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**KUMASI**

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**KNUST**

**THE EFFECT OF HUMAN CAPITAL ON INNOVATION IN  
AGRIBUSINESS: THE MEDIATING ROLE OF STRATEGIC LEADERSHIP**

**BY**

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**(BA POLITICAL SCIENCE WITH LINGUISTICS)**

**A Thesis Submitted to the Department of Marketing and Corporate Strategy of  
the Kwame Nkrumah University of Science and Technology School of Business,**

**in partial fulfilment of the requirements for the award of the degree of**

**MASTER OF BUSINESS ADMINISTRATION**

**(STRATEGIC MANAGEMENT AND CONSULTING)**

**NOVEMBER 2023**

## DECLARATION

I, **Ebenezer Adu Osei**, hereby declare that this submission is my own work towards the Master of Business Administration and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any degree of the University, except where due acknowledgement has been made in the text.

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## ACKNOWLEDGMENT

I would like to express my sincere gratitude to all those who contributed to the completion of this post graduate thesis.

Firstly, I am extremely thankful to my Supervisor, Kwame Ohene Djan, PhD, for his constant guidance and unwavering support throughout my research journey. His expertise, constructive feedback, and patience has been invaluable in shaping my work.

I would also like to extend my appreciation to my family and friends for their encouragement and understanding during the long hours of writing and researching. Their unwavering support, motivation and kind words have propelled me towards the completion of this thesis.

My heartfelt thanks also goes to the participants of my study for their willingness to devote their time and effort in aiding my research. Their valuable input and feedback were fundamental in enabling me to draw conclusions and contribute to the academic community.

Lastly, I would like to recognize the institutions, libraries and organizations whose resources and facilities greatly aided my research.

The successful completion of this thesis would not have been possible without the support and contributions of all these individuals and entities. Once again, to all those who have helped me in any way, I offer my sincere thanks!

## DEDICATION

I would like to dedicate this post graduate thesis to my beloved family who have always been a constant source of love, inspiration, and unwavering support throughout my academic journey.

To my parents, Mr and Mrs Abu, your unwavering guidance, encouragement and selfless sacrifices have been the backbone of my academic success. Your constant support, even during the challenging times, has given me the strength to persevere and pursue my academic dreams. Thank you for instilling in me the values of perseverance, hard work and integrity, which have been the driving force behind my success.

To my siblings; Lois, Jochebed, Brigid, Junior and Rachel, thank you for always cheering me on and uplifting my spirits, especially during the moments when things seemed impossible. Your support and encouragement have been a beacon of light in my academic journey.

I would also like to dedicate this thesis to my dearest friend; Nana, who believed in my potential even when I doubted myself. Thank you for being a constant source of inspiration to me. You continue to inspire me to aim for excellence in all I do.

To all my loved ones mentioned above, thank you for being my support system and for always standing by me every step of the way. This accomplishment would not have been possible without your love, understanding, and constant support.

May this thesis be a testament to the love and appreciation I have for you.

## ABSTRACT

This study was conducted to examine the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana. For the purpose of this investigation, a descriptive cross-sectional survey approach was used. This analysis was conducted using a quantitative approach. The 326 participants were selected using a purposeful sampling method. A predefined questionnaire was the main tool for data gathering. Both SPSS v26 and SmartPls v4 were used for the statistical analysis. Both descriptive and inferential techniques of analysis were used to examine the data. The findings show that human capital has a direct and substantial effect on innovation and strategic leadership. The findings show that innovation was greatly influenced by strategic leadership. From the data gathered, it was concluded that strategic leadership greatly mediates the link between human capital and innovation. Management, according to the findings, should implement human capital by providing their employees with opportunities to develop their expertise in the areas of knowledge, skill, competence, creativity, attitude, intellectual agility, and capacity, as well as by encouraging them to work together toward a common goal of providing customers with a unique and valuable service or product.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Introduction of the Study

Small and Medium Scale Enterprises (SMEs) play essential support to the socio-economic development of many nations. The role these businesses play in developing nations cannot be underestimated (Azumah et al., 2021). Despite the contribution of SMEs to national development, they face numerous challenges. Amid these challenges faced by SMEs, the needs of consumers are progressively extending from just quality to incorporating sustainability, competitive prices and value for money (Tell et al., 2016; Mesías et al., 2021). This necessitates the need to reduce waste along with the production system and produce products that meet the demands of the consumer. This is vital to embrace critical changes in the journey to upgrade the business performance (Dania et al., 2018). Meanwhile, Agribusiness are noted of facing multiple constraints including innovation constraints (Clegg, 2018; Kou et al., 2021). Which directly or indirectly affects the business performance. The outbreak of the Covid-19 pandemic dampened worldwide sustainable development efforts, hurting all economic sectors, organizations, and industries, including Ghana's agribusiness sector. Before the outbreak of the pandemic, agribusiness in Ghana was already facing difficulties. The aftermath implication of the pandemic has continuously worsened business performance in emerging economies, especially among businesses in the agricultural setting due to their low level of technology acceptance or usage in the area. To be able to bounce back and maintain a competitive position or remain competitive in the eyes of consumers, managers must give prior attention to the indispensable role played by innovation.

Meanwhile, achieving innovation in the agribusiness setting cannot be without human capital. Human capital's effect on the creative potential of Ghana's agribusinesses is the subject of this research. Human capital is essential for agribusiness because it allows companies to increase their production capacity and maintain a competitive advantage by learning new skills (Jagoda, Maheshwari, and Lonseth 2010). To close the gap in understanding between the developed world and the rest of the world, experts in the field have come to appreciate the value of human capital (Battistella, De Toni, and Pillon 2016). Agriculture is the backbone of the Ghanaian economy; hence the government has encouraged its transition from subsistence farming into a commercial industry that can ensure food security by 2030 (Ong'ayo, 2017). About 54% of Ghana's GDP and over 40% of export revenues come from agriculture. Meanwhile, 52% of the labor force is employed in agribusiness firms, ensuring that the country never goes hungry (FAO, 2022). The National Board for Small Scale Industries (NBSSI) was established by the government of Ghana to aid SMEs and improve their performance in the country. However, reports show that much work remains to be done to improve the performance of agribusinesses in Ghana (Amoah and Kwabena, 2018; Osei, 2017). Although the government has invested heavily in the sector, there is still a disconnect between human capital investment and the expansion of the agriculture sector. For instance, Günsel et al. (2018) demonstrate how environmental complexity and a lack of acceptance of industrial processes are among the many constraints hindering the spread of new innovations, especially in developing nations. And thus, the downfall of Ghana's agribusiness continues. The reliance on rain-fed agriculture, resistance to technological advancement, pests and diseases, unfavorable weather, land degradation, the spread of urbanization into agricultural areas, and the outmigration of young people to the cities have all been linked to this decline (Gitonga and Shibia 2018; KNBS 2018; Ong'ayo

2017). One of Africa's greatest challenges is increasing food production by smallholder farmers (Adenle et al., 2019). Academics have looked for reasons for agribusiness's lack of innovation adoption and subsequent benefits (Chege et al., 2019). However, the vast majority of research has concentrated on the connections between broad categories of technology and their environments.

The ability of a business to respond to changes in consumer needs and to advance the realization of its competitive edge is dependent on its human capital. This is especially relevant when a business is dealing with a volatile environment (Kafetzopoulos, 2022). According to Supriadi et al. (2020), the findings of their study indicated that human capital was crucial for keeping businesses operating, particularly in pandemic-affected environments. The importance of human capital for business survival has been noted in earlier studies (Wisnu et al., 2022). Prommarat et al. (2015) also argued that an organization's human capital produced the following outcomes: organizational adaptation, excellence, value creation, business performance, and survival. However, this proposition still needed to be proven in subsequent studies (Sukmanegara et al., 2022). Thus, though existing studies have shown that human capital paves way for business performance (Sukmanegara et al., 2022; Kafetzopoulos, 2022; Mohammed et al., 2022), it is still unclear how agribusinesses can leverage human capital to drive innovation among agribusinesses. This creates a knowledge gap that needs to be explored. This study further explores how strategic leadership may strengthen the effect of human capital on innovation among agribusinesses in Ghana.

## **1.2 Statement of the Problem**

Despite several benefits of agribusinesses in Ghana's economy, the performance of firms in the domestic value chain of agribusinesses in sub-Saharan Africa, especially, Ghana has been facing a myriad of impediments mainly due to a lack of capacity to

timely innovate their business model resulting in slow growth or performance in this industry (Memia, 2018).

Human capital is an important phenomenon that firms and organizations cannot do away with, especially in the face of dynamic and fast-moving business environment. The Covid-19 pandemic and the conflict between Russia and Ukraine are only two examples of how various global crises have a major effect on society and provide difficulties for companies (Bailey and Breslin, 2021). As the crisis develops, businesses are subject to varying degrees of emergency and resource limitations, thus they must be able to handle changes and environmental uncertainties by creating effective plans and policies (Collings et al., 2021). In this situation, Lee et al. (2022) proposes that a firm's strategic approach to human resource generates a significant competitive advantage and could help enterprises achieve worldwide success in periods of intense uncertainty and crisis. Additionally, human resource continues to be a crucial corporate asset that enables organizations to manage change, adapt to changing circumstances, and also in emergencies (Kafetzopoulos, 2022). Human capital is thought of as the overall firm's capability that responds to changes in customers' needs and promotes the achievement of a company's competitive edge, especially when the company is facing a turbulent environment, even though organizational innovativeness is a prerequisite for innovation (Sukmanegara et al., 2022). This study is an important attempt to address three key gaps in the literature.

First, this study examines the influence of human capital on innovation among SMEs in the agricultural setting, which has received little or no attention particularly in developing nations like Ghana (Adeyeye et al. 2016; Capozza and Divella 2019; Sun et al. 2020). Second, it is still important to evaluate the influence of human capital factors on innovative activities from the perspective of a developing country. This is because

most previous studies (Cohen and Levinthal 1990; Zahra and George 2002; McGuirk et al. 2015; Sun 2015; Pradana et al. 2020; Sun et al. 2020) focus on developed with little attention to developing nations (AlShekaili and Boerhannoeddin 2011; van Uden et al. 2014; Capozza and Divella 2019). Due to the diversity of firms across the nations, their findings cannot be generalized, hence the need to conduct a context specific study in emerging economies like Ghana.

