Innovations

# Social Capital and the Performance of Agro-Processing Firms in North Central, Nigeria

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***Abstract:*** *Small and Medium-sized agro-processing firms play a vital role in Nigeria's food system and economic development, particularly in the North Central region. However, the factors influencing their performance are not well understood. This study aims to examine the effect of social capital on the performance of agro-processing firms in North Central Nigeria. Drawing on social capital theory and entrepreneurship literature, the study proposes a conceptual framework that investigated how the structural, relational, and cognitive dimensions of social capital impact various performance outcomes, including profitability, productivity, and effectiveness. The research context of North Central Nigeria is significant, as this region is characterized by a vibrant informal economy and dense social networks that may shape entrepreneurial activities. A total of 384 questionnaires were distributed to the respondents while 368 questionnaires were returned. The data was analyzed using the Structural Equation Model (SEM) with the assistance of SPSS AMOS. The study revealed that Structural ($\beta$ = -0.069, p=.180), Relational ($\beta$ = .000, p= .998), and Cognitive ($\beta$ = .057, p= .266) social capital has no significant positive effect on profitability. Also, it was revealed that Structural ($\beta$ = .175, p=.000) and Cognitive ($\beta$ = .285, p= .000) demonstrated significant effects on productivity while, Relational SC ($\beta$ = -.059, p= .201) did not show any significant effect on productivity. Lastly, the study found that Structural ($\beta$ = -0.011, p=.826) and Cognitive SC ($\beta$ = -0.016, p= .753) social capital did not exhibit any significant effect on effectiveness. In contrast, Relational ($\beta$ = 0.124, p= .016) social capital did show a significant effect on effectiveness. The study recommends that Organizations should prioritize improving their network structures, formal communication systems, and institutional collaborations to boost profitability, productivity and effectiveness.*

***Keywords****: Social Capital, Structural, Relational, Cognitive, Performance, Profitability, Productivity, Effectiveness*

## Introduction

Despite the growing recognition of social capital as a vital factor influencing business performance across various sectors (Halme, 2021; Akintimehin & Ogbechie, 2021), there is still a significant gap in understanding its impact specifically within Nigeria's agro-processing sector. Social capital, which includes networks, norms, and trust, has been shown to influence non-financial performance in Nigeria's informal sector (Akintimehin et al., 2019). However, much of the existing research has concentrated on general businesses rather than focusing on specific industries like agriculture. The literature identifies three main dimensions of social capital: structural, relational, and cognitive forms (Guribie et al., 2024). Each of these dimensions can influence access to resources, trust, and shared understanding. Unfortunately, there is a lack of empirical evidence on how these forms actually impact organizational profitability, productivity, and effectiveness within agricultural value chains. This creates a significant knowledge gap, especially in areas like North Central Nigeria, where agriculture plays a vital role in the economy and serves as a means for alleviating poverty.

Agro-processing firms in this region are vital for turning raw agricultural products into goods we can actually consume, which in turn supports food security and creates jobs in rural areas. However, they face significant challenges like inadequate infrastructure, a lack of funding, and inefficient supply chains (Food and Agriculture Organization of the United Nations: FAO-UN, 2025). While building social capital could be a game-changer by promoting trust, cooperation, and collective action (Naswem et al., 2019), we still do not fully understand how it affects performance in this specific context. Most of the research so far has focused on social capital in informal or production-oriented businesses, leaving a big gap when it comes to its influence on agro-processing firms. Filling this gap is crucial for developing targeted strategies that can strengthen social networks and collaborative efforts, ultimately boosting the sustainability and success of these businesses.

This article aims to provide valuable insights by examining the link between social capital and the performance of agro-processing firms in an emerging market. This is particularly important because, in the fast-paced business world, success often hinges on strong social connections. The study also contributes to our understanding conceptually, theoretically, and methodologically by looking at social capital and performance through a lens that is specific to this context.

## Literature Review

### Social Capital

Social capital, which encompasses the networks, connections, and shared norms that facilitate collective action, plays a vital role in enhancing the performance of agro-processing businesses, as noted by Mmbengwa et al. (2021). When combined with the adoption of technology, social capital can significantly influence organizational outcomes.

**Dimensions of Social Capital**

Social capital is a complex idea that can be broken down into three main dimensions: structural, relational, and cognitive. Each of these dimensions provides a different perspective on the intricate network of social interactions and how they can influence organizational performance. For agro-processing firms in North Central Nigeria, understanding these dimensions is crucial, especially considering the region's strong agricultural focus and the firms' need for both internal unity and external connections.

