moderately Informal, Moderately Formal, and Highly Formal) based

on their engagement across five validated dimensions of formality (FRC, AFC, FEA, FMA, IA). The finding that nearly half the sample (45.6%) falls into the Highly Informal cluster, while only 8.7% are Highly Formal, provides stark empirical evidence of the pervasiveness of deep informality and the significant challenges to formalization in this sector.

2. **Evidence on the Primacy of Market-Based Incentives (FEA) over Regulatory Compliance in Driving Formalization:** The study provides robust empirical evidence challenging the conventional wisdom that regulatory compliance is the primary gateway to formalization. The PLS-SEM analysis demonstrates that Formal Exchange Arrangements (FEA)—such as participation in contractual farming and structured cooperative marketing—are significantly stronger predictors of formal market access and information access than Formal Regulatory Compliance (FRC) or even Access to Formal Credit (AFC) in direct path models. This is a critical empirical insight for the Nigerian context, suggesting that tangible market benefits are more compelling drivers for formalization than punitive or compliance-driven approaches.

4. **Quantifying the Dual Role and Impact of the Informal Support Ecosystem (ISE):** This research offers unique empirical insights into the functioning and impact of the ISE in Kaduna State. Qualitative data vividly illustrates how informal credit systems (Baturiya), social networks, and trust-based mechanisms provide essential support for livelihoods and risk mitigation. Simultaneously, the quantitative findings (e.g., the characteristics of the Highly Informal cluster heavily reliant on ISE) and qualitative narratives support the "anchor" aspect, showing how deep embeddedness in the ISE can correlate with lower engagement in formal markets and limited upgrading, thus empirically grounding the "double-edged sword" concept.

5. **Empirical Evidence on the Mediating Role of Formal Credit in GVC Upgrading:** The study provides specific empirical evidence on the mechanisms through which GVC participation translates to value capture. The mediation analysis (Chapter 5) reveals that while GVC participation is linked to economic upgrading, this relationship is significantly mediated by Access to Formal Credit. Conversely, Formal Market Access alone did not show a significant mediating effect in this context. This is a crucial empirical finding for Nigeria, highlighting that without addressing financial inclusion constraints, the developmental benefits of GVC integration for smallholders will

remain limited. This directly addresses the need to show how informality impacts GVC outcomes.

6. Context-Specific Evidence on Cooperative Performance and Governance

Challenges: The research empirically demonstrates that while cooperative membership is associated with higher levels of formal regulatory compliance and can improve market access (Table 5.17), their overall effectiveness in driving comprehensive formalization and value capture is hampered by significant governance weaknesses, issues of elite capture, and operational inefficiencies. This provides context-specific evidence on the gap between the potential and actual impact of cooperatives in Nigeria.

7. Empirical Grounding of the "Informality Trap" and "Experience Effect" in Nigeria:

The study offers empirical support for the concepts of the "Informality Trap" and "Experience Effect." The high percentage of agro-food smallholders (41.7%) expressing no intention to formalize, citing distrust, high costs, and satisfaction with informal flexibility, alongside their lower well-being indicators, provides evidence for the Informality Trap. Conversely, qualitative narratives from more formal actors often describe positive feedback loops from successful engagement with structured markets, supporting the Experience Effect.

8. Detailed Profiling of Motivations, Constraints, and Strategic Choices of Informal Actors:

Through the integration of quantitative cluster characteristics (Table 4.9) and rich qualitative data (Section 4.2.2), the study provides a detailed empirical account of the specific motivations (e.g., flexibility, autonomy, trust in ISE) and constraints (e.g., institutional distrust, high compliance costs, tenure insecurity, information asymmetry, cognitive biases like status quo bias) that shape the strategic choices of agro-food smallholders at different points on the formality continuum in Kaduna State. This enhances our understanding of the "rationality" behind persistent informality and the factors contributing to actors being "stuck between two sides."

6.3.4 Policy Contribution

This study offers significant, evidence-based policy contributions aimed at fostering more effective and inclusive strategies for engaging with informality, promoting sustainable formalization, and enhancing value capture for agro-food smallholders in Nigeria and similar developing economies. The recommendations move beyond simplistic calls for universal

formalization towards more nuanced, incentive-based, and context-sensitive approaches. Given the strength of the empirical findings, this section has been expanded to provide more detailed and actionable policy insights, as suggested by examiner feedback.

1. Advocating for a Differentiated, Continuum-Based Policy Approach to Formalization:

A primary policy contribution is the strong empirical argument for abandoning one-size-fits-all formalization policies in favour of differentiated, tiered interventions tailored to the specific needs, capacities, and constraints of actors at different points along the Formality-Informality Continuum. Instead of coercive compliance measures, which can be counterproductive for highly informal actors, policies should support gradual, incentive-driven pathways. This could include:

- For **Highly Informal actors:** Focus on strengthening and legitimizing beneficial aspects of the ISE (e.g., supporting governance of village savings and loan associations like *Esusu* and *Adashe*), providing basic financial literacy and business management skills, ensuring access to fundamental public services (health, education), and improving basic infrastructure that supports their livelihoods. The aim here is to enhance resilience and create a foundation for potential future engagement with more formal systems, rather than immediate, full formalization.
- For **Moderately Informal actors:** Facilitate access to simplified and low-cost registration processes (e.g., "soft registration" models), promote group-based credit schemes with linkages to formal finance, support linkages to less demanding formal markets or reliable intermediaries, and provide targeted training on quality standards and market requirements.
- For **Moderately Formal and Highly Formal actors:** Focus on reducing advanced compliance costs (e.g., streamlining tax administration, simplifying export procedures), improving access to larger-scale and more sophisticated financial products (e.g., value chain finance, agricultural insurance), strengthening contract enforcement mechanisms to protect their investments, and actively facilitating direct GVC linkages and upgrading opportunities. This tiered approach directly responds to the empirical finding of distinct actor profiles and the limitations of current formalization drives that often overlook this heterogeneity.