Additionally, Saiedi et al. (2017) argue that it is usually not appropriate to consider a simple bivariate relationship between a dependent variable and an independent variable. The implication is that, in reality, other influential factors could shape the bivariate relationship, these variables could either be mediators or moderators. Hence, in the quest to develop a lasting remedy to business innovation issues in SMEs, it is imperative to develop a comprehensive model (at least a multivariate relationship model). Hence, this study further explored the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana which aligns with the Dynamic Capability Theory (DCT). Drawing from the DC theory, human resource is very crucial among SMEs and yet understudied and applied together to realize their effect on innovation in the SMEs context. The existing gaps in the literature show that a more integrated model examining the complex link between the variables is still missing. Therefore, examining the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana remains constrained which this study could use to add to knowledge.

### **1.3 Objectives of the Study**

This study was conducted to examine the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana. Specifically, this study seeks:

1. To examine the relationship between human capital and innovation among SMEs into Agribusiness.
2. To assess the relationship between human capital and strategic leadership among SMEs into Agribusiness.
3. To examine the mediating role of strategic leadership on the effect of human capital on the innovation of SMEs into Agribusiness.

#### **1.4 Research Questions**

In order to achieve the main objective of the study, the research seeks to answer the following:

1. What is the relationship between human capital and innovation among SMEs into Agribusiness?
2. Does human capital influence strategic leadership among SMEs into Agribusiness?
3. What is the mediating role of strategic leadership on the effect of human capital and innovation among SMEs into Agribusiness?

#### **1.5 Significance of the study**

This study attempted to understudy the inconclusive relationship between human capital and innovation in the agribusiness setting with the mediating role strategic leadership in a developing country such as Ghana. The study presents theoretical, practical, and policy significances relevance to individual agribusiness SMEs and government agencies. One of the many contributions of this study has been to extend the literature on human capital and innovation of agribusiness SMEs in Ghana, based on the Dynamic Capability theory. The findings of the study expand perspectives on the variables used in the study. Such as human capital and innovation and the mediating

role of strategic leadership. Thus, exhibiting the result of the set of intangible assets allowing firms to use their intangible assets to achieve their current management activities and innovative objectives and aspirations. In as much as these variables has received much attention in research, it has been researched separately and in a different context. A combination of these factors in a single study, therefore, presents a unique contribution to the study. Therefore, this study may provide a better understanding to both practitioners and regulatory institutions regarding human capital, strategic leadership and its outcome in the Ghanaian agribusiness SMEs' context.

In furtherance to that, the study will serve and act as a reference for future related research studies, especially within the SMEs setting. This research would be one of the kinds of work that would focus specifically on human capital, strategic leadership from the perspective of the agribusiness SMEs, in the Ghanaian indigenous SMEs hence addressing the scarcity of research on stakeholders' perspectives within SMEs in the developing world such as Sub-Saharan Africa (Abor & Quartey, 2010; Addo, 2017; Centre, 2016; Kayanula and Quartey, 2000). Furthermore, the study will be beneficial to other researchers who intend to undertake further related studies in the topic area among SMEs.

In terms of practical significance, the study will make specific managerial contributions to the industrial management of SMEs. The findings of the study may be useful in developing strategies that are geared towards developing and adopting the antecedent factors of innovation in an SME context. By establishing the influence of human capital, strategic leadership on innovation, managers of SMEs will be able to identify the strongest predictor of innovation amongst the constructs. This research will thus provide empirical evidence concerning the effect of human capital activities on innovation.

## **1.6 Scope of the Study**

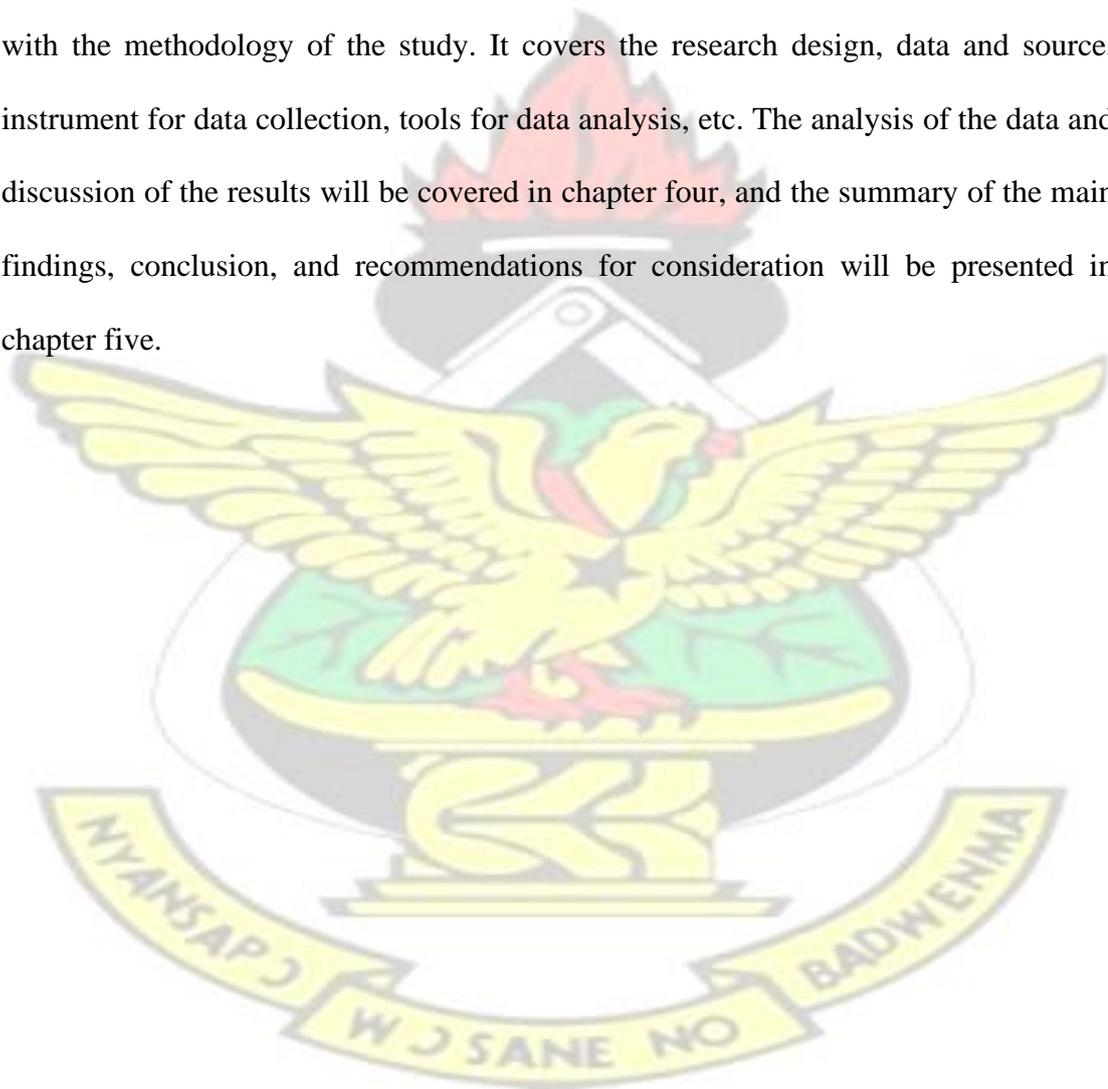
The study investigates the examine the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana. Although there are several issues affecting agriculture in Ghana, this study focuses on how human capital through strategic leadership may shape innovation among SMEs in the agribusiness setting, which has not been adequately explored. Also, reviewed literature identified that strategic leadership have not yet tested as a mediator in the relationship explored in this study. The study employed the Dynamic Capability Theory (DCT) and Relational View Theory from which the variables of the study are drowned.

## **1.7 Research Methodology**

This research will use the cross-sectional descriptive research design which used quantitative research techniques across agribusiness SMEs in Ghana. The survey method is proposed for the study. Usage of the survey method is considered to be efficient and economical, with its associated advantages to the researcher and appropriateness to the study (Kesmodel, 2018). The use of stratified sampling and convenience sampling techniques will be employed in the study. Stratified random sampling techniques will be used in the categorization of the SMEs into their various industries or sectors of operation whilst the convenience sampling technique will be used in the selection of 200 owners and managers of SMEs. Primary data will be collected utilizing face-to-face administration of questionnaires. Using the PLS-SEM model analysis technique, which is considered an appropriate analysis technique and its benefits of evaluating models consisting of reflective and formative constructs, and evaluating complex models comprising of mediation analysis (Hair et al., 2014; Hair et al., 2019).

## 1.8 Organization of the Study

The study is divided into five main chapters, with chapters one through five being the most important. The study's introduction is presented in the first chapter. It goes over the study's background, the problem statement, the research questions, the study's objectives, the significance of the study, the scope and limitations of the study, and the organization of the study's chapters. The second chapter, , is concerned with the review of existing literature on the subject of the study. Also, the chapter three thoroughly deals with the methodology of the study. It covers the research design, data and source, instrument for data collection, tools for data analysis, etc. The analysis of the data and discussion of the results will be covered in chapter four, and the summary of the main findings, conclusion, and recommendations for consideration will be presented in chapter five.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Chapter two of this thesis is organized into four main sub-headings. The chapter provides information organized under conceptual review, theoretical review, empirical review and finally the research model and hypotheses development. The Conceptual review section provides definitions, operationalization and how the constructs have been used in this study. The theoretical review section also provides the theoretical underpinnings of the study. The various prepositions proposed in this study were depicted using a conceptual framework and various relationships were well discussed. The Chapter ends with a summary which also highlights the gap explored in this study.

#### **2.2 Conceptual Review**

This section provides definitions, operationalizations and how the constructs have been used in this study. The model has three main constructs (strategic leadership, innovation, and human capital). These constructs have been operationalized in subsequent sections below (see 2.2.1-2.2.3).

##### **2.2.1 Human Capital**

According to Ayub et al. (2017), employees' knowledge, skill, competence, inventiveness, and capability are what make up an organization's "human capital," which also refers to their competence, attitude, and intellectual agility. According to Sedyastuti et al. (2021), human capital is an asset made up of a person's knowledge and abilities that may be applied by a company to further its objectives. Because a company cannot succeed without some amount of human knowledge and abilities, human capital is crucial. Moreover, Rigby and Ryan (2018) the economic worth that an individual or group of individuals contributes to an organization based on their education, talents,

loyalty, motivation, on and general well-being is known as human capital. These elusive characteristics support businesses in creating and marketing their products or services. In addition, Brown and Velásquez, (2017) social scientists refer to personal qualities seen to be helpful in the manufacturing process as "human capital." It includes the education, health, and knowledge of the workforce. Individual incomes are significantly impacted by human capital. According to research, by Mihardjo et al. (2020) financial returns on investments in human capital are substantial throughout youth and young adulthood. Furthermore, the bank of knowledge, talents, and other personal traits that people possess that enable them to be productive can be roughly referred to as human capital. Cañibano (2018) Although it is not included on a company's balance sheet since it is an intangible asset, productivity and profitability are thought to be closely related to human capital. Similarly, for the purpose of this study, the definition of Human Capital from Sedyastuti et al. (2021) has been selected for states that Human capital is an asset made up of a person's knowledge and abilities that may be applied by a company to further its objectives.