**Structural Social Capital**

The structural dimension focuses on how individuals or units are connected within a network. It highlights whether ties exist and how the network is arranged, touching on elements like network density, connectivity, and hierarchy. In organizations, structural social capital shows up through defined roles, social networks, and other frameworks that either promote or limit interactions. For agro-processing companies, having a well-organized network can make information flow smoother, improve access to resources, and encourage teamwork. A study by Adegbe et al. (2022) on the Benue State Board of Internal Revenue Service found that structural social capital plays a crucial role in organizational performance, emphasizing how vital strong networks are for reaching organizational objectives.

**Relational Social Capital**

Relational social capital is all about the quality of the relationships people build over time through their interactions. It revolves around key aspects like trust, shared norms, obligations, and a sense of belonging. In the context of agro-processing firms, having strong relational social capital means that employees trust each other, adhere to common norms, and feel a mutual obligation to one another. These factors are essential for promoting teamwork, lowering transaction costs, and boosting commitment to the organization's goals. A study by Sani et al. (2022) on small and medium-sized enterprises in Kaduna Metropolis revealed that relational social capital has a positive and significant impact on firm performance, highlighting that trust and solid interpersonal relationships are crucial for achieving business success.

**Cognitive Social Capital**

The cognitive dimension refers to the shared understandings, interpretations, and meanings that different parties hold (Claridge, 2018). It encompasses the common language, codes, and stories that help create a mutual understanding. In the context of agro-processing firms, cognitive social capital can show up as a unified vision, shared goals, or a collective grasp of processes and quality standards. This shared understanding helps ensure that everyone is on the same page, minimizing confusion and promoting teamwork. A study by Adegbe et al. (2022) looked into how social capital impacts organizational performance in Makurdi and found that cognitive social

capital significantly boosts performance, underscoring the importance of shared understanding for organizational success.

By grasping the structural, relational, and cognitive aspects of social capital, we can gain a comprehensive insight into the social dynamics that drive organizational performance. For agro-processing firms in North Central Nigeria, nurturing these dimensions can pave the way for better collaboration, innovation, and overall success.

**Performance of Agricultural Firms**

Firm performance is a complex idea that includes various indicators showing how well a company is doing in reaching its goals. For agro-processing firms in North Central Nigeria, grasping the concept of firm performance is essential to understand how social capital impacts business results. This discussion explored the different aspects of firm performance, the key metrics to consider, and the unique factors that are important for agro-processing firms in this area.

**Dimensions of Firm Performance**

Firm performance can be classified into two main areas: financial and non-financial aspects. For this study, profitability, productivity, and effectiveness was considered.

**Profitability**

Profitability is a key indicator when it comes to evaluating how well agro-processing firms are doing, especially in areas like North Central Nigeria. It shows how effectively a firm can earn money compared to its expenses and other costs over a certain timeframe (Muniady et al, 2015). For agro-processing firms in North Central Nigeria, profitability is shaped by various factors, including access to quality raw materials, market demand, technological advancements, and social connections. This concept of profitability is complex, as it is affected by both internal efficiencies and external influences, such as social capital. By understanding and utilizing these elements, firms can enhance their financial performance and achieve sustainable growth in North Central Nigeria.

**Productivity**

Productivity is one of the most essential dimensions of organizational performance, often used as a measure of how effectively and efficiently inputs are transformed into outputs. It reflects the organization's capacity to maximize output while minimizing input, and it is critical for competitiveness, sustainability, and growth in any sector (Kumar & Saini, 2021). In business contexts, productivity can relate to labor, capital, or total factor productivity, each indicating different aspects of performance. As a performance metric, productivity provides insights into operational efficiency and resource utilization. High productivity suggests that a firm is able to produce more with less, which typically leads to cost savings and greater profitability. For instance, in manufacturing or agro-processing enterprises, productivity might refer to the volume

of goods produced per labor hour or per unit of raw material. This measurement is especially important for firms in competitive and resource-constrained environments where margins are tight and efficiency is paramount.

**Effectiveness**

Effectiveness is a key aspect of how well an organization performs, reflecting how successfully it meets its goals and objectives. It is all about doing the right things, making sure actions align with strategic goals and adapting to the ever-changing environment (Barraza, 2023). This makes effectiveness a broader and more strategic measure of performance, especially in today's fast-paced and complex business world. Typically, organizational effectiveness is defined as how well an organization achieves its intended outcomes (Richard et al., 2009). It includes both internal and external factors for success, like reaching goals, keeping stakeholders happy, and being adaptable. A company might run its operations efficiently, but if it does not meet customer expectations, grow its market share, or respond to competition, it is still falling short. That is why effectiveness is such an important measure of performance, it shows how well an organization meets its strategic goals and reacts to environmental changes. By focusing on effectiveness, organizations can gain a more comprehensive and forward-looking perspective on their performance, positioning themselves for lasting success and growth.