2. Prioritizing Market-Based Incentives and Strengthening Formal Exchange Arrangements (FEA):

Given the empirical finding that FEA are stronger drivers of formal market participation than regulatory compliance alone, a key policy recommendation is to focus on creating and strengthening market-based incentives that reward formal engagement. This includes:

- Promoting and supporting transparent, fair, and enforceable contract farming schemes, potentially with dispute resolution mechanisms that are accessible to smallholders.
- Facilitating direct and reliable linkages between organized producer groups/cooperatives and formal buyers, processors, and exporters.
- Developing and enforcing clear, achievable quality standards for agricultural produce that are linked to tangible premium prices and market access.
- Investing in critical market infrastructure (e.g., collection centers, cold storage, quality testing facilities, rural roads) that supports structured and efficient trade.
- Exploring public-private partnerships to de-risk initial engagement in formal value chains for both buyers and smallholder groups. This shifts the policy focus from "forcing formality" through compliance to "making formality attractive and economically rational" by demonstrating clear and accessible benefits.

3. Enhancing Financial Inclusion through Context-Appropriate and Hybrid Models:

The study empirically demonstrates the critical mediating role of formal credit in translating GVC participation into value capture, alongside the significant barriers to accessing such credit for informal actors. Policy should therefore promote innovative, hybrid, and context-appropriate financial inclusion strategies that bridge the gap between formal financial institutions and informal actors. This includes:

- Supporting and scaling up effective cooperative-based credit and savings schemes, with emphasis on improving their governance and financial management.
- Facilitating linkages between formal banks and well-functioning informal financial groups (e.g., VSLAs, *Esusu*, *Adashe*), potentially through tiered KYC requirements or group guarantees.
- Encouraging the development of agricultural finance products that are tailored to the specific cash flows, production cycles, and risk profiles of smallholders (e.g., considering non-traditional forms of collateral like warehouse receipts or livestock, offering flexible repayment schedules tied to harvest seasons).

- Expanding digital financial services (e.g., mobile money, agency banking) in rural areas and concurrently investing in digital and financial literacy programs to ensure uptake and effective use.
- Exploring credit guarantee schemes or risk-sharing facilities to incentivize formal lenders to extend credit to smallholder groups or cooperatives. This addresses the finding that current formal financial offerings are often misaligned with the needs, capacities, and trust perceptions of agro-food smallholders.

4. Reforming and Strengthening Cooperative Governance and Functionality for Inclusive Upgrading:

While cooperatives are identified as important vehicles for formalization and market access, their effectiveness is empirically shown to be undermined by governance weaknesses, elite capture, and operational inefficiencies. Policy interventions should therefore focus on:

- Strengthening the internal governance, transparency, financial management, and accountability of agricultural cooperatives through targeted training and support for robust institutional frameworks.
- Promoting democratic participation and inclusive decision-making within cooperatives to prevent elite capture and ensure benefits are widely distributed among members.
- Providing capacity building for cooperative management in areas such as business planning, marketing, negotiation, and quality control.
- Facilitating stronger and more equitable business linkages between well-governed cooperatives and formal agribusinesses, input suppliers, and GVC actors.
- Establishing independent oversight or support bodies that can help cooperatives adhere to good governance principles and resolve internal disputes.

This aims to transform cooperatives from often-ineffective entities into genuinely empowering and effective intermediaries for smallholder economic advancement and GVC integration.

5. Strategically Engaging with and Leveraging the Informal Support Ecosystem (ISE):

Recognizing the ISE's dual role as both a "lifeline" and a potential "anchor", policy should aim to leverage its inherent strengths (e.g., trust, social capital, accessibility, flexibility, rapid information dissemination) while mitigating its constraints (e.g., limited scale, potential to trap actors in low-value activities, exclusion of certain groups). This involves:

- Identifying and partnering with trusted informal leaders, community groups, and existing informal networks (like *Esusu* groups) that can act as bridges to formal systems or channels for disseminating information and delivering support services (e.g., agricultural extension, financial literacy).
- Exploring ways to integrate successful principles of informal financial mechanisms (like group lending, social collateral, flexible repayments) into semi-formal or formal financial products.
- Using informal communication channels (e.g., community radio, local leaders, peer networks) to disseminate accurate information about formal opportunities, market prices, and available support, thereby countering misinformation.
- Avoiding policies that abruptly dismantle or criminalize ISEs without providing viable, accessible, and trusted formal alternatives, as this can undermine existing coping mechanisms and livelihoods.

6. Comprehensive Institutional and Regulatory Reform to Reduce Costs, Enhance Benefits, and Build Trust:

Addressing the "Informality Trap" and fostering an "Experience Effect" requires systemic reforms aimed at reducing the actual and perceived costs of formalization, significantly enhancing the tangible benefits of formal engagement, and rebuilding trust in formal institutions. Key actions include:

- Drastically simplifying business registration, licensing, and tax compliance procedures, particularly for micro and small agricultural enterprises, potentially through accessible digital platforms and one-stop-shops.
- Reducing bureaucratic hurdles, minimizing opportunities for corruption in regulatory processes through greater transparency and accountability mechanisms.
- Strengthening contract enforcement mechanisms and property rights protection to make formal agreements more reliable and secure for smallholders.
- Improving the transparency, responsiveness, and accountability of government agencies that interact with agro-food smallholders (e.g., extension services, input suppliers, regulatory bodies).
- Ensuring that the promised benefits of formalization (e.g., access to government support programs, legal protection, fair dispute resolution) are tangible, consistently delivered, and widely communicated.