### **2.2.2 Strategic Leadership**

According to Shao (2019), strategic leadership is the ability of a manager to articulate a strategic vision for the company or a specific department within the business and to inspire and influence others to adopt that vision. Wheelen et al. (2017), using strategy to manage personnel is another way to describe strategic leadership. It has the capacity to implement organizational change and influence organizational members. Stamevska, and Stamevski (2020) the ability to influence others to take voluntary actions that increase the organization's chances for long-term success while retaining short-term financial stability is referred to as strategic leadership. Furthermore, Alblooshi et al. (2021) executives who practice strategic leadership create a vision for their company

that will allow it to adapt to or remain competitive in a changing economic and technical environment by employing various management techniques. Alblooshi et al (2020) in order to achieve change inside their business, strategic leaders can utilize this vision to inspire staff members and departments by encouraging a feeling of unity and direction. In addition, Bryson, (2018) when a leader motivates his or her team to collaborate to achieve a vision and objective, strategic leadership takes place. A strategic leader frequently serves as the organization's driving force, letting everyone recognize his or her part in realizing the goal. Others who follow you will always know where you are going. Besides, to Martins, (2020) Strategic leaders are concerned with building up a framework for where the organization needs to be in the future and giving the organization a direction, in addition to managing the here and now. The role of strategy is to make the moral goal and vision a reality.

Explicitly for this study, the definition of Stamevska, and Stamevski, (2020) strategic leadership states that the ability to influence others to take voluntary actions that increase the organization's chances for long-term success while retaining short-term financial stability

### **2.2.3 Innovation**

According to (Alqershi et al.,2020; Charitou and Markides, 2002), innovation is a company model that results in a new manner of operating. Innovation ensures that firms do not fall into the trap of adhering to established administrative and procedural patterns, which cannot, in any case, stay dominant given that all of their competitors are acting similarly. Zheng et al. (2018) a valuable and unique product, service, business model, or approach is considered innovative. Parida et al. (2019) innovations do not always include significant advances in technology or novel business strategies; they can be as straightforward as improvements to customer service at a firm or the addition of

features to an existing product. Similarly, Näyhä, (2020) the act of conceptualizing brand-new goods, processes, and ideas, as well as of approaching already-existing products, processes, and ideas in novel ways, is referred to as innovation. A person or an organization can carry out this process. Morkunas et al. (2019) a corporation may pursue any number of various sorts of innovations in the business sector. They frequently have a direct connection to certain items, internal procedures or workflows, or business models. Some businesses even combine the three in an effort to drive development while adjusting to the always-shifting market.

Sørensen and Torfing, (2018) innovation is really about acting in a unique way from everyone else in your industry. The objective of applying innovation in your company's products, for instance, is to create or update them until there are no comparable items on the market. Coulson-Thomas (2017) company executives must be able to think creatively and incorporate innovation into their business models in order to spur business development, remain relevant in changing times, and stand out from the competition. Bogers et al. (2019) the ability to innovate is not the sole need for success, though; leaders also need to have a firm grasp of the steps involved in putting that invention into practice. Tidd and Bessant (2020) innovation as the process of changing current practices, goods, or services to offer something better. Key elements of innovation include creativity and brainstorming, with the former generating fresh concepts during the latter. Innovation is described as the introduction of a new or improved product or process, as well as a new marketing or organizational strategy in inter-company operations, workplace organization, and commercial connections, according to the Oslo Manual (OECD, 2005).

Organizational innovations, according to the Oslo Manual, are improvements in corporate procedures aimed at increasing efficiency, productivity, competitiveness,

adaptability, and ingenuity through the use of disembodied knowledge (Oslo Manual, 2018). Organizational innovation is about developing operations over time, such as new enterprise strategies and practices, understanding and adapting organizational practices to enhance performance, and modifying organizational strategies and processes to enhance public relations (Tseng et al., 2019; Karlsson and Tavassoli, 2016; Liao and Barnes, 2015). This is particularly true in business markets where the pressure to innovate leads the enhanced firm performance. Although, the ability to innovate no doubt remains critical and the approaches firms take in innovation are evolving from time to time. As espoused by Wadho and Chaudhry (2018), innovation is the process of developing and improving markets, procedures, and goods, along with the goal of the aggregate value. In the view of Ritala and Huizingh (2014), innovation is an indication of new product delivery to the market or to solve firm problems through innovative ideas for cost reduction, making processing faster or better, improving the organizational structure or networks, and as well as developing new or significantly improved systems.

Innovation has also been described by Dereli, (2015) as the introduction of a new or improved product or process, as well as new promotional or operational strategies across workplace organization as well as promotional or operational strategy among inter-company activities. The Oslo handbook (2005) divides innovation into four types: product innovation, process innovation, marketing innovation, and organizational innovation, which could be further divided into technological and non-technology innovation. Literature of innovation indicates that any organization needs innovation to succeed and survive in an environment characterized by stiff competition (Jimenez and Sanz-Valle, 2011), and gather sustainable competitive advantage (Herman, 2018). Production innovation has indeed been studied in relation to a wide range of

management issues, notably emerging-market entrepreneurial ventures (Miocevic and Morgan, 2018; Oduro, 2019; Wang and Zhou, 2020). In matured businesses, ongoing innovation is essential (Cucculelli, 2018; Voeten, 2016), partnership networks and consequences from Rand D (Ferraris, et al., 2019; Nieth et al., 2018), organizational values and leadership (Anning-Dorson, 2021; Gumusluolu and Ilsev, 2009; Hogan and Coote, 2014; Kahn, 2018; Zhou et al., 2016). Innovation occurs when new things (products or services) are created and commercialized, or when performance attributes are enhanced (Rajapathirana and Hui, 2018). Innovations help businesses differentiate themselves from their competition by delivering solutions to critical national problems (Gamage et al., 2020; Metadata and Policies, 2018). Any good or service that is seen as novel by a person or a company is termed product innovation (Kotler and Keller, 2012). It also refers to the introduction of new products or services in order to attract new markets or to satisfy both existing and new customers (Aksoy, 2017; Kuncoro and Suriani, 2018; Najafi-Tavani, et al., 2018).

### **2.2.3.1 Product Innovation**

Product innovation necessitates a range of organizational approaches and also unique resources, which together lead to innovative outcomes (Simao and Franco, 2018). Firms' performance is still largely based on innovation (Cooper, 2014; Liu and Atuahene-gima, 2018; Osei et al., 2016; Wadho and Chaudhry, 2018). That is because enterprises that innovate enhance the quality of its product and products, which improves their performance and competitiveness. Product innovation, according to (Federico et al., 2020; Liu and Atuahenegima, 2018), protects a firm against risks of competition, allowing the innovating firm to benefit from the 'early innovator' edge. The 4th edition of the Oslo manual (2018) describes product innovation as a new or improved good or service that differs significantly from the firm's previous goods or

services and that has been introduced on the market. Product innovation has been established to have a favorable and significant relationship with organizational success, according to (Liu and AtuaheneGima, 2018). According to Mahmutaj and Krasniqi, (2020) product innovation is highly significant to business growth. Furthermore, Osei et al. (2016) assert product innovation has a significant impact on business performance. Similarly, Li and Atuahene-gima, (2014) found innovation is linked to a successful business, which Wadho and Chaudhry, (2018) corroborated.

Prior studies (Zheng et al., 2018; Ghasemaghaei and Calic, 2020; Ovuakporie et al., 2021) have classified innovation performance into two main headings, thus effectiveness and efficiency. Many companies have realized the need of launching new products and services in a timely way as time-based competition has grown more prevalent (Smith, 2011). In this study, innovation performance follows the earlier definition of Daft (2009) as cited in Sven (2020) as the measure of how agribusinesses are able to effectively achieve innovation goals compared to their competitors and how they have dwelled on industry 4.0 enabled supply chain analytics to achieve their innovation agenda. In order to build a long-term competitive edge, an organization's innovation performance is essential (Anderson et al., 2014; Frederiksen and Knudsen, 2017; Santoro et al., 2020). It is also well known that while innovation performance results in personal satisfaction and rewards for the coworkers, it also has both costs and benefits for the organization as a whole (Janssen, 2003; Janssen et al., 2004). A number of issues influencing employees' innovative work behavior remain unresolved and immature, according to a new study (Anderson et al., 2014; Zhang et al., 2020). To attain innovation performance, a business must have people who come up with new ideas that can help them compete in the marketplace (Frederiksen and Knudsen, 2017), implying that creativity and innovation in any organization are vital for increased

performance (Anderson et al., 2014). According to Singh et al. (2019), all previous research show that innovation performance plays a vital role in boosting organizational innovation. Indeed, there is considerable evidence supporting the linkage between innovation and organizational performance (Campanella et al., 2020; Wang and Dass, 2017).

### **2.3 Theoretical Review**

An abundance of knowledge and information in the scope of innovation makes the research process to become challenging, difficult, and lengthy (Murguia Sanchez et al., 2017). Thus, to focus the research direction, two underpinning theories were used as a research foundation in supporting and addressing the gap, and as a guide to align this research into an appropriate direction. In this section, the researcher discusses underpinning theories that form the basis to investigate and study the phenomenon of strategic leadership as a moderator in the relationship between human capital and innovation in the agribusiness setting. The driving theories of this study are the Resource-Based View Theory (RBV) with its extension to the Dynamic Capability Theory and the Transformational Leadership Theory. Theoretical frameworks provide a clear prism or context through which a subject is studied; it explains the context and the connections between the various factors and dimensions.

#### **2.3.1 Resource-Based View (RBV) Theory**

According to RBV (Barney, 1991), firms have a collection of unique resources and competencies that are valuable; the success of a company is influenced by how these resources owned by internal functions and external partners are leveraged (West and Bogers, 2014). The RBV theory which encapsulates knowledge as intangible competence or assets of the organization leads to further development of the Knowledge-Based View theory which asserts that an organization's knowledge is a

valuable resource that can create value. The resource-based theory is unique because it focuses on the organization's resources (Barney et al., 2001; Lonial and Carter, 2015). As Grant (2010) puts it, an organization's resources can be divided into three areas namely tangible, intangible, and human resources; such tools build the capacities and competencies of the organization (Barney, 2001; Lau et al., 2010).