**Social capital and Performance in Agro-processing sector**

While each dimension plays its own role in boosting organizational performance, the real magic happens when they work together. Take, for example, a solid network (that is structural capital) which can help build trust (that is relational capital). This trust can then pave the way for a shared vision (cognitive capital). In the agro-processing industry, where teamwork and sharing information are crucial, tapping into all three dimensions can spark greater innovation, make better use of resources, and sharpen market competitiveness. A thorough study on manufacturing SMEs in Lagos and Oyo States by Ojokuku (2024) highlighted that these three aspects of social capital, structural, relational, and cognitive have a positive impact on firm performance. This suggests that nurturing a balance among these dimensions is key to achieving organizational success. By grasping the structural, relational, and cognitive facets of social capital, we gain a well-rounded understanding of the social dynamics that drive organizational performance. For agro-processing companies in North Central Nigeria, fostering these dimensions can lead to better collaboration, innovation, and overall success.

**Research Hypothesis**

Regular interactions within a well-organized network help cut down on redundancy and boost coordination, which in turn enhances operational efficiency. Companies that have strong internal social capital where departments and teams communicate

smoothly are in a much better position to streamline their processes and reduce delays (Wind & Villalonga-Olives, 2019). Additionally, collaboration across different functions, supported by these structural connections, leads to quicker problem-solving and the sharing of best practices, ultimately driving up productivity. A solid social network enables companies to pick up on early market signals and respond swiftly (Zhou, Wu, & Luo, 2007). This structural social capital also fosters organizational learning and strategic alignment among various units, both of which are essential for long-term success (Nahapiet & Ghoshal, 1998). Essentially, structural social capital serves as a key driver for profitability, productivity, and overall effectiveness by improving access to information, enhancing coordination, and supporting adaptability. Firms that prioritize building and maintaining strong internal and external networks are better equipped to secure competitive advantages in ever-changing business landscapes. Therefore, this study propose the following hypothesis;

**H1.** Structural Social capital have a direct and positive influence on firm Profitability of Agro-Processing firms in North Central Nigeria.
**H2.** Structural Social Capital will have a positive influence on firm productivity of Agro-Processing firms in North Central Nigeria.
**H3.** Structural Social Capital will have a positive influence on firm effectiveness of Agro-Processing firms in North Central Nigeria.

Relational social capital plays a crucial role in boosting a firm's profitability by nurturing trust-based relationships. These connections help lower transaction costs and pave the way for long-lasting partnerships (Migheli, 2013). When there is trust between companies and their stakeholders, like suppliers, customers, and investors it leads to smoother negotiations, better contract enforcement, and increased loyalty. These relational aspects enable firms to secure repeat business, favorable credit terms, and collaborative alliances, all of which directly contribute to profit growth. For instance, Saputra & Pratomo (2023) discovered that companies thriving in environments rich in relational capital often enjoy better financial performance thanks to improved collaboration with stakeholders and less opportunism.

Moreover, productivity tends to soar in firms with strong relational social capital, thanks to better communication and reduced internal friction. Trust and mutual respect among employees and departments foster knowledge sharing and teamwork, as noted by Ouakouak and Ouedraogo (2019). These dynamics help cut down on redundancy, speed up decision-making, and enhance employee motivationall factors that collectively drive-up output. Additionally, relational social capital can help lower absenteeism and turnover rates, as employees feel more connected and committed to their organization, which in turn stabilizes the workforce and keeps productivity levels consistent.