- Investing in public awareness campaigns to highlight the benefits of formalization and provide clear guidance on processes, while also acknowledging and addressing agro-food smallholders' legitimate concerns and distrust.

Collectively, these policy contributions advocate for a paradigm shift: from viewing informality primarily as a problem to be eradicated through enforcement, to understanding it as a complex, often rational, strategic response to existing institutional and market realities. The recommendations emphasize creating an enabling, incentive-driven environment where the benefits of progressive, selective formalization become genuinely accessible, tangible, and attractive to agro-food smallholders. This approach is crucial for fostering inclusive growth, enhancing resilience, and enabling more equitable and beneficial participation in Global Value Chains for Nigeria's agro-food smallholders.

6.4 Limitations and Future Directions

Despite offering valuable insights into the dynamics of informality, Global Value Chain (GVC) participation, and value capture within Nigeria's agricultural sector, this study has several limitations that should be acknowledged. Firstly, its geographical focus is confined to Kaduna State, which might restrict the applicability of the findings to other regions with varying socio-economic, cultural, or institutional environments. Secondly, the study employs a cross-sectional design, capturing data at a single moment in time, which does not account for the temporal changes in agro-food smallholders' engagement with formal and informal economies or their participation in GVCs.

Another limitation is the lack of detailed exploration into how technology adoption influences informality and GVC participation. While technology can significantly alter agricultural practices and market access, this study does not delve deeply into these aspects. Additionally, the analysis of value capture within GVCs remains somewhat superficial; a deeper investigation into specific strategies or mechanisms that could lead to enhanced value retention for agro-food smallholders would be beneficial. Lastly, although the study suggests policy interventions, it does not empirically evaluate the impact of these or existing policies, leaving the effectiveness of such recommendations somewhat speculative.

Addressing these limitations would provide a more nuanced understanding and potentially lead to more effective strategies for economic development in agricultural sectors across developing countries.

Further research is therefore needed to deepen our understanding of these complex issues. Specifically, the below may be considered:

1. **Expanding the Scope:** Future research could expand the geographical scope of the study to include other regions in Nigeria and beyond. This would allow for a comparative analysis of informality and GVC participation across different contexts, providing insights into the diverse factors that shape these phenomena.
2. **Longitudinal Studies:** Longitudinal studies could track the experiences of agro-food smallholders over time, providing insights into the dynamic nature of informality and GVC engagement. This would allow for a deeper understanding of the factors that contribute to transitions between formality and informality and the long-term impacts of GVC participation on agro-food smallholders' livelihoods.
3. **Examining the Role of Technology:** Future research could explore the role of technology in shaping informality and GVC participation. This could include examining how digital platforms and mobile technologies are being used by agro-food smallholders to access information, markets, and financial services, and how these technologies can be leveraged to promote greater inclusion and value capture.
4. **Deepening the Analysis of Value Capture:** Further research could delve deeper into the value capture process, exploring the specific factors that enable agro-food smallholders to capture a greater share of the value generated within GVCs. This could include examining the role of collective bargaining, branding strategies, and product differentiation in enhancing value capture.
5. **Exploring the Impact of Policy Interventions:** Future research could evaluate the impact of specific policy interventions aimed at promoting formality, enhancing GVC participation, and facilitating value capture. This would provide valuable evidence to inform policy design and implementation.

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APPENDICES

Appendix I: Data Collection Tools

Questionnaire

Section A: Consent and Identification

1. **Do you have any questions that need clarification?**
 - If yes, indicate questions that you have that require clarification:

2. **Do you wish to proceed and do you consent to the survey?**
 - Yes
 - No
3. **Indicate LGA:** _____
4. **Indicate community:** _____
5. **Indicate name of participant/respondent:** _____
6. **Are you the Head of Household [HoH]?**
 - Yes
 - No
7. **If not, what is your relationship to the Head of Household?**

Section B: Respondent's Demographics

10. **What is \${name}'s sex?**
 - Male
 - Female
11. **Indicate age range for \${name}:**
 - Below 18 years
 - 18-25 years
 - 26-35 years
 - 36-45 years
 - 46-55 years
 - 56-65 years
 - Above 65 years
12. **What is \${name}'s marital status?**
 - Single
 - Married
 - Divorced

- Widowed
- Separated

13. Indicate number of spouses of \${name} (if applicable):

14. Indicate total number of children for \${name}: _____

15. Are any of your children above 18 years old?

- Yes
- No

16. If yes, how many of your children are above 18 years old?

17. Has \${name} ever attended school?

- Yes
- No

18. What is the highest level of education of \${name}?

- No formal education
- Primary education
- Secondary education
- Tertiary education (Specify: _____)
- Vocational/Technical training (Specify: _____)
- Adult literacy program
- Other (Specify: _____)

Section C: Farming Profile and Practices

19. For how many years have you been involved in farming?

20. What is your primary role in farming activities?

- Owner-operator
- Farm manager
- Family labor
- Hired labor
- Other (Specify: _____)

21. What type of farming do you primarily engage in?

- Subsistence (Growing to feed my household)
- Commercial (for sale)

- Mixed (both subsistence and commercial)
- Cluster farming
- Other (Specify: _____)

22. How many acres is your farmland? _____

23. How was your farmland acquired?

- Inheritance
- Purchase
- Lease/Rent
- Gift
- Communal ownership
- Government allocation
- Other (Specify: _____)

24. What is the status of \${name}'s farmland?

- Owned
- Rented/Leased
- Communal
- Borrowed
- Other (Specify: _____)

25. Indicate the crops you produce in order of importance and the percentage of each crop for home consumption and the percentage for sale in the market.