The Resource-Based View Theory (RBV) suggests that a firm need to involve and utilize its resources in attaining competitive advantage which will, in turn, enhance innovation performance (Lonial and Carter, 2015; Davis and Simpson, 2017). The RBV maintains that firm assets comprise tangible resources (e.g., goods, facilities, and staff) and intangible resources (e.g. organizational culture, credibility, and knowledge: (Barney, 1991), as well as internal resources (e.g. workforce expertise and raw materials) and external resources. This demonstrates how well the business should leverage the organizational capital, tangible and intangible resources to create a competitive edge. RBV indicates that a business needs to use its resources in its business development processes to exploit the resources and skills of companies to boost efficiency in product innovation (Hong et al., 2016; Saji and Mishra, 2013). The Resource-Based View (RBV) theory is used in the present study to propose a relationship between firms' knowledge as its asset which is driven by human capital and strategic leadership can influence innovation. Hence in this study antecedent constructs of human capital and strategic leadership can influence innovation are relevant and significant variables for agribusinesses since these constructs can assist the firms in gaining knowledge that might contribute to innovation by allowing control in the external environment to affect the success of the company. Literature indicates that organizations will do better in the market if they combine their competencies and capabilities in creating value and retaining value to create a competitive advantage

through innovation (Koska, 2013; Liao and Barnes, 2015). It is important to know that the knowledge, processes, and capabilities that help a firm to achieve enhanced performance can be considered as the resources of the organization from the point of view of RBV (Liao and Barnes, 2015). Additionally, innovation literature in the context of agribusinesses specifically related to the general lack of resources and competencies confronting agribusinesses as a major difficulty in the resource-based perspective (Liao and Barnes, 2015; Ndiaye et al., 2018; Quaye and Mensah, 2019; Yamoah and Arthur, 2014) and economies of scale and scope are often lower (Afriyie et al., 2019; Donkor, Donkor, and Kwarteng, 2018). RBV, therefore, corresponds to the firm's competencies which are important resources for realizing superior business performance through innovation. The RBV is therefore a valid theory for developing agribusinesses' framework to gain an innovative advantage. Emanating from the RBV literature, it can be inferred that knowledge resources, innovation capabilities, external support mechanisms, attitudes, and competencies can be considered to play an important role in the success of innovation performance.

In this study, RBV is used as a basis for the development of knowledge resource-based analysis of circular economy and firm's innovation performance. This is further clarified by Liao and Barnes, (2015), Osei et al., (2016) that firm performance is depending on the firm's resources which, are linked to the innovativeness of the firm i.e. firm's turnover, and total staff. Furthermore, RBV has been proven in several studies on product innovation (Alegre, et al., 2013; Arslanagic-kalajdzic, Balboni et al., 2017; Danneels, 2002; Eisenhardt, 2000; Liao and Barnes, 2015; Osei et al., 2016) Conclusively, resource-based view theory shed light in terms of how firms can utilize their resources in the perspective of their capacity to innovate, to gain enhanced performance. Relatively in this study, RBV theory was used as a basis for the

development of relationships between the knowledge resources via human capital and strategic leadership can influence innovation of agribusinesses. In this study, RBV theory was used as a basis for the development of knowledge resources such as human capital and strategic leadership in finding its relationship with a firm's innovation in the agribusinesses space.

### **2.3.2 Dynamic Capability Theory**

In the last decade, firms have been pushed to create new ways to manage their enterprises due to the uncertainty and instability of the business environment, coupled with the growing consumer power in recent times. In the wake of the covid-19 pandemic, many supply chains have been disrupted, managers in their quest to return to normalcy and make their supply chain more responsive rely on both their internal and external competencies. In such regard, industry 4.0 and supply chain analytics have evolved as critical tools for businesses to be more innovative (Jing-Wen and Yong-Hui, 2017). In understanding how firms use their internal resources and competencies to gain a competitive advantage via innovation, existing studies have heavily relied on a resource-based viewpoint (RBV) (Zhan and Yun, 2020; Agi and Nishant, 2017; Zailani et al., 2015). The RBV theory argues for firms to improve their capabilities in managing resources, they depend on positive organizational responses (i.e. top management commitment, employee training, R&D technologies, environmental management systems) and this aid them to improve their innovation performance (Keller et al., 2019). From the RB viewpoint, resources represent firms' possessions or access to but rather not what the firm is capable of doing (Grobler and Grubner, 2006). Meanwhile, for a firm to enjoy a competitive advantage, there is the need to process or integrate both tangible and intangible resources (Newbert, 2007; Sirmon, Gove, and Hitt, 2008). Again, to sustain the competitive advantage over time, they must integrate their

resources with their capabilities in a specific context (Sirmon et al., 2008). However, critics of the resource-based view argue that it is "context insensitive" (Lingyee, 2007, p. 360) and fails to fully identify the circumstances in which resources or capabilities are most valuable (Ling-yee, 2007; Sedera et al., 2016). Contrarily, the dynamic capability perspective considers how and what context resources aid a firm to generate a competitive advantage within a dynamic business environment (Teece et al., 1997; Sirmon et al., 2010; Singh et al., 2013). According to Teece et al (1997), dynamic capabilities represent firms' ability to integrate, build and reconfigure internal and external competencies to respond to rapidly changing business environments. Additionally, the dynamic capabilities include the capabilities to sense and shape opportunities, seize opportunities and sustain competitive advantage via improving, combining, safeguarding and reconfiguring the resources of the firm. Prior studies (Eckstein et al., 2015; Dubey et al., 2018) contend that, in a highly uncertain environment, dynamic capabilities are simple, experiential, unstable processes that depend on created emerging insights that allow combination or renewable resources and competencies into dynamic capabilities that are crucial for the unstable environment. Drawing from these earlier discourses, human capital and strategic leadership have been cited as dynamic capabilities which result from the firms' ability to configure and redesign production and operations of the firm. Hence, we expect a direct link from human capital and strategic leadership and innovation performance through the lens of DCT. The study also anticipates an indirect mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana as shown in Figure 2.1 below. Because the enterprise is seen as a critical component in the production and application of knowledge, it is necessary to comprehend how businesses generate and manage new knowledge (Jabbar, et al.,

2019). Given that both the RBV and the DCT advocate for the utilization and application of firm's knowledge resources can be utilized for their benefit. Relatively in this study, DCT theory which is an extension of the RBV theory was used as a basis for the development of antecedent knowledge resources and in finding its relationship with a firm's innovation performance.

### **2.3.3 Transformational Leadership Theory**

Transformational Leadership Theory offers a compelling framework for understanding how human capital, innovation, and the mediating influence of strategic leadership intersect within the agribusiness sector (Awan et al., 2023). This theory posits that transformational leaders have the ability to inspire and motivate their teams to transcend their self-interest and work towards a shared vision (Cahyadi et al., 2022). In the context of agribusiness, this leadership style is instrumental in driving innovation and fostering a culture of creative problem-solving, with human capital at the forefront (Hakimi, 2021).

Human capital in agribusiness encompasses the knowledge, skills, and expertise of individuals who possess specialized insights into agricultural practices, technology, sustainability, and market dynamics (Jankelová et al., 2020). This resource is invaluable for the agribusiness sector, as it serves as the bedrock for developing innovative solutions to complex challenges (Khurram et al., 2019). A highly skilled and knowledgeable workforce can devise novel farming techniques, improve crop yields, and enhance supply chain management, among other things (Karimi et al., m2023). Transformational leaders recognize the inherent value of this human capital and are skilled at motivating and empowering their teams to apply their expertise in innovative ways (Xi et al., 2023).

Transformational leadership creates an environment in which employees are encouraged to think outside the box, take calculated risks, and embrace change (Awan et al., 2023). This approach is particularly important in agribusiness, where addressing issues like food security, climate change, and resource scarcity necessitates creative problem-solving and adaptability (Hakimi, 2021). These leaders foster a sense of purpose and enthusiasm among their teams, aligning their efforts with the organization's overarching mission and vision, which often includes a commitment to sustainable and socially responsible agricultural practices (Jankelová et al, 2020).

The mediating role of strategic leadership becomes crucial in the context of Transformational Leadership Theory (Khurram et al., 2019). While transformational leaders inspire innovation at the individual and team levels, strategic leaders set the stage for the widespread adoption of innovative practices across the entire organization (Karimi et al., 2023). Strategic leaders, often at higher managerial levels, are responsible for creating the structures, processes, and incentives that facilitate and sustain innovation (Xi et al., 2023).

Strategic leaders are the architects of the organizational culture, ensuring that innovation is not just an abstract concept but a tangible part of the company's DNA (Cahyadi et al., 2022). They allocate resources, set priorities, and define the strategic direction of the agribusiness (Watts et al., 2020). By making innovation a central component of the organization's mission and objectives, strategic leaders guide the application of human capital's expertise in a way that aligns with the company's broader strategy (Jankelová et al., 2020). This alignment ensures that the innovations generated are not only groundbreaking but also relevant to the agribusiness's long-term goals and market positioning (Khurram et al., 2019).

Additionally, strategic leaders are responsible for forming partnerships and collaborations that expand the organization's reach and access to additional knowledge and resources (Karimi et al., 2023). In agribusiness, these collaborations can involve research institutions, governmental agencies, and other stakeholders. Such partnerships provide access to cutting-edge research and technologies that can further fuel innovation within the organization (Xi et al., 2023).

In conclusion, Transformational Leadership Theory underscores the importance of inspiring and motivating human capital to drive innovation in agribusiness (Khurram et al., 2019). The mediating role of strategic leadership complements this by ensuring that the innovation process is systematic, aligned with the organization's strategic objectives, and sustainable (Cahyadi et al., 2022). By leveraging the strengths of transformational leadership and strategic leadership, agribusinesses can effectively harness their human capital to foster a culture of innovation and remain at the forefront of the dynamic agribusiness sector (Awan et al., 2023).

## **2.4 Empirical Review**

### **2.4.1 Relationship between Human Capital and Innovation.**

Sarto et al. (2019) examine how board human capital heterogeneity affects firm innovation, with a focus on the educational and functional backgrounds of directors. Furthermore, it investigates the moderating impact of CEO expertise-overlap in the innovation area on the association between company innovation and board diversity of human capital. The study performed empirical research utilizing a dataset of 149 Italian high-tech enterprises observed between 2012 and 2015 in order to accomplish the study's aims. To explore a series of theories on the influence of board human capital heterogeneity on innovation inputs and outputs, the study used ordinary least squares regressions. Using this special dataset, the research looked at the connections between

business innovation, CEO experience, and board composition. The results provide some important new insights. First, the study found that directors' varied educational and professional backgrounds had a favorable impact on high-tech businesses' innovation output and input. This shows that encouraging innovation is facilitated by a diverse board with members with a diversity of backgrounds and viewpoints. But our findings also revealed a significant moderating influence. In particular, we discovered that the relationship between board human capital diversity and firm innovation is negatively moderated by CEO expertise overlap within the innovation domain. This suggests that the influence of board heterogeneity may be lessened when CEOs have significant expertise in the innovation domain. These findings highlight the role of CEO expertise in influencing the efficacy of heterogeneous boards in enhancing company innovation, which has significant implications for the practice of selecting directors with a variety of educational and functional backgrounds to drive innovation within high-tech companies.