Relational social capital plays a vital role in how effective a firm can be. When trust and shared norms are in place, it fosters open communication and helps resolve conflicts, allowing companies to be more nimble in adapting to changes in their environment. This adaptability is key to aligning with and achieving strategic goals. According to Choi, Goo, and Choi (2022), relational social capital is a significant driver of a firm's profitability, productivity, and overall effectiveness. By cultivating and nurturing relationships built on trust, respect, and shared values, companies can not only cut costs and boost efficiency but also strengthen their ability to tackle both internal and external challenges. Therefore, relational social capital isnot just a nice-to-have; it is a strategic asset that can help ensure long-term success in business. Therefore, this study posit the following hypothesis;

**H4.**Relational social capital will have a positive influence on firm profitability of Agro-Processing firms in North Central Nigeria.
**H5.** Relational social capital will have a positive influence on firm productivity of Agro-Processing firms in North Central Nigeria.
**H6.**Relational social capital will have a positive effect on the Effectiveness of Agro-Processing firms in North Central Nigeria

Cognitive social capital (CSC) is all about the shared values, norms, language, and mutual understanding that exist among members of an organization and its external stakeholders. This concept plays a crucial role in boosting a company's profitability, productivity, and overall effectiveness. Recent studies conducted between 2019 and 2025 highlight its importance in various business settings.

CSC helps create a cohesive organizational culture, aligning employee behaviors with strategic goals, which ultimately leads to better financial performance. For instance, in Vietnamese small and medium-sized enterprises (SMEs), CSC has a significant impact on operational performance by fostering shared objectives and mutual understanding among employees, resulting in greater cohesion and efficiency. Similarly, in the banking sector of Erbil, Iraq, CSC was shown to positively influence operational performance, indicating that shared cognitive frameworks can enhance profitability, as noted by Nguyen (2021) and Choi et al. (2022).

Moreover, CSC boosts productivity by enabling effective knowledge sharing and minimizing informational gaps, according to Lyu et al. (2022). In Chinese firms that focus on knowledge, CSC has been linked to improved quality in knowledge transfer, which subsequently enhances product innovation performance, as highlighted by Zhou et al. (2022). Additionally, in Vietnamese companies, CSC has been found to support

both tacit and explicit knowledge sharing, leading to better operational and financial outcomes, as noted by Hoang et al. (2021).

CSC plays a vital role in boosting organizational effectiveness by creating a shared vision and encouraging mutual learning both of which are crucial for coordinated actions and adaptability (Phuoc, 2021). In the realm of digital companies, CSC has been recognized as a key element in driving innovation performance by facilitating cross-border knowledge searches and enhancing absorptive capacity (Lyu et al., 2022). Additionally, in environments with limited resources, CSC has been found to indirectly improve AI readiness by bolstering cyber resilience, which in turn supports ongoing value creation (Ode et al., 2025).

Cognitive social capital acts as a fundamental asset that boosts profitability, productivity, and overall effectiveness by fostering shared understanding, enabling knowledge exchange, and facilitating coordinated actions. To enhance performance, companies should focus on building and nurturing CSC through initiatives that promote shared values, encourage open communication, and create collaborative learning environments.

**H7.** Cognitive social Capital will have a positive effect on the Profitability of Agro-Processing firms in North Central Nigeria
**H8.** Cognitive social capital will have a positive effect on the Productivity of Agro-Processing firms in North Central Nigeria
**H9** Cognitive social capital will have a positive effect on the Effectiveness of Agro-Processing firms in North Central Nigeria

**Conceptual Framework**

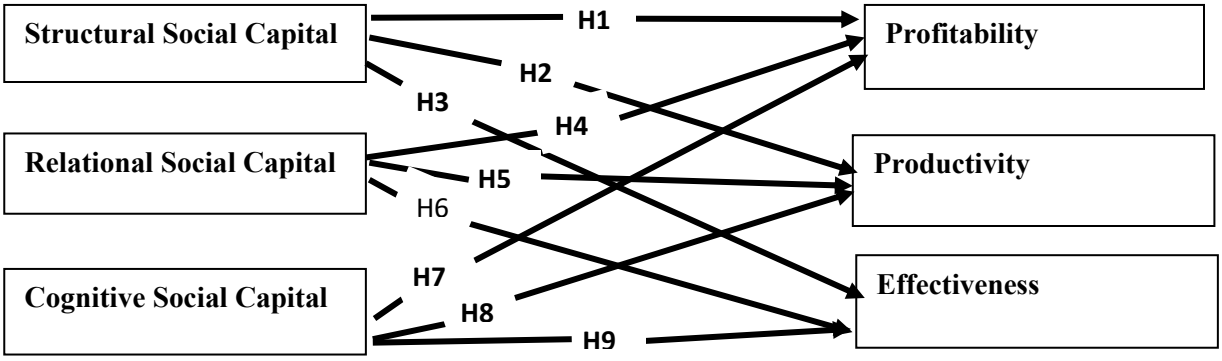


**Figure 1:** Conceptual framework for the study
**Source:** Researchers, 2025.

**Theoretical Review**

This study is rooted in social capital theory, which offers valuable insights into how social capital influences organizational performance in today's fast-paced business environment. At its core, social capital theory suggests that people expect to gain mutual benefits from investing in their social relationships (Nguyen & Ha, 2020). Just like physical and human capital drive economic activity, social capital plays a crucial role in boosting performance.