Crop (Order of Importance)	% for Home Consumption	% for Sale
1.	2.	3.

(Add more rows as needed)

26. What farming inputs do you regularly use in your farm? (Select all that apply)

- Pesticides/Herbicides
- Fertilizers
- Improved seedlings
- Others (Specify: _____)

27. Indicate other farming inputs used (if "Others" selected above):

28. How do you cultivate your land? (Select all that apply)

- Manual labour
- Animal draught power
- Use of tractor

- Other (Specify: _____)

29. What farming equipment do you regularly use on your farm? (Select all that apply)

- Hoes & Cutlasses
- Hand-Powered Sprayer
- Watering can
- Irrigation machine
- Storage Facilities
- Protective Equipment
- Others (Specify: _____)

30. Indicate other farm equipment used (if "Others" selected above):

31. What is your primary source of farming inputs? (Select all that apply)

- Local Markets
- Government Programs
- NGOs
- Cooperatives
- Import
- Others (Specify: _____)

32. What are your main challenges with accessing farming inputs? (Select all that apply)

- High cost
- Availability
- Quality
- Transportation
- Knowledge of Use
- Other (Specify: _____)

33. How do you access this farming equipment? (Select all that apply)

- Purchase
- Hiring from government
- Private Hire
- Others (Specify: _____)

34. How are farming equipment purchased? (If "Purchase" selected above)

- Cash
- Loan
- Hire purchase
- Grant
- Other (Specify: _____)

35. What farming season do you engage in?

- Rainy season only
- Dry season only (with irrigation)
- Both rainy and dry seasons

36. If only one season, what livelihood activity do you engage in during the non-planting season? _____

37. Apart from rainfed agriculture, what other sources of water do you have access to? (Select all that apply)

- River
- Wells
- Dam
- Borehole
- Others (Specify: _____)

38. Does the source of water indicated provide you with sufficient water for crop production throughout the year?

- Yes
- No
- Sometimes

39. Indicate other specific source of water (if "Others" selected in question 37):

Section D: Access to Finance and Support Services

40. What are the main sources of credit for farming? (Select all that apply)

- Personal and Family savings
- Informal loans locally
- Bank Loans
- Investor Loans
- Association/cooperative loans
- Government grants
- Other (Specify: _____)

41. Indicate other source of credit for farming (if "Other" selected above):

42. Have you received any type of training on growing crop varieties and/ or on farming techniques?

- ☐ Yes
- ☐ No

43. If yes, please specify what type of training and for how long?

44. Do you receive extension services in your area?

- ☐ Yes
- ☐ No

45. How frequent do the extension officers come to the community?

- ☐ Weekly
- ☐ Monthly
- ☐ Quarterly
- ☐ Annually
- ☐ Rarely/Never
- ☐ Only when called

46. Indicate the source of the extension support received: (Select all that apply)

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☐ University Extension Services
- ☐ Private Extension Services
- ☐ NGOs
- ☐ Other (Specify: _____)

47. What specific support have you received from the extension services? (Select all that apply)

- ☐ Training
- ☐ Loan
- ☐ Equipment
- ☐ Fertilisers
- ☐ Seedlings

- Tractor/Plough
- Market information
- Pest/disease control advice
- Other (Specify: _____)

Section E: Farm Labour

48. How many persons work with/for you on this farm (including yourself)?

49. Indicate the source of your farm labour: (Select all that apply)

- Family Members
- Hired Labour
- Communal Labour
- Self only
- Others (Specify: _____)

50. Indicate other source of farm labour (if "Others" selected above):

51. Do you have enough labour to facilitate crop and livestock production in your household?

- Yes, always
- Yes, most of the time
- No, sometimes face shortages
- No, often face shortages

Section F: Household Characteristics and Assets

52. Indicate type of walls of your main dwelling:

- Mud/Earth
- Wood/Bamboo
- Cement/Concrete blocks
- Burnt bricks
- Stone
- Iron sheets
- Other (Specify: _____)

53. Indicate other type of walls (if "Other" selected above):

54. Indicate type of roof of your main dwelling:

- Thatch/Grass

- Wood/Planks
- Iron sheets/Corrugated metal
- Asbestos
- Concrete/Cement
- Tiles
- Other (Specify: _____)

55. Indicate other type of roof (if "Other" selected above):

56. How many rooms are there in your house (main dwelling)?

57. Indicate house water supply: (Select all that apply)

- In House (Piped)
- Local standpipe (Public tap)
- Collect from well (Protected)
- Collect from well (Unprotected)
- Collect from river/lake/stream
- Borehole in compound
- Rainwater harvesting
- Water vendor/tanker
- Other (Specify: _____)

58. Indicate other type of water supply used in your house (if "Other" selected above): _____

59. Indicate assets owned by the household: (Select all that apply)

- Radio/ Tape recorder
- Generator
- Television
- Refrigerator
- DVD player
- Mobile Phone
- Electric/ Box Iron
- Bicycle/Motorcycle/Tricycle
- Stove (Gas/Kerosene/Electric)
- Fan

- Bed
- Furniture Set (e.g., chairs, table)
- Car
- Cart (animal or hand-drawn)
- Solar Panel
- Plough (animal or tractor-drawn)