Based on the resource-based view of the firm, this study looks at the relationship between workers' experience, knowledge, technical skills, and managerial talent and human capital, or more specifically, the innovativeness or more specifically, the willingness to innovate in a sample of 478 family businesses that were taken from a cross-national dataset, the STEP Project (Calabrò et al., 2021). Furthermore, this study investigates the moderating effect of the family board ratio the percentage of family members on the board of directors on the association between innovativeness and human capital. The study carried out an empirical study using data from a wide range of 478 family businesses in order to meet the research goals. The STEP Project, which includes family businesses in several nations, is where the dataset was taken from. The link between innovativeness and human capital, as well as the moderating influence of

the family board ratio, were examined in detail using statistical analytic techniques in this study. Using this data, we were able to examine how family members serve on the board of directors and how they may use human capital to encourage innovation in family businesses. Considerable consequences for family businesses are shown by the study's noteworthy findings. Primarily, it reveals a favorable correlation between human capital and the innovativeness of family businesses. That is, family businesses are more likely to innovate as long as they have staff with higher levels of experience, knowledge, technical abilities, and management talent. Also, the study emphasizes how important the family board ratio is to this link. More family board representation suggests that the relationship between innovativeness and human capital is positively moderated, meaning that the relationship between the two is stronger when there are more family members serving on the board of directors. That being said, when several family generations work for the company, this moderating influence becomes less pronounced. Thus, the results essentially indicate that family members who are on the board of directors give more thought to human capital and, as a result, take on a critical strategic leadership role in utilizing these assets to boost innovation in family businesses.

Ramírez et al. (2020) examines the relationship between productivity, innovation, and research and development (R&D) in the Colombian manufacturing sector, with a special emphasis on the critical role that human capital plays. The study used a comprehensive dataset from the Survey of Development and Technological Innovation (EDIT) and the Annual Manufacturing Survey (EAM) to analyze the relationship between R&D, innovation, and productivity in the Colombian manufacturing sector in order to achieve its research goals. We improve Crépon, Duguet, and Mairesse's approach by explicitly including human capital as a crucial aspect throughout the

investment decision-making stage, building on their seminal work. In order to account for the possible endogeneity issues associated with the inclusion of human capital, we use an instrumental variable technique. We are able to investigate the causal linkages between human capital, R&D investment decisions, innovation behaviors, and labor productivity increases among enterprises because of the systematic approach to the study, which includes substantial statistical analysis. The research yields significant results that emphasize the role of human capital in determining the dynamics of the industrial sector in Colombia. The study highlights that human capital has a causal role in R&D investment decisions, acting as a stimulant for companies to participate in R&D. Moreover, human capital plays a crucial part in propelling these companies' inventive endeavors by way of promoting creativity inside them. The finding shows that the existence of human capital boosts these businesses' labor efficiency is equally persuasive, highlighting the benefits it brings about in a variety of operational domains. The cumulative results of this study underscore the significant significance of human capital, posing a challenge to previous investigations that neglected to include this pivotal factor in comprehending the correlation between R&D, innovation, and productivity in the manufacturing sector of Colombia.

#### **2.4.2 Relationship between Human Capital and Strategic Leadership among SMEs in Agribusiness.**

Kafetzopoulos et al. (2022) the purpose of the study is to examine the link between leadership and strategic flexibility and corporate success while taking people management into account as a mediating factor. Utilizing survey data from 462 Greek enterprises, confirmatory factor analysis (CFA) and structural equation modeling (SEM) are used to test the suggested framework. The Sobel test was used to evaluate the mediation impact of talent management. The findings demonstrate that leadership

encourages organizations to be strategically adaptable and perform well, but the presence of personnel management completely mediates these associations. Positive effects of strategic flexibility on corporate performance are also seen. This research only examines one formal style of leadership; other types are yet unstudied. A more empirical study is urgently needed on the subject of talent management to understand its significance and how it is practiced in the twenty-first century. This study shows that managers should spend more money on talent management because they can use exceptional talent to put the best operational practices into practice and because managers' motivation for talent management helps firms' performance and strategic flexibility efforts become more deeply anchored.

According to Scafarto et al. (2016) the purpose of the study is to examine the connection between company success in the agricultural sector and intellectual capital, which is subdivided into four sub-constructs: human capital, relational capital, innovation capital, and process capital. This research employs correlation and multiple regression analysis to investigate if there is a positive association between each IC component and traditional business performance indicators using a sample of worldwide agriculture enterprises observed over a five-year period. The empirical findings are consistent with the assumptions that RC and PrC improve corporate performance. Contrary to predictions, InnC on its own has a poor relationship with performance. The findings did not support the idea that HC directly and favorably influences performance. Although HC moderates the relationship between InnC and performance in a favorable way, this means that businesses that extensively invest in HC are better positioned to reap the rewards of their research and development (R&D) efforts. This study adds new data from a highly knowledge-intensive but understudied industry to the body of current research on the relationship between IC and performance. The discovery that the value-

generating effect connected to R&D investments depends on the levels of HC may also add to the specialized literature on R&D and performance.

Tjahjadi et al. (2020) explored if global market orientation mediates any relationships between human capital preparedness and business performance. In order to assess the hypotheses, this quantitative study uses partial least square structural equation modeling (PLS-SEM). The information was gathered utilizing a survey approach including both online and offline questionnaires. The East Java Province of Indonesia provided 433 owners/managers of micro, small, and medium-sized firms (MSMEs) for this study. The findings demonstrate that corporate performance is directly and favorably impacted by human capital preparedness. Further investigation demonstrates that the influence of human capital preparedness on business performance is somewhat mediated by global market orientation. This study's first emphasis is on MSMEs in Indonesia's East Java Province. If the findings are extrapolated to other locations, caution should be exercised. Second, it made use of a survey technique that is frequently criticized for having the chance to be biased. The results give owners and managers a more thorough understanding of human capital readiness and how it can be enhanced to more effectively implement global market orientation plans and achieve targeted company performance.

#### **2.4.3 Mediating Role of Strategic Leadership on the Effect of Human Capital on the Innovation**

Le (2020) investigate the relationship between transformational leadership and the two types of innovation radical and incremental with a focus on the role that positive psychological capital plays as a mediating factor. The study employed structural equation modeling and a cross-sectional design to accomplish the research aims. The study presented a series of conjectures derived from an extensive dataset collected from

379 individuals in 89 manufacturing and service companies. Through the use of empirical research methods, we were able to thoroughly examine the suggested connections and investigate the complex interactions that exist between transformational leadership, positive psychological capital, and the two types of innovation: radical and incremental. The investigation yielded significant results that clarified the dynamics that exist inside organizations. The results of the study demonstrated the clear and substantial benefits of transformational leadership for both radical and incremental innovation, highlighting the importance of this leadership approach in promoting creative endeavors across the range of change. Crucially, the findings demonstrated how positive psychological capital functions as a mediator in explaining the connection between transformative leadership and innovative capacity. In order to improve managers' and directors' capacity for innovation as well as their own psychological capital, these findings highlight the strategic importance of funding and encouraging the adoption of transformational leadership among these professionals. In conclusion, by highlighting the critical roles that psychological capital and transformational leadership play in fostering particular aspects of innovation, such as radical and incremental innovation, this research advances the idea of innovation management.

Khan et al. (2021) examine how important intangible resources are to driving innovation performance in small and medium-sized enterprises (SMEs) in Hefei, Anhui province, China. Specifically, the study will focus on dominant logic, which includes information filtering and learning/routines, and dynamic managerial capabilities, which include managerial human capital, social capital, and managerial cognition. In order to achieve the research goals, 498 SMEs in Hefei were given questionnaires as part of an empirical study. The study's analysis was based on the 429 or so replies that were

received. The study employed Structural Equation Modeling (SEM) to thoroughly examine the hypotheses established in order to evaluate the impact of dynamic management talents and dominant logic on the innovation performance of SMEs. The research study aims to fill a significant void in the body of literature, and the developed hypotheses are well supported by the empirical analysis. The findings consistently demonstrate that two important intangible resources that have a significant and beneficial impact on small enterprises' ability to innovate are dominating logic and dynamic management talents. Additionally, the study demonstrates how managerial cognition, social capital, and human capital collectively known as dynamic management capabilities all contribute significantly to moderating the link between small enterprises' innovation performance and dominant logic. These findings demonstrate how small and medium-sized enterprises (SMEs) can gain a competitive advantage by strategically cultivating and utilizing their intangible resources, such as their dynamic managerial abilities and dominant logic, in the ever-evolving and unpredictable business world, particularly in developing economies like China. They can generate fresh concepts and outperform competitors as a result.

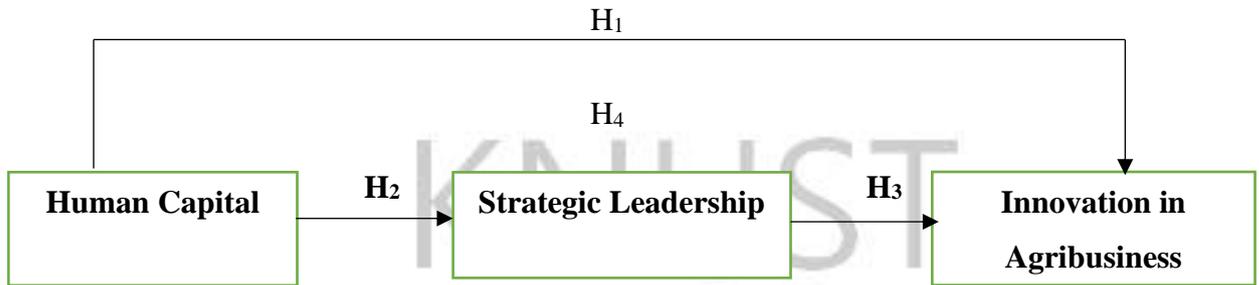
Iqbal et al. (2021) investigate how organizational commitment, transformational leadership, and entrepreneurial orientation affect innovation performance in small and medium-sized businesses (SMEs). In order to achieve this goal, information was obtained from 1,095 workers in SMEs at different levels of the hierarchical structure. The study methodically examined the proposed assumptions using partial least square structural equation modeling in order to identify the intricate linkages at work. The main conclusions of the study center on the strong and direct connections that exist between organizational commitment, entrepreneurial attitude, and innovation performance. Furthermore, it was shown that an important mediator of the relationship

between an entrepreneurial perspective and innovation performance is organizational commitment. Furthermore, the study revealed how transformational leadership might moderate the associations between organizational commitment and entrepreneurial orientation. The study highlights the significance of implementing transformational leadership approaches and an entrepreneurial perspective to improve innovation performance, which has important implications for leaders of small and medium-sized enterprises. In addition, the study provides insightful information for policymakers by highlighting the need of enhancing workers' moral and emotional ties to their companies in order to eventually promote an innovative culture among SMEs. In general, this study provides empirical support for the resource-based perspective in the context of SMEs, with significant theoretical and practical implications for professionals, leaders, and decision-makers.