Social Capital Theory is a well-established framework shaped by the work of several prominent scholars, including Pierre Bourdieu, James Coleman, and Robert Putnam. The theory posits that social capital comprising both tangible and potential resources embedded in social network scan foster collective action and mutual benefits (Bourdieu, 1986; Coleman, 1988; Putnam, 1995). By building trust, encouraging collaboration, and facilitating information exchange among stakeholders, social capital can significantly enhance a company's performance, lower transaction costs, and ease resource acquisition (Akhtar et al., 2021; Deng et al., 2023). This theory has found applications across various fields, including sociology, economics, political science, and organizational studies.

Recent studies and real-world applications of social capital theory have been diving into its importance and impact across various fields, such as organizational performance, entrepreneurship, and community development (Akhtar et al., 2021; Khalid et al., 2021; Deng et al., 2023). A number of empirical research efforts have utilized social capital theory to shed light on how social capital relates to the performance of businesses.

On another note, Relational View Theory is a key concept in strategic management that emphasizes the importance of interactions and networks between firms as crucial elements for achieving a competitive advantage. Dyer and Singh (1998) introduced this theory in their groundbreaking work, "The Relational View: Cooperative Strategy and Sources of Inter-organizational Competitive Advantage." The idea is that a company's vital resources can extend beyond its own walls and be integrated into partnerships with other firms, potentially leading to a competitive edge.

Several empirical studies have applied Relational View Theory to clarify the link between social capital and business performance. For instance, Khalid et al. (2021) explored the relationship between social capital, knowledge sharing, and firm performance in small and medium enterprises (SMEs) in Pakistan, using the Relational View framework. Their findings suggest that social capital facilitates knowledge exchange among companies, which positively impacts performance by granting access to valuable information and resources. This research underscores the

significance of inter-firm connections and networks in securing a competitive advantage, highlighting how social capital fosters resource sharing, information exchange, and collaborative benefits, ultimately leading to improved business performance.

**Research Methodology**

This study employed a survey research design, which is particularly useful for gathering data from a large number of respondents, especially in fields like social sciences and organizational behavior (Roztocki & Morgan, 2002). Additionally, this design allows researchers to collect primary data. By using a survey approach, we can better define the social capital process and its key components, as well as explore the performance of agro-processing firms in Nigeria's North Central region. The study focuses on a target population of 5,761 agro-processing firms located in this area. To determine the sample size, we used the formula created by Krejcie & Morgan (1970), which is tailored for smaller populations of under 10,000 individuals (Kwahar & Onov, 2017). The formula is defined as follows:

$$n = \frac{t^{2x}(p) \times (1 - p)}{C^{2x}}$$

n = the required sample size
t = Confidence level at 95 (standard value 1.96)

p = Estimated prevalence of the incidence being measured, usually expressed in decimal
C = Margin of error at 5% (standard value 0.05).
I = Constant

Therefore:

n = (1.96) $^{2x}$(0.5) x (1-0.5)/0.0025
n = 3.84x (0.5) x (0.5)/0.0025
n = 3.84x0.25/0.0025
n = 0.96/ 0.0025
n = 384

The study involves a sample of 384 agro-processing firms. According to Blunch (2013), the research adhered to the established protocols for studies that use Structural Equation Modelling (SEM). In SEM analyses, a sample size of 200 is generally seen as adequate, while 300 is often considered the ideal number. The research will employ a stratified random sampling technique to divide the target population into different

strata and then randomly select samples from each stratum. This approach ensures that all groups are represented (De Vries, 1986). By segmenting the research population into strata, researchers can better select a representative mix of units and ensure that there's a sufficient distribution of samples across the groups they intend to study (Arnab, 2017).

**Data Presentation, Analysis and Discussion of Findings**

384 questionnaires were issued to the respondents out of which 368 were correctly filled and returned giving a response rate of 96%. The answers supplied by the respondents according to the questionnaires were presented in tables and subsequently analyzed thus:

**Table 1.1: Sex**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | Male | 226 | 61.4 | 61.4 | 61.4 |
| | Female | 142 | 38.6 | 38.6 | 100.0 |
| | Total | 368 | 100.0 | 100.0 | |

The results show that most of the participants in the study are male, with 226 men making up 61.4% of the total, while 142 women account for 38.6% of the 368 respondents. This gender distribution points to a male-dominated study group, which could reflect broader societal norms, job representation, or specific trends within the industry. The smaller percentage of female participants highlights potential gender imbalances in the study, suggesting that there may be socio-cultural or professional obstacles that limit women's involvement.