60. Indicate number of cattle owned: _____

61. Indicate number of sheep owned: _____

62. Indicate number of goats owned: _____

63. Indicate number of poultry owned (e.g., chickens, ducks, turkeys):

Section G: Food Security and Market Access

64. How many meals does the household consume in a typical day?

- 1 meal
- 2 meals
- 3 meals
- More than 3 meals
- It varies greatly

65. Are there food security programmes in place for farming families in your community?

- Yes
- No
- Don't know

66. Are you involved in any global value chains (GVCs) for your produce?

- Yes
- No
- Don't know what GVCs are

67. What are your main channels for selling produce? (Select all that apply)

- Direct to consumers (e.g., farm gate, local individual buyers)
- Middlemen/Traders/Aggregators
- Local Markets
- Faraway Markets (in other towns/cities)
- Directly to companies (e.g., Olam, Tomato Jos)

- Cooperatives
- Export
- Others (Specify: _____)

68. Indicate other channels for selling produce (if "Others" selected above):

69. What benefits do you derive from selling to the channels you have indicated earlier? (Select all that apply)

- Better prices & income
- Ease of access to market
- Ease of access to inputs
- Ease of access to capital/credit
- Reduced post-harvest losses
- Guaranteed buyer
- Other (Specify: _____)

70. How frequently do you engage with the market to sell your produce during the harvest season?

- Daily
- Weekly
- Bi-weekly
- Monthly
- As needed/when produce is ready
- Rarely

71. What are the main barriers to accessing markets? (Select all that apply)

- Transportation costs
- Lack of market information (prices, demand)
- Low prices offered by buyers
- Payment delays
- Quality standards/Rejection of produce
- Export restrictions
- Poor road infrastructure
- Lack of storage facilities
- Too much competition
- Other (Specify: _____)

72. Do you have enterprise(s) (e.g., companies, processors, large traders) to whom you sell or barter farm produce?

- ☐ Yes
- ☐ No

73. If no, why don't you sell to/barter with those enterprises? (Select all that apply)

- ☐ Lack of information about such enterprises
- ☐ Lack of access to the enterprises (market linkage)
- ☐ Skills & Technological gaps (unable to meet their requirements)
- ☐ High standards requirement (quality, quantity)
- ☐ Insufficient quantities to offer
- ☐ Distance to market/enterprise location
- ☐ Poor prices offered by them
- ☐ Prefer other selling channels
- ☐ Others (Specify: _____)

74. Do you have a special partnership (e.g., preferred supplier) with these enterprises to sell or barter farm produce?

- ☐ Yes
- ☐ No
- ☐ Not applicable (don't sell to enterprises)

75. Do you produce or provide services under a contractual or other agreement for another business or person?

- ☐ Yes
- ☐ No

76. For how long have you been doing this (contract farming/agreement)?
_____ (Years/Months)

77. What other benefits do you get from producing or providing services, purchase of inputs or supplies under a contract or agreement to businesses or persons? (Select all that apply)

- ☐ Training/Technical assistance
- ☐ Financial Loans/Advance payment
- ☐ Input Loans (seeds, fertilizer, etc.)
- ☐ Farming Equipment (access or subsidised)
- ☐ Better/Guaranteed Prices
- ☐ Assured market/Reduced market risk

- Access to new technologies
- Others (Specify: _____)

78. To what extent do you engage with informal markets for your produce?

- Primarily/Exclusively
- Significantly
- Moderately
- Slightly
- Not at all

79. What challenges do you face with formal market participation? (Select all that apply)

- Contractual obligations (difficult to meet, unfair terms)
- Quality standards (stringent, costly to meet)
- Payment terms (delays, unfavourable)
- Access to market information (limited)
- Certification costs (e.g., organic, fair trade)
- High volume requirements
- Competition from larger producers
- Lack of trust
- Other (Specify: _____)

80. How do you perceive the value of participating in GVCs for your farming business?

- Very valuable
- Valuable
- Somewhat valuable
- Not very valuable
- Not valuable at all
- Don't know/No opinion

81. What type of support do you need to improve access to markets? (Select all that apply)

- Infrastructure improvements (roads, storage)
- Financial services (credit, insurance)
- Market information systems
- Training on standards and quality

- Networking opportunities/Linkages with buyers
- Support for collective marketing (cooperatives)
- Reduction in transportation costs
- Government policies favouring smallholders
- Other (Specify: _____)

Section H: Farming Decisions, Risks, and Future Plans

82. What are the main factors that influence your farming decisions (e.g., what to plant, when to plant, inputs to use)? (Select top 3-5)

- Market demand/Prices
- Weather conditions/Forecasts
- Availability and cost of inputs
- Financial considerations/Access to credit
- Family needs/Household consumption
- Government policies/Subsidies
- Land availability and suitability
- Pest and disease prevalence
- Advice from extension services/other farmers
- Previous years' experience
- Other (Specify: _____)

83. What are your primary sources of information for making farming decisions? (Select all that apply)

- Extension services
- Other farmers/Peers
- Internet/Mobile apps
- Government announcements/Bulletins
- NGO workshops/Trainings
- Market trends/Traders
- Radio/Television farm programs
- Input suppliers
- Personal experience/Tradition
- Other (Specify: _____)

84. Do you employ risk management practices in your farming operations?

- Yes

- No

85. If yes, what risk management practices do you employ in your farming operations? (Select all that apply)

- Crop diversification (planting multiple crops)
- Use of certified/improved seeds (disease/drought resistant)
- Insurance (crop, livestock)
- Savings
- Contract farming
- Weather forecasting (using available information)
- Irrigation
- Soil and water conservation techniques
- Off-farm income diversification
- Other (Specify: _____)

86. Do you have plans to expand or diversify your farming activities in the near future (next 1-3 years)?

- Yes, expand current activities
- Yes, diversify into new crops/livestock
- Yes, both expand and diversify
- No plans