## **2.5 Conceptual framework**

DCV and RBV are the two pillars that support our theoretical model (see Figure 2.1). Owing to the dynamic nature of the business environment in recent times, the DCV has attracted a lot of attention among management researchers in their quest to combine firm resources and competencies to give a firm a competitive advantage in a highly uncertain environment. The ability to sense, seize and respond to emerging trends is considered a solution to uncertainty, which is consistent with earlier reasoning. Volatile and complicated work contexts, where high levels of uncertainty make efficient planning and decision-making difficult, intensify the requirement for human capital and strategic leadership. Drawing from the DCT, firm competencies of various forms is more beneficial in highly uncertain contexts. The framework in this study hypothesizes the effect of human capital on innovation in agribusiness: the mediating role of strategic leadership. The entire framework expresses three different types of variables and

includes independent (Human Capital), dependent (Innovation in Agribusiness), and mediating (Strategic Leadership) variables.



**Figure 2.1: Conceptual Framework**

## 2.6 Hypotheses Development

This chapter of the study discusses the key ideas that are shown in Figure 2.1 above. For each of the assertions, subareas have been created and handled in accordance with the study paradigm.

### 2.6.1 Hypothesis 1: Human Capital on Innovation

The process of creating and introducing novel concepts, goods, services, procedures, or techniques that lead to notable breakthroughs or improvements is known as innovation (Sarto et al., 2019). It entails the development and use of original ideas, approaches, or technological advancements to solve current issues, satisfy changing demands, or grab hold of fresh chances. Innovation may take place in many different fields, such as business, science, technology, healthcare, and more (Fonseca et al., 2019). There is a significant and complex relationship between human capital and innovation. Human capital, which includes people's knowledge, abilities, experience, inventiveness, and mental ability, is a vital component that propels innovation in a wide range of fields and businesses (Diebolt and Hippe, 2019). An exceptionally competent and informed workforce is better suited to produce original concepts, create ground-breaking technologies, and enhance workflows all of which eventually result in the development

of cutting-edge goods, services, and solutions (Sun et al., 2020). Furthermore, people with different experiences and specialties may contribute their own viewpoints to creativity and problem-solving, which helps companies develop an innovative culture (Pangidoan and Nawangsari, 2022). Thus, in today's dynamic and quickly changing business environment, an organization's capacity to innovate and sustain a competitive advantage is greatly influenced by the efficient management and development of its human capital (Diebolt and Hippe, 2019). Thus:

*H<sub>1</sub>. There is a significant direct Relationship between Human Capital and Innovation among SMEs in Agribusiness.*

### **2.6.2 Hypothesis 2: Human Capital on Strategic Leadership.**

The capacity of a leader, or group of leaders, to successfully coordinate the organization's vision, purpose, and goals with its overarching strategy and to steer it toward the accomplishment of long-term goals is known as strategic leadership (Alayoubi et al., 2020). The impact of human capital on strategic leadership is crucial because the caliber and efficacy of strategic leadership are greatly influenced by the workforce's combined knowledge, competence, and expertise inside a business (Samimi et al., 2022). Strategic leaders may make well-informed decisions and establish a clear path with the support of a workforce rich in human capital, which includes sophisticated talents, a wide range of experiences, and in-depth knowledge of the sector (Ahmed, 2019). Inspiring and coordinating their staff with the organization's strategic goals is another advantage enjoyed by strategic leaders who are able to recognize and capitalize on their human resources (Pasaribu et al., 2021). In order to traverse complicated business environments, foster innovation, and retain the forward-thinking attitude necessary for long-term success and competitiveness, executives need human capital to enhance their leadership qualities and general flexibility (Abu-

Rumman, 2021). Thus: ***H<sub>2</sub>. There is a significant direct Relationship between Human Capital and Strategic Leadership among SMEs in Agribusiness.***

### **2.6.3 Hypothesis 3: Strategic Leadership on Innovation**

The process of creating and introducing novel concepts, goods, services, procedures, or techniques that lead to notable breakthroughs or improvements is known as innovation (Pasaribu et al., 2021). It entails the development and use of original ideas, approaches, or technological advancements to solve current issues, satisfy changing demands, or grab hold of fresh chances (Alblooshi et al., 2021). Since strategic leadership establishes the attitude and path for the whole workforce, it has a significant impact on creativity in firms. A strategic leader has a direct impact on an organization's capacity for innovation through their ability to set forth a compelling vision, cultivate an inventive culture, and offer a strategic framework for decision making (Samimi et al., 2022). These kinds of leaders encourage their staff to think outside the box, take calculated chances, and push for change all essential components of the innovation process. They promote a proactive and forward-thinking mentality, coordinating organizational actions with objectives related to innovation and inspiring staff members to adopt novel concepts and methods (Hou et al., 2019). Essentially, strategic leadership fosters innovation by fostering an atmosphere that encourages the production of ideas. It also makes sure that inventive endeavors are in line with the organization's larger strategic goals, which in turn propels the organization's competitiveness and long-term success (Watts et al., 2020). Thus:

***H<sub>3</sub>. There is a significant direct Relationship between Strategic Leadership and Human Capital and Innovation among SMEs in Agribusiness.***

#### **2.6.4 Hypothesis 4: Strategic Leadership mediate Human Capital on the Innovation**

The dynamic interplay between human capital and creativity, mediated by strategic leadership, greatly influences an organization's ability to innovate (Abu-Rumman, 2021). Strategic leaders are essential to maximizing the potential of human capital because they provide direction, vision, and coordinated activities (Alblooshi et al., 2021). Strategic leaders effectively use a highly talented and motivated staff that is defined by a culture of creativity and diversified knowledge to promote innovation (Ahmed, 2019). These leaders enable the conversion of human capital into concrete innovation by establishing the strategic direction, encouraging a culture of ongoing learning, and motivating teams to collaborate toward shared objectives (Alayoubi et al., 2020). In addition to influencing the use and development of human resources, strategic leadership makes sure that inventive endeavors are strategically focused, resulting in the production of distinctive and worthwhile goods, services, and procedures (Pangidoan and Nawangsari, 2022). By acting as a moderating factor, strategic leadership strengthens the connection between innovation and human capital, improving the organization's capacity to prosper in a business environment that is changing quickly (Iqbal et al., 2021).

Thus: ***H<sub>4</sub>***. *Strategic Leadership significantly mediate the Effect of Human Capital on the Innovation of SMEs into Agribusiness.*

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter presents an outline of the various methods and strategies employed by the researcher to collect data, clean the data and analyze the data using the appropriate analytical tools. It looks at the research design, the population of the study, sampling technique and sampling size, data collection, data analysis, validity and reliability, and chapter summary.

#### **3.1 Research Paradigm**

Research is a scientific process for discovering new information. Consequently, all theories and research involve philosophical underpinnings. Indeed, there are underlying philosophical foundations of all theories and research which it is important to understand the research paradigm to use the appropriate research methods and philosophies (Hunt and Hunt, 2018; Zinkhan & Hirschheim, 1992). The philosophy of research is related to knowledge creation and the purpose of that knowledge (Saunders et al. 2009). According to Saunders et al. (2018), the research philosophy a researcher decides to adopt has integral assumptions of how he/she perceives the world. Even though many researchers research without considering the underlying philosophical foundations, some understanding of research philosophies is vital because it is useful in clarifying the research design chosen and also facilitates the choice of the suitable one given the study in question (Blumberg et al., 2005). In the nature of knowledge and the development of knowledge, various philosophical dimensions are available, among which epistemology is one of them. In the view of Saunders et al., 2009, knowledge generated, interpreted, and applied is at the core of the epistemology assumptions. The epistemological view acknowledges the use of a scientific approach to generating

acceptable knowledge through the formation of hypotheses using a statistical test in the process (Cecez-Kecmanovic and Kennan, 2013; Chigbu, 2019; Singh, 2019; Wahyuni, 2012). The epistemological viewpoint, therefore, presents a viewpoint where knowledge keeps improving through constant new information generated. Generally speaking, there are two extremely notable mutually exclusive research paradigms in the expansive field of social research: positivism and interpretivism. The former position is likened to a quantitative paradigm while the latter to a qualitative paradigm (Cohen et al., 2009; Singh, 2019). The quantitative paradigm makes observations that are objective, and often quantitative facts whereas the qualitative paradigm observes subjective interpretations of meanings. These assumptions compel researchers to conduct research in a particular way.

A cardinal principle in positivism research philosophy is that research examines whether theoretically formulated hypotheses hold true in the situations under consideration (Saunders, Lewis and Thornhill, 2016). When gathered empirical findings are obtained backs the hypotheses, then the result is considered germane and valid. That is to say that positivist researchers adopt quantitative approaches to testing hypotheses in answering research objectives (Chigbu, 2019; Straub et al., 2004). Based on the epistemological viewpoint, researchers will remain independent from the study sample to control for bias and be objective in assessing the research situation (Cohen et al., 2013, 2009; Pham, 2018; Creswell 2009; 2014).

Distinct from positivism is interpretivism philosophy, which involves the detection of occurrences in a situation of interest based on the subject meanings and interpretations of phenomena. Packard (2017) argues that this philosophy offers a rich description of the phenomena of interest to a researcher, whose interpretation provides comprehension of what is happening. These assumptions compel researchers to research a particular

way. Based on the epistemological viewpoint, researchers using qualitative approach deem it necessary to understand the actors and their social roles (Saunders et al., 2016) in their quest to acknowledge the different backgrounds and experiences by having a dialogue with participants which could give rise to multiple perspectives (Wahyuni, 2012). In between these two extreme approaches are mixed approaches which are also called triangulation.