**Table 1.2: Age Distribution**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | 18-27 years | 16 | 4.3 | 4.3 | 4.3 |
| | 28-37 years | 96 | 26.1 | 26.1 | 30.4 |
| | 38-47 years | 221 | 60.1 | 60.1 | 90.5 |
| | 48 years & above | 32 | 8.7 | 8.7 | 99.2 |
| | 5 | 3 | .8 | .8 | 100.0 |
| | Total | 368 | 100.0 | 100.0 | |

The participants in the study were divided into four clear age groups: 18-27 years (4.3%), 28-37 years (26.1%), 38-47 years (60.1%), and those aged 48 and above (8.7%). Interestingly, there was also a small percentage (0.8%) of responses that were missing. The results show that a large chunk of the respondents, specifically 60.1%,

belong to the 38-47 age range, which suggests that the sample is mainly made up of middle-aged individuals. This might imply that the people in this study are likely to have more experience in their respective fields and could enjoy a more stable personal and professional life. On the flip side, the younger age group (18-27 years, 4.3%) is notably underrepresented, hinting that entry-level professionals or younger individuals might not have had their voices heard in this research. Understanding age distribution is crucial in research, as different age groups can have diverse perceptions, behaviors, and decision-making styles shaped by their life experiences and professional journeys (Ng & Feldman, 2009).

**Table 1.3: Marital status**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | Single | 17 | 4.6 | 4.6 | 4.6 |
| | Married | 333 | 90.5 | 90.5 | 95.1 |
| | Widow | 15 | 4.1 | 4.1 | 99.2 |
| | widower | 2 | .5 | .5 | 99.7 |
| | 5 | 1 | .3 | .3 | 100.0 |
| | Total | 368 | 100.0 | 100.0 | |

The breakdown of respondents by marital status reveals that a significant majority are married (n = 333, 90.5%). Meanwhile, 4.6% identify as single, 4.1% as widowed, and 0.5% as widowers. There were also 0.3% of responses that were missing. The high number of married individuals suggests that family stability is a key trait among those in the study. This factor could play a role in shaping their decision-making, financial security, and career choices.

**Table 1.4: Qualification**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| **Valid** | GCE/SSCE | 27 | 7.3 | 7.3 | 7.3 |
| | ND/NCE | 69 | 18.8 | 18.8 | 26.1 |
| | HND/DEGREE | 254 | 69.0 | 69.0 | 95.1 |
| | MASTERS/PHD | 16 | 4.3 | 4.3 | 99.5 |
| | 5 | 2 | .5 | .5 | 100.0 |
| | Total | 368 | 100.0 | 100.0 | |

Educational qualifications play a vital role in gauging the knowledge and skills of the respondents. The results show that a significant majority, about 69.0%, hold either an HND or a Degree. Meanwhile, 18.8% have an ND/NCE, 7.3% possess a GCE/SSCE, and 4.3% have earned a master's or PhD. There's a tiny portion, just 0.5%, of responses that

were missing. The high percentage of respondents with higher education indicates that the study group is quite educated, which could influence their ability to tackle complex ideas, make well-informed choices, and adapt to changes in their industries. On the flip side, the relatively low number of postgraduate degree holders (4.3%) suggests that while most have completed tertiary education, only a few have gone on to pursue advanced degrees.

**Test of Reliability and Validity**

To evaluate how reliable and valid the constructs in the structural equation model are, we took a close look at three important measures: Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's Alpha. Thankfully, all the constructs passed the recommended benchmarks for convergent validity, internal consistency, and construct reliability, which means our measurement model is statistically sound.

**Table 1.5 Summary of Measurement Index**

| Construct | AVE | CR | Cronbach's Alpha |
|---|---|---|---|
| **Structural Social Capital** | 0.56 | 0.81 | 0.79 |
| **Relational Social Capital** | 0.52 | 0.78 | 0.76 |
| **Cognitive Social Capital** | 0.59 | 0.83 | 0.81 |
| **Productivity** | 0.55 | 0.80 | 0.77 |
| **Profitability** | 0.58 | 0.82 | 0.80 |
| **Effectiveness** | 0.53 | 0.77 | 0.75 |

To establish convergent validity, we made sure that all Average Variance Extracted (AVE) values were above the 0.50 mark, as suggested by Fornell & Larcker in 1981. The results showed that the AVE values fell between 0.52 and 0.61, which confirms that most of the variance in each construct was accounted for by its indicators rather than by error variance.