87. What are the main challenges to expanding or diversifying your farming operations? (Select all that apply)

- Lack of capital/Finance
- Market access/Low prices
- Land availability/Tenure issues
- Knowledge or technology gaps
- Labor availability/Cost
- Water scarcity
- Climate change impacts
- Access to quality inputs
- Government policies/Regulations
- Other (Specify: _____)

88. Are you considering adopting more sustainable farming practices (e.g., organic farming, conservation agriculture)?

- Yes, actively considering/planning
- Yes, already adopted some
- Maybe, need more information
- No, not currently
- Don't know what these are

89. What do you perceive as barriers to adopting new agricultural technologies? (Select all that apply)

- Cost of technology
- Lack of information/Awareness
- Complexity of technology/Difficult to use
- Lack of infrastructure (e.g., electricity, internet)
- Risk of failure/Uncertainty of benefits
- Lack of technical support/Training
- Small farm size
- Tradition/Resistance to change
- Unavailability of the technology locally
- Other (Specify: _____)

90. How do you envision the future of your farming operations? Describe your goals and how you plan to achieve them.

91. Are you aware of any government agricultural policies that affect your farming activities?

- Yes
- No

92. How have government policies impacted your farming operations?

- Positively
- Negatively
- No significant impact
- Don't know/Unsure

93. Have you accessed any government support programs for farmers?

- Yes
- No

94. If yes, what types of support have you received from the government? (Select all that apply)

- Financial (loans, grants)
- Subsidized inputs (seeds, fertilizers)
- Equipment (e.g., tractors, tools)
- Training/Workshops
- Market access support
- Infrastructure (irrigation, roads)
- Extension services
- Other (Specify: _____)

95. How effective do you find the agricultural extension services provided to you?

- Very effective
- Effective
- Somewhat effective
- Not very effective
- Not at all effective
- Have not used them

96. What barriers have you faced in accessing government support? (Select all that apply)

- Lack of information about programs
- Complicated application procedures
- Corruption/Nepotism
- Ineligibility/Not meeting criteria
- Lack of resources in my area/Programs not reaching me
- No Barrier
- Political interference
- Untimely delivery of support
- Other (Specify: _____)

97. Describe the influence of local institutions on your farming activities. (By institutions, we mean laws, rules, norms, bye-laws, traditional systems)

98. Have you accessed support from any NGOs for your farming activities?

- Yes (Specify NGO and type of support: _____)
- No

99. What is your perception of the impact of regulatory compliance (e.g., environmental, food safety standards) on your farming operations?

- Very positive
- Positive
- Neutral
- Negative
- Very negative
- Not applicable/No experience

100. Do you have any suggestions for improving government or institutional support for farmers?

Section I: Income, Expenditure, and Business Formality

101. What is your estimated annual/yearly income range from farming activities?

- Less than NGN 50,000
- NGN 50,000 - NGN 100,000
- NGN 100,001 - NGN 250,000
- NGN 250,001 - NGN 500,000
- NGN 500,001 - NGN 1,000,000
- Above NGN 1,000,000
- Prefer not to say

102. Is the income/produce from crop farming enough to cater for your household expenses throughout the year?

- Yes, always
- Yes, most of the time
- No, sometimes it's not enough
- No, it's rarely enough

103. Is crop farming your only source of income?

- Yes
- No

104. If no, what are the other sources of income for the household? (e.g., livestock, trading, salary, remittance)

105. **What's the household average income from other sources per year (estimate)?**

- Less than NGN 50,000
- NGN 50,000 - NGN 100,000
- NGN 100,001 - NGN 250,000
- NGN 250,001 - NGN 500,000
- NGN 500,001 - NGN 1,000,000
- Above NGN 1,000,000
- Don't know/Prefer not to say

106. **Do you save some of your income?**

- Yes, regularly
- Yes, occasionally
- No

107. **If yes, what percentage of income is saved (estimate)? _____%**

108. **What are your means of saving? (Select all that apply)**

- Bank account
- Cooperative/Savings group (Esusu, Adashe)
- At home
- Investing in assets (livestock, land)
- Mobile money
- Other (Specify: _____)

109. **What is the average annual/yearly expenditure for farming activities (inputs, labor, etc.)?**

- Less than NGN 20,000
- NGN 20,000 - NGN 50,000
- NGN 50,001 - NGN 100,000
- NGN 100,001 - NGN 250,000
- NGN 250,001 - NGN 500,000
- Above NGN 500,000

110. **Do you have a business name registered with Corporate Affairs Commission (CAC) or any other state agency?**
- Yes
 - No
111. **Do you have a bank account in the name of the business?**
- Yes
 - No
 - Not applicable (no registered business name)
112. **If no (to having a registered business name), why do you not have a business name? (Select all that apply)**
- Lack of information on how to register
 - I do not see the value/benefit
 - Registration bottlenecks/Process is too complex
 - Cost of registration is too high
 - Time taken to register is too long
 - Fear of taxation and levies by government
 - My farming operation is too small
 - Other (Specify: _____)
113. **How does being informal (not registered) affect your farming operations and decision-making?**
- Positively, by providing more flexibility and less bureaucracy
 - Negatively, by limiting access to formal markets, credit, and resources
 - No significant impact
 - Both positive and negative aspects (Specify: _____)
 - Don't know
114. **Do you pay any form of tax/ levy related to your farming activities?**
- Yes
 - No
115. **If yes, please list taxes/levies paid:**
- _____
- _____
116. **Are you a member of any farmer's group / organization / cooperative?**
- Yes
 - No

117. **If yes, is the group/organisation/cooperative registered?**

- Yes
- No
- Don't know

118. **If yes (to being a member), what service(s) does the group provide?
(Select all that apply)**