The positivism research philosophy which is the underpinning philosophy for quantitative research can be considered to fit well with the objectives of the research study based on the above approaches. Subsequently, the study employed quantitative methods of data collection in a single study according to the nature of the study. This study uses the existing Resource Base View (RBV) theory and Dynamic Capability Theory as underpinning theories in the hypotheses development. Its purpose is to assess theoretically formulated hypotheses regarding the impacts of a collection of study variable constructs, as well as to use reliability and validity to appraise the results and generalize them. Proceeding to this, the investigator will optimize the principles of positivism philosophy after the epistemological standpoint.

### **3.2 Research Design**

In terms of data collection, measurement, and analysis, the research design refers to how a study will be carried out. It establishes the conditions for data collection and analysis in such a way as to strike a balance between relevance to the study purpose and organizational efficiency (Kothari, 2004). The creation of that kind of planning and evaluation is for the most efficient research possible, resulting in the greatest amount of information. The goal of research design, to put it differently, is to collect as many available facts as feasible with minimum effort, time, and money (Cohen et al., 2009).

The study employed the cross-sectional descriptive survey design where deductive reasoning is applied for the quantitative data (Cohen et al., 2013). Deductive reasoning is used to make logical conclusions after the analysis. The deductive approach is a method where the researcher uses theories as bases to conduct an investigation which would be used to determine the result of a theory (Pham, 2018). The deductive method is usually made of quantitative techniques. The quantitative technique uses a survey questionnaire where data are normally collected from respondents. Researchers that utilize quantitative approaches collect and analyze numerical data in order to understand, forecast, and/or control occurrences. It provides an in-depth insight into the specific testable study and focuses on examining the relationship between variables (Eyisi, 2016).

The survey method is employed for the quantitative study because it examines a sample of the population to produce a quantitative or numeric depiction of attitudes, practices, and opinions. Through face-to-face questionnaire administration, primary data was acquired in the quantitative research design. Usage of the survey method was considered to be efficient and economical; it brings many advantages to the researcher; For instance, it is economical compared to interviewing, authorizes secrecy, and could produce additional truthful answers, besides it has the possibility of eliminating prejudice owing to wording questions differently with diverse respondents (Kothari, 2012; Durepos and Wiebe, 2019).

Subsequently, the use of the quantitative technique was employed to help in understanding the underlying reasons of respondents to issues industry human capital, strategic leadership and how they affect innovation in the agribusiness space.

### **3.3 Population of the Study**

The population of interest refers to the target population constituting individuals or entities that the study seeks to treat (Majid et al., 2018). Lavrakas (2008) described population of interest as the specific groups of individuals, businesses, or entities that the researcher seeks to treat and make generalizations based on the characteristics of those groups. For this study, the population of interest consists of agribusiness establishments in Ghana. Since the variables in the study are organizational-level constructs, the single respondent's approach was employed. As a result, the study targeted only senior managers including, owners, supply chain managers, operations managers, warehouse managers, production managers, quality control managers. Identifying a list of agribusinesses was a challenge, hence the study relied on agribusiness establishments under Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) agribusiness support initiative. The project provided capacity building, funding, and technological equipment to support agribusinesses. The project supported 500 businesses across the nation. The target population was, therefore, made up of managers of 500 agribusinesses establishments under the GIZ agribusiness project. The choice of the agribusiness establishments under GIZ agribusiness support initiative is justified by the fact that these businesses have been trained on data keeping and how to use data for decision making, they also have technology support which aid automation of their production processes and IT support to enable supply chain analytics.

### **3.4 Sampling Techniques and Sample Size**

The nature of the study and the research design, according to Kothari (2012), determine the number of study participants who should be included in the sample. In obtaining the sample size in a given population, three main methods in estimating a sample size can be

identified. Firstly, the sample size can be calculated by using formulas (Israel, 1992). Secondly the use of a published statistical table to estimate the sample size, for instance, the published statistical table of Krejcie and Morgan (1970) and Cohen et al. (2013, 2009). Lastly, a researcher can decide to utilize census methods by collecting data from the entire population. In addition to that a rule of thumb that one can use to estimate the sample size for a study. For instance, Bosman (1998) recommend that a sample size of 400 can be used to collect data for a study. Likewise, Kolloway (1998) also suggested that a sample size of 200 can be used as a sample size for a study. However, to properly situate the study, an appropriate sample size must be employed. In this study, the sample size determination was established from Yamane's simplified formula (1967) to decide the sample size for the study. It is defined as:

$$n = \frac{N}{1+N (e)^2}$$

Where:

n = Expected Sample Size N = Study Population

E = Margin of error and the confidence interval is 95%

Using the formula, the sample size is calculated below

$$\begin{aligned} n &= 500/1+500(0.05)^2 \\ &= 500/ 1.2525 \\ &= 399. 202 \\ &= 400 \end{aligned}$$

Based on the formula, four hundred (400) was arrived as the sample size. After the determination of the sample size, the researcher must now determine the sampling technique for the study after determining sample size. Every researcher's dream would have been to collect data from every single person in a population. This scenario is only

achievable when the researcher is working with small groups of people. When the population of interest is big, however, this census approach is not always viable. Accessing potential participants is also costly, time-consuming, and complicated. As a result of these issues, studies that use huge populations, such as this one, have depended on sampling procedures to pick a representative sample from the population of interest (Malhotra, 2010).

There are two types of sampling techniques available for use by researchers. Depending on the objective of the study, a researcher may use the probabilistic sampling technique or the non-probabilistic sampling technique. A probabilistic sampling technique is a technique that ensures that every item in the given population has a chance of being selected for the sample (Ahmed, 2016). It is choosing samples randomly from a larger population based on probability. Some of the probabilistic samples include simple random, stratified sampling, cluster, systematic and multi-stage sampling. The non-probabilistic sampling techniques do not guarantee an equal chance of items being drawn into the sample (Ahmed, 2016). It is not based on probabilistic selection but on the researcher's judgment. Some non-probabilistic sampling techniques include convenience sampling, quota, snowball, and purposive or judgmental sampling.

This study used the purposive sampling technique to draw senior managers including, owners, supply chain managers, operations managers, warehouse managers, production managers, quality control managers into the sample. The study employed convenience sampling to collect relevant information from employees who are well knowledgeable about the phenomena under enquiry. The type of data collected from respondents is discussed in the next section.

### **3.5 Sources of Data**

Two main sources of data exist to any research, this includes primary data and secondary data. While primary data refers to first-hand information gathered by the research for the purpose of the research, secondary data deals with already existing data gathered for a different purpose. The choice of data source in any research is dependent on the nature or the objective of the study. Considering the nature of this study, primary data is more suitable to be able to test the hypotheses proposed in Chapter two (2). The choice of primary data is justified by the quest to gather first-hand information on the views of managers in the agribusiness space on the variables under study. Data used in this study was therefore gathered using a well-structured questionnaire. The subsequent section provides the description of the research instrument and the method of data collection used in this study.

### **3.6 Instrument and Method of Data Collection**

#### **3.6.1 Questionnaire Development**

The study employed the five-point Likert scale, which is better since the point scale's position between positive, negative, and neutral options is properly balanced, reducing misunderstandings in participant's responses (Croasmun & Lee Ostrom, 2011; Sarstedt & Mooi, 2019). On a scale of 1 to 5, 1 means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree, and 5 means strongly agree. The survey had two parts. Part one is for gathering background information from participants, while part two is divided into four sections for bringing together information focusing on the independent variables. Section A, B, C, and D of the second part was designed in gathering information on the variables in the model. Items used in the design of the questionnaire were sourced from previously validated instrument.

### **3.6.2 Piloting of Questionnaire**

According to Saunders et al. (2016), a pilot test of a study refers to using a smaller number in the target population to assess a questionnaire to reduce the probability of the respondents having challenges in replying to the questions and to also evaluate how valid and reliable the data will be. The researcher randomly selected 30 firms from the sampling frame after conducting the reliability and validity test. The essence was to identify any shortcomings in the questionnaire and to rectify them before the actual fieldwork was undertaken. Some authors have different views about the samples to select. According to Hill (1998), a range of 10 to 30 respondents will be ideal for the task while Connelly (2008) suggested a sample size of 10% of the sample respondents will be enough to carry out the pilot testing. In the view of Cooper and Schinder (2011), a sample of between 25 and 100 respondents is considered ideal for a pilot study. The current study used a sample of 30 respondents which is deemed appropriate as proposed by (Hill, 1998; Treece and Treece, 1982) to undertake the pilot test. The result of the pilot data showed that the majority of the items except for two items of circular economy were reliable. Few issues including grammar errors and ambiguity were used to refine the questionnaire for the main data collection.

### **3.6.3 Data Collection**

The revised questionnaire was self-administered by the researcher with assistance from three trained research assistants. All the respondents received a brief on the purpose and major concepts before the questionnaire was administered. The respondents were assured of their anonymity. Again, they were informed that participating in the study is not compulsory but purely voluntary. The survey instructions also sought the consent of the respondents. Before interacting with the respondents, permission was sought from the firm. The data collection lasted for three months. The respondents who were

not ready or available for face-to-face interviews were asked to select between the hand delivery or online format. The questionnaire was administered in English.

### **3.7 Data Processing and Analysis**

To fulfill the goal outlined in chapter one, this study used descriptive analysis and multivariate data analyses such as factor analysis and Structural Equation Modeling (SEM). The Statistical Package for Social Sciences (SPSS) version 26.0 and Smart PLS 3 will be used as analysis tools. The SPSS program will be used for data coding and inputting, as well as data cleaning and exploration, before the data set was transferred to Smart PLS for further analysis. Before being transferred, the collected data will be checked to reduce errors and confirm that all of the scores were within the scale range used and that no values will be entered incorrectly.

### **3.8 Reliability and Validity**

Measurement plays a vital role in any research. Reliability and validity are the two most important fundamental features in the evaluation of any measurement instrument for good research. They are the most appropriate concepts for the introduction of a remarkable settings in business research. From Mohajan (2017), stressed that reliability identify the faith that one can have in a collected data from the identified instrument. Thus, it is the degree to which any measuring tool controls for random error. Validity on the other hand represents the truthfulness of findings.

#### **3.8.1 Reliability**

Cronbach alpha (the most often used indicator of reliability) and composite reliability were utilized to assess the research instrument's dependability in this study (Cooper and Schlinder, 2006; Cronbach, 1951). Cronbach alpha is a measure of the correlations between the various items used to assess a construct (Creswell, 2014). Despite the fact

that the literature says that correlation coefficients of 0.7 and higher are acceptable (Hair et al., 2010), other researchers believe that in exploratory investigations, a correlation coefficient of 0.5 is adequate reliability (Malhotra and Birks, 2007). In light of this, this study used Cronbach alpha and composite reliability tests, which are routinely used in SEM research, to examine the research instrument's dependability (see Hair et al., 2010). Due to the limitations of relying just on the Cronbach's alpha, a composite reliability test was conducted to assess the overall reliability of the full set of items used to measure each construct. A composite reliability score of less than 0.6, according to Hair et al. (2014, p.102), indicates weak internal consistency dependability, but indicator values of 0.6 and above are regarded acceptable.