When it comes to Composite Reliability (CR), all values surpassed the 0.70 threshold, as noted by Hair et al. (2019), indicating a strong level of construct reliability. The lowest CR was for effectiveness at 0.77, while sales volume boasted the highest at 0.86. These results suggest that the constructs have a high degree of internal consistency, meaning that the items within each construct are effectively measuring the same underlying concept. Moreover, Cronbach's Alpha values for all constructs were above 0.70, which further supports the internal reliability of our measurement model. Overall, the assessments of reliability and validity confirm that our measurement model is statistically robust, with all AVE, CR, and Cronbach's Alpha values meeting the necessary thresholds.

**Confirmatory Factor Analysis**

We carried out a Confirmatory Factor Analysis (CFA) to assess the construct validity of our measurement model. To evaluate how well the model fits, we looked at several key fit indices, such as the Chi-square to degrees of freedom ratio (CMIN/DF), the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Goodness-of-Fit Index (GFI).

**Table 1. 6 Model Fit Indices**

| Construct | CMIN/DF | GFI | TLI | CFI | RMSEA | p-close |
|---|---|---|---|---|---|---|
| **Structural Social Capital** | 0.055 | 1.000 | 1.009 | 1.000 | .000 | .881 |
| **Relational Social Capital** | 1.753 | .992 | .996 | .999 | .045 | .480 |
| **Cognitive Social Capital** | 2.006 | .989 | .982 | .991 | .052 | .401 |

The model fit indices confirmed that all constructs meet recommended fit thresholds (CMIN/DF < 3, RMSEA < .08, CFI > .90, TLI > .90), validating the measurement model.

**Table 1.7 Results of Structural Equation Modelling (SEM)**

| Hypothesis | Dependent Variable | Predictor Variable | Estimate (β) | S.E. | C.R. | p-value | Remarks |
|---|---|---|---|---|---|---|---|
| **H1** | Profitability | Structural SC | -0.069 | .055 | -1.341 | .180 | Not Supported |
| **H2** | Profitability | Relational SC | .000 | .138 | .003 | .998 | Not Supported |
| **H3** | Profitability | Cognitive SC | .057 | .043 | 1.112 | .266 | Not Supported |
| **H4** | Productivity | Structural SC | .175 | .061 | 3.769 | .000 | Supported |
| **H5** | Productivity | Relational SC | -.059 | .155 | -1.279 | .201 | Not Supported |
| **H6** | Productivity | Cognitive SC | .285 | .048 | 6.117 | .000 | Supported |
| **H7** | Effectiveness | Structural | -0.011 | .071 | - | .826 | Not Supported |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | SC | | | 0.219 | | |
| **H8** | Effectiveness | Relational SC | 0.124 | .180 | 2.408 | .016 | Supported |
| **H9** | Effectiveness | Cognitive SC | -0.016 | .056 | -0.314 | .753 | Not Supported |

**Note**: ***p < .001**, **p < .05**. (**SC: Social Capital)**

**Test of Hypotheses**

Table 1.4 presents the results from the Structural Equation Modelling analysis. When it comes to Profitability, the findings showed that Structural SC (β = -0.069, p=.180), Relational SC (β = .000, p= .998), and Cognitive SC (β = .057, p= .266) did not have any significant predictive effect. As a result, Hypotheses H1, H4, and H7which suggest that structural, relational, and cognitive social capital positively influence profitability were not supported.

On the topic of productivity, the analysis revealed that both Structural SC (β = .175, p=.000) and Cognitive SC (β = .285, p= .000) demonstrated significant predictive effects. In contrast, Relational SC (β = -.059, p= .201) did not show any significant predictive effect. Therefore, Hypotheses H2 and H8, which propose that structural and cognitive social capital positively impact productivity, were supported, while Hypothesis H5, which claims that cognitive social capital positively affects productivity, was not.

Finally, regarding effectiveness, the results indicated that Structural SC (β = -0.011, p=.826) and Cognitive SC (β = -0.016, p= .753) did not exhibit any significant predictive effect. However, Relational SC (β = 0.124, p= .016) did show a significant predictive effect. Consequently, Hypotheses H3 and H9, which assert that structural and cognitive social capital positively influence effectiveness, were not supported, while Hypothesis H6, which states that relational social capital has a positive effect on effectiveness, was supported.