- Access to inputs
- Access to credit/loans
- Training/Information sharing
- Collective marketing of produce
- Advocacy/Representing farmers' interests
- Access to equipment/machinery
- Social support/Networking
- Other (Specify: _____)

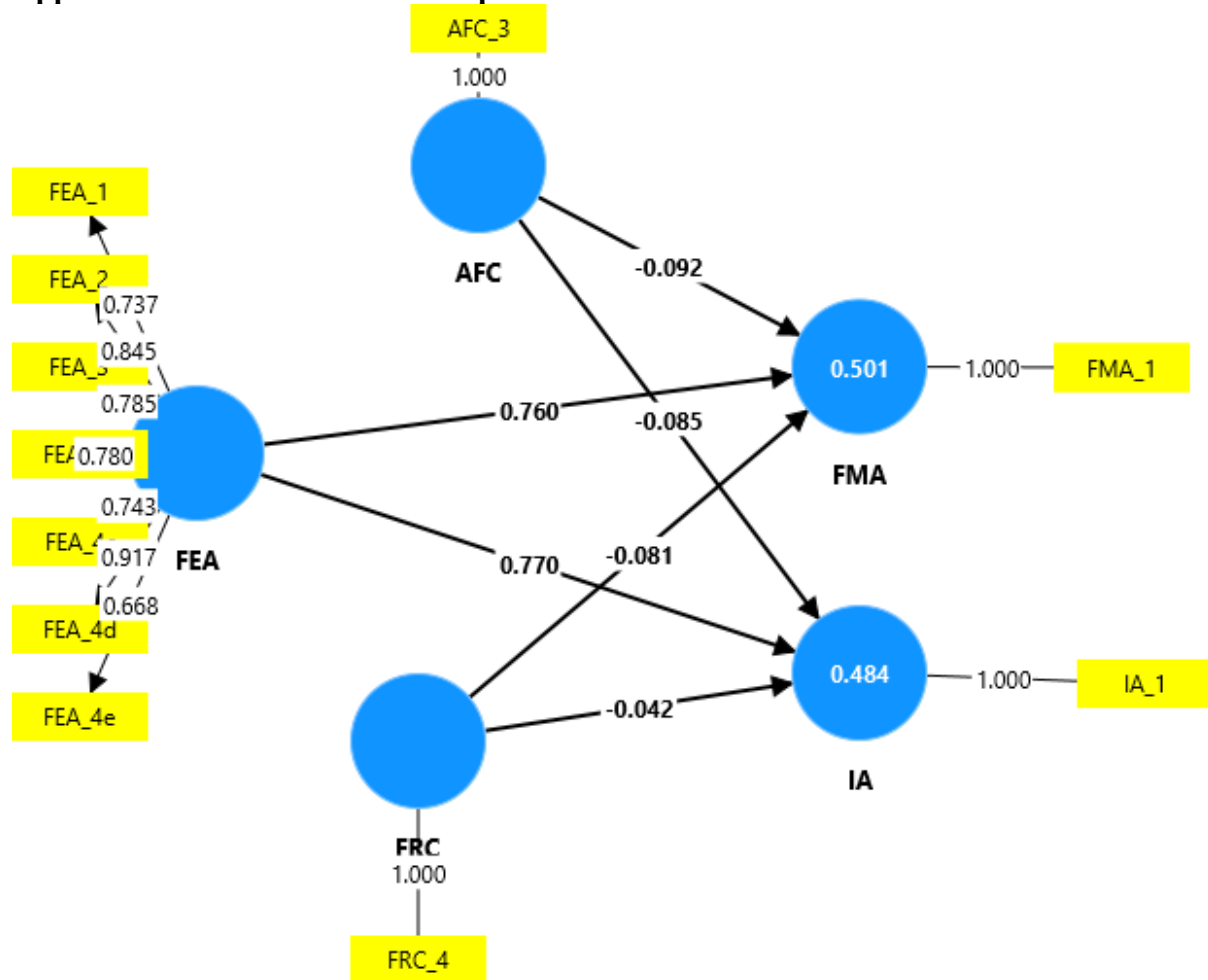
119. **Are you planning to formalize your farming operation (e.g., register business name) in the near future (next 1-3 years)?**

- Yes
- No
- Maybe/Undecided

120. **If yes, what motivates your decision to formalize? (Select all that apply)**

- Access to formal markets
- Eligibility for loans and financial support
- To comply with regulatory requirements
- To enhance business credibility/reputation
- To access government programs/incentives
- To separate personal and business finances
- Others (Specify: _____)

Appendix II: Confirmation of the predefined dimensions



	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
FEA	0.917	0.923	0.918	0.617

	AFC	FEA	FMA	FRC	IA
AFC 3	1.000				
FEA 1		0.737			
FEA 2		0.845			
FEA 3		0.785			
FEA 4a		0.780			
FEA 4c		0.743			
FEA 4d		0.917			
FEA 4e		0.668			
FMA 1			1.000		
FRC 4				1.000	
IA 1					1.000

Outer Loading Matrix

Appendix III: Cluster Analysis of Informality Continuum

Quick Cluster

Notes

Output Created		16-MAR-2025 11:34:09
Comments		
Input	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	206
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any clustering variable used.
Syntax		QUICK CLUSTER rformality_continuum_Index /MISSING=LISTWISE /CRITERIA=CLUSTER(4) MXITER(10) CONVERGE(0) /METHOD=KMEANS(NOUPDATE) /SAVE CLUSTER DISTANCE /PRINT INITIAL ANOVA CLUSTER DISTAN.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Workspace Required	432 bytes
Variables Created or Modified	QCL_1	Cluster Number of Case
	QCL_2	Distance of Case from its Classification Cluster Center

Initial Cluster Centers

	Cluster			
	1	2	3	4
rformality_continuum_Index	3.00	.00	7.00	12.00

Iteration History^a

Iteration	Change in Cluster Centers

	1	2	3	4
1	.205	.309	.680	1.444
2	.000	.000	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 2. The minimum distance between initial centers is 3.000.

Cluster Membership

Case Number	Cluster	Distance
1	2	.691
2	2	.309
3	2	.309
4	2	.309
5	2	.691
6	3	.680
7	4	.556
8	3	.680
9	3	.320
10	1	.205
11	3	1.320
12	3	1.320
13	4	.556
14	3	.320
15	1	1.205
16	2	.309
17	3	1.320
18	3	1.320
19	2	.691
20	1	.795
21	2	.309
22	2	.309
23	1	.205
24	2	.309
25	1	1.795
26	2	.309
27	2	.309
28	2	.309
29	3	1.320
30	2	.691
31	2	.691
32	2	.309
33	2	.309
34	2	.309
35	2	.309
36	2	.309
37	2	.691
38	2	.309

39	2	.309
40	2	.309
41	2	.309
42	2	.309
43	2	.309
44	3	1.680
45	3	1.320
46	4	.556
47	1	.795
48	3	1.680
49	4	.556
50	1	.205
51	1	1.205
52	3	.680
53	2	.691
54	3	1.320
55	1	.795
56	1	.205
57	2	.309
58	2	.309
59	1	1.205
60	2	.309
61	2	.309
62	2	.309
63	2	.309
64	2	.309
65	2	.309
66	2	.309
67	2	.691
68	2	.309
69	2	.309
70	2	.309
71	3	.320
72	2	.309
73	1	1.795
74	2	.309
75	2	.309
76	2	.309
77	2	.309
78	1	1.205
79	2	.309
80	2	.309
81	2	.691
82	2	.691
83	4	1.444
84	4	.556
85	4	.556
86	1	.205
87	3	1.680
88	3	1.680

89	1	1.795
90	1	1.795
91	3	1.680
92	4	1.444
93	3	1.320
94	3	1.680
95	3	.680
96	3	1.680
97	4	.556
98	1	.795
99	3	1.680
100	1	.205
101	1	.795
102	1	.795
103	4	.556
104	3	1.320
105	3	.680
106	1	1.205
107	2	.309
108	2	.309
109	2	.691
110	2	.691
111	1	.795
112	2	.309
113	2	.309
114	2	.309
115	4	.444
116	2	.691
117	2	.309
118	3	1.680
119	2	.309
120	3	.320
121	1	1.205
122	3	.320
123	3	.320
124	2	.309
125	2	.691
126	3	.320
127	1	.205
128	1	.205
129	3	1.320
130	3	.320
131	2	.691
132	1	1.205
133	1	.795
134	4	1.444
135	3	1.680
136	3	.680
137	4	.556
138	1	.795

139	1	.205
140	1	.795
141	3	.320
142	3	.320
143	3	1.320
144	1	1.795
145	1	.205
146	4	.556
147	1	.795
148	4	.444
149	3	.320
150	4	.556
151	3	.680
152	3	.680
153	3	.320
154	1	.795
155	3	1.320
156	3	1.320
157	3	1.320
158	3	1.320
159	4	.444
160	4	.444
161	1	.205
162	2	.309
163	2	.309
164	2	.309
165	2	.309
166	3	1.680
167	2	.309
168	2	.309
169	2	.309
170	1	1.205
171	2	.309
172	2	.309
173	2	.691
174	2	.309
175	2	.309
176	2	.691
177	3	.680
178	3	.320
179	3	.680
180	2	.691
181	1	1.205
182	1	1.205
183	2	.691
184	2	.691
185	1	1.205
186	1	1.205
187	2	.309
188	2	.691

189	2	.691
190	2	.691
191	2	.691
192	2	.691
193	2	.309
194	3	1.320
195	2	.309
196	1	.205
197	1	.795
198	2	.691
199	2	.691
200	2	.309
201	2	.691
202	2	.309
203	1	1.205
204	2	.691
205	1	1.205
206	2	.309

Final Cluster Centers

	Cluster			
	1	2	3	4
rformality_continuum_Index	3.20	.31	7.68	10.56

Distances between Final Cluster Centers

Cluster	1	2	3	4
1		2.896	4.475	7.351
2	2.896		7.371	10.247
3	4.475	7.371		2.876
4	7.351	10.247	2.876	

ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
rformality_continuum_Index	909.465	3	.696	202	1307.217	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Number of Cases in each Cluster

Cluster	1	44.000

	2	94.000
	3	50.000
	4	18.000
Valid		206.000
Missing		.000

DATASET ACTIVATE DataSet1.
 DATASET ACTIVATE DataSet1.

**Appendix IV: Estimated Regression models based on the Baron and Kenny method
(Proposition 4)**

MODEL 1

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.330	.416		12.808	.000
GVC participation composite index	.931	.191	.322	4.863	.000

a. Dependent Variable: Value capture composite index

MODEL 2 (PATH A)

A: Formal Credit Access

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.898	.094		20.244	.000
GVC participation composite index	.279	.043	.413	6.477	.000

a. Dependent Variable: Formal_Cred_Access

B. Formal Market Access

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.301	.132		9.881	.000

GVC participation composite index	.088	.061	.101	1.453	.148

a. Dependent Variable: Formal_Mkt_Access

MODEL 3
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.709	.710		5.223	.000
	GVC participation composite index	.692	.207	.240	3.348	.001
	Formal_Cred_Access	.854	.306	.200	2.794	.006

a. Dependent Variable: Value capture composite index