**Discussion of Findings**

**Profitability**

The results showed that Structural Social Capital (β = -0.069, p=.180), Relational Social Capital (β = .000, p= .998), and Cognitive Social Capital (β = .057, p= .266) don't really affect profitability. This finding is consistent with the research by Purwati et al. (2021), which explored the link between social capital, entrepreneurial leadership, and the performance of small and medium-sized enterprises (SMEs), particularly looking at how innovation capability plays a mediating role. Their study found that social capital doesn't have a statistically significant direct effect on the business performance of culinary and hospitality SMEs in Pekanbaru. On the other hand, the research by Kanini

et al. (2022) on the relationship between social capital and the performance of manufacturing micro, small, and medium enterprises (MSMEs) in Kenya presents a different perspective. Their findings suggested that structural social capital actually has a positive and significant impact on the performance of micro, small, and medium manufacturing businesses.

**Productivity**

The results showed that both Structural Social Capital ($\beta$ = .175, p = .000) and Cognitive Social Capital ($\beta$ = .285, p = .000) significantly influence productivity. On the other hand, Relational Social Capital ($\beta$ = -.059, p = .201) doesn't seem to have any effect on productivity. These findings are consistent with the research by Acquah et al. (2023), which explored the link between supply chain social capital and company performance, concluding that relational social capital lacks a direct impact on business outcomes. Similarly, Adegbe et al. (2022) investigated the Benue State Board of Internal Revenue Service in Nigeria and found that both structural and cognitive social capital positively affect organizational performance. However, this study's results contrast with those of Haq et al. (2019), who examined small and medium enterprises in Pakistan. They discovered that while social participation and networking (elements of structural social capital) enhance output performance, an overabundance of trust (a component of cognitive social capital) can actually hinder productivity by leading to poor decision-making.

**Effectiveness**

The study found that both Structural Social Capital ($\beta$ = -0.011, p = .826) and Cognitive Social Capital ($\beta$ = -0.016, p = .753) don't really affect effectiveness. On the other hand, Relational Social Capital ($\beta$ = 0.124, p = .016) does have an impact on effectiveness. These results don't quite match up with the research by Kim et al. (2013) in the hospitality sector, which showed that structural social capital plays a significant role in promoting knowledge-sharing behaviors, ultimately boosting organizational performance. However, this study does align with the findings of Oussi and Chtourou (2020), who looked at employees in the IT sector and discovered that structural social capital only had a minor effect on individual creativity. This suggests that its influence on organizational effectiveness might be limited in certain situations.

**Conclusion**

This study delves into the complex ways social capital (structural, relational, and cognitive) affects key performance outcomes like productivity, profitability, and effectiveness. The results show that structural social capital has a significant and positive impact on productivity. This means that having solid network structures, effective communication channels, and established relationships is essential for boosting output. However, it does not seem to have a major effect on profitability or overall effectiveness. This suggests that while strong structures can enhance work

efficiency, they do not necessarily lead to financial gains or improved organizational performance.

On the other hand, relational social capital, which is all about trust, norms, and personal connections, was found to significantly boost effectiveness. This highlights the importance of strong, trust-based relationships in reaching organizational goals. Yet, it did not have a notable impact on productivity or profitability, indicating that just having good relationships is not enough to drive tangible results or financial success.

Finally, cognitive social capital, which encompasses shared values and mutual understanding among team members, positively influenced productivity but didn't significantly affect profitability or effectiveness. This suggests that while a common vision can foster coordinated efforts and improve efficiency, it doesn't always translate into better financial performance or overall organizational effectiveness.

**Recommendations**

Based on the findings of the study, here are some suggestions for organizations eager to enhance their performance through social capital:

i. Organizations should prioritize improving their network structures, formal communication systems, and institutional collaborations to boost productivity. This might involve setting up structured team coordination, holding regular stakeholder meetings, and clearly defining roles and processes.

ii. It is essential for organizations to cultivate trust, mutual respect, and strong interpersonal relationships among staff, management, and stakeholders. Initiatives such as team-building activities, conflict resolution training, and shared leadership responsibilities can help strengthen these relationships, aligning efforts and improving goal achievement.

iii. Organizations should encourage open dialogue, conduct value alignment workshops, and hold inclusive planning sessions to ensure that everyone is working towards common objectives, which in turn enhances coordination and workflow efficiency.

**Areas for Further Studies**

Future research should really dive into adding some moderating or mediating variables. Plus, it would be great to explore other sectors to see if the findings can be generalized.

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