### **3.8.2 Validity**

The content validity of this study was determined by soliciting the opinions of other experts in the field as well as a pre-test of the measuring equipment (Ghauri and Gronhaug, 2005). The researcher established validity by enabling marketing professionals (from academia and practice) to examine the suggested scale for the study, and then pre-testing the questionnaire. This stage's contributions were then incorporated into the final instrument that was administered. Construct validity is divided into two types: convergence and discriminant validity (Hair et al., 2010). Discriminant validity explains the distinctions between different constructs by ensuring that the items used to measure one construct are distinct indicators of that construct (Hair et al., 2013). This implies that correlations between items measuring distinct constructs must be low or very low (Malhotra, 2010).

Convergent validity, on the other hand, explains the close relationship between a construct's numerous metrics. As a result, it assures that the framework's numerous constructs are accurately reflected by their distinct metrics (Hair et. al., 2014). The

following steps are advised to satisfy the criterion for convergent validity. All factor loadings should be significant, meaning they should be 0.6 or higher (Chin, 1998). Each construct's Composite Reliability (CR) should be 0.7 or greater (Hair et al., 2016). Estimates of Average Variance Extracted (AVE) should be 0.5 or above (Hair et al., 2016; Henseler et al., 2009). The square root of the minimum average variance extracted (AVE) must be greater than the strongest inter-construct correlation for a reflective scale to satisfy the requirements for discriminant validity (Barclay et al., 1995; Fornell and Larcker, 1981; Hair et al., 2016). An author can also check the item cross loadings to make sure there aren't any substantial cross loadings. The Fornell and Larcker criterion alone is not conclusive on discriminant validity, according to recent research on variance-based structural equation modeling (Henseler et al., 2015). In addition to the Fornell and Larcker criterion, the authors advocate using the heterotrait-monotrait ratio (HTMT) of correlations. Cross loadings of indicators, according to the authors, account for 0% of discriminant validity, whereas Fornell-Larcker and HTMT criteria account for 20.82 percent and 97 to 99 percent of discriminant validity, respectively. They used three HTMT criteria to test discriminant validity: HTMT specificity ratio of 0.90, HTMT specificity ratio of 0.85, and HTMT inference score ranging from -1 to 1 (-1 HTMT 1), with the HTMT specificity ratio of 0.85 being the most cautious approach.

### **3.9 Chapter Summary**

This chapter of the study was dedicated to the methodology section of the entire study. It depicts the research design for the study, as well as outline the individuals and figures that will constitute the study. The method to adopt in sampling the population as well as the measurement of the research instrument is also mentioned and finally how to

ensure some ethical standards are adhered to is enumerated to close the chapter on this section.

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## CHAPTER FOUR

### DATA ANALYSIS, RESULTS, AND DISCUSSION

#### 4.0 Introduction

This chapter gives a summary of the information gathered on the research issues of the study. It provides information about respondents, descriptive analyses of human capital, innovation, and strategic leadership, a test of reliability and validity, a structural equation model, and testing of hypotheses regarding how human capital affects innovation by examining the role of strategic leadership as a mediator using SmartPLS v4.

#### 4.1 Response Rate

In most cases, the survey response rate is represented as a percentage. It is calculated by dividing the total number of surveys distributed by the total number of respondents. In most cases, a survey response rate of 50% or above should be considered exceptional. Data collection lasted more than one months, from 20th October 2022 to 20th November 2022. After evaluating the individual questionnaires for acceptability, 326 were deemed to be useable, yielding an 81.5% response rate, which is adequate for analysis, according to prior research (Sun et al., 2022; López, 2022; Lavidas et al., 2022), as shown in Table 4.1 below.

**Table 4.1: Data Response Rate**

Distributed	Collected	Percentage of Usable
Response	326	81.5
Non-Response	74	18.5
Total	400	100.0%

Source: Field Data, 2023

## 4.2 Profile of the Respondents

This section includes the demographics of the respondents in order to provide information about the persons and companies that participated in the study. The respondent's gender, age, educational background, position, experience, number of employees, number of products, and age of organisations are the most important information collected.



**Table 4.2: Profile of the Respondents**

<b>Variables</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percent</b>
Gender	Female	156	47.9
	Male	170	52.1
	Total	326	100.0
Age	18 - 30 Years	86	26.4
	31 - 40 Years	127	39.0
	41 - 50 Years	89	27.3
	Above 50 Years	24	7.4
	Total	326	100.0
Education	Bachelor Degree	78	23.9
	Diploma/HND	215	66.0
	Graduate Studies (Master / Ph.D)	33	10.1
	Total	326	100.0
Position	Business Owner	83	25.5
	Business Owner & Manager	151	46.3
	Employee (proxy)	13	4.0
	Manager	45	13.8
	Production Manager	33	10.1
	Sales executive	1	0.3
	Total	326	100.0
Experience	1-5 Years	95	29.1
	11-15 Years	86	26.4
	16 Years and Above	44	13.5
	6-10 Years	101	31.0
	Total	326	100.0
Employees	30-99 employees	33	10.1
	6-29 employees	160	49.1
	Less than 5 employees	124	38.0
	More than 100	9	2.8
	Total	326	100.0
Products	1-2 Products	94	28.8
	3-5 Products	99	30.4
	More than 5 Products	133	40.8
	Total	326	100.0
Operations	1-5 Years	95	29.1
	6-10 Years	105	32.2
	More than 10 Years	126	38.7
	Total	326	100.0

Source: Field Data, 2022

#### **4.2.1 Gender**

From the 326 responses that were valid, 47.9% were females and 52.1 were males. This data shows that more males than females took part in the study.

#### **4.2.2 Age Category of Respondents**

Out of the 326 people who answered, 26.4% were between 18 and 30 years old, 39.0% were between 31 and 40 years old, 27.3% were between 41 and 50 years old, and 7.4% were over 50 years old. The results show that most of the people who answered were between 31 and 40 years old.

#### **4.2.3 Educational Background**

Out of the 326 people who answered, 23.9% had a bachelor's degree, 66% had a diploma/HND, 10.1% had done graduate studies (Master's or Ph.D.). The results show that most of the people who answered had diploma/HND.

#### **4.2.4 Position of Respondents**

25.5 percent of the 326 people who answered were business owners, 46.3% were business owners and managers, 4.0% were employee (proxy), 13.8% were managers, and 10.1% said they were production managers. Most of the people who answered were business owners and managers, according to the results.

#### **4.2.5 Experience of Respondents**

From the 326 respondents, 29.1 percent indicated 1 – 5 years, 26.4 percent indicated 11 – 15 years, 13.5 percent indicated more than 16 years, and 31.0 percent indicated 6 – 10 years. Most of the respondents that answered the questionnaire had between 6 – 10 years of experience.

#### **4.2.6 Number of Employees**

10 percent of the 326 logistics service companies had between 30 and 99 employees, 49.1% had between 6 and 29 employees, 38.0 percent had less than 5 employees, and 2.8 percent had more than 100 employees. The results show that most of the companies that replied had 6 – 29 employees.

#### **4.2.7 Number of Products**

Out of the 326 people who answered, 28.8% operate 1 – 2 products, 30.4% operate 3 – 5 products, and 40.8% operate more than 5 products. The result shows that most of the firms operate more than 5 products.

#### **4.2.8 Age of Firms**

29.1 percent of the 326 companies have been in business for 1 to 5 years, 32.2 percent have been in business for 6 to 10 years, and 38.7 percent have been in business for more than 10 years. The results show that most of the companies that responded have been around for more than 10 years.

#### **4.3 Reliability and Validity Test**

Cronbach's alpha and composite reliability are statistics used to evaluate how well different instruments perform in consistently measuring the same set of variables. In this case, values CA and CR closer to 0.7 are required (Hair, et al., 2013). Consistency across all variables was high, with average values over 0.7. When considering convergent validity, the average variance extracted value (AVE) was more than 0.5. (Hair et al., 2013). Fornell-Larcker criteria were used to assess discriminant validity. Each variables connection to itself is greater than its connection to any other variable. Furthermore, the cross factor loadings demonstrate that the components are most

strongly related with their own variables, rather than any of the other variables, indicating that the appropriate factors were included in the study.

**Table 4.3: Reliability and Validity Test**

Construct	Number of items	CA	CR	AVE
Human Capital	4	0.894	0.901	0.759
Innovation	5	0.896	0.897	0.706
Strategic Leadership	3	0.874	0.877	0.799

Source: Field Data, 2023

The scores for CA, CR, and AVE variables are shown in Table 4.3. Human Capital, Innovation, and Strategic Leadership obtained Cronbach alpha values of 0.89, 0.89, and 0.87, respectively. Human Capital obtained a score of 0.901, Innovation received a score of 0.897%, and Strategic Leadership received a score of 0.877 for Composite Reliability. Each of these values is acceptable with a score of 0.7, demonstrating the dependability of the variables. The Average Variance Extracted (AVE) score for Human Capital was 0.759, Innovation obtained a score of 0.706, and Strategic Leadership received a score of 0.799. The variables are acceptable since a minimum permissible value of 0.5 exists.

**Table 4.4: Fornell – Larcker Criteria**

Construct	Human Capital	Innovation	Strategic Leadership
Human Capital	0.871		
Innovation	0.606	0.840	
Strategic Leadership	0.580	0.615	0.894

Source: Field Data, 2023

Use of criterion and cross-factor loadings allowed us to calculate discriminant validity. Discriminant validity, in contrast to convergent validity, checks to see whether the latent components accurately reflect the study's other variables. According to the Fornell Larcker criterion, if the variables are highly correlated with one another, then their squared variances will also be highly correlated with each other. Table 4.4 shows that Human Capital has a 0.871 connection with itself, whereas it has 0.606 and 0.580 correlations with Innovation and Strategic Leadership, respectively. Innovation and strategic leadership had a 0.615 correlation, whereas strategic leadership had a 0.840 correlation with itself. Among Strategic Leadership, there was a correlation of 0.894. Therefore, each variable was more strongly connected with itself than with any of the variables above it, establishing the veracity of each individually.

**Table 4.5: Cross – Factor Loadings**

Factor	Code	Human Capital	Innovation	Strategic Leadership
1	HC1	0.831	0.493	0.432
2	HC2	0.908	0.563	0.551
3	HC3	0.866	0.467	0.504
4	HC4	0.879	0.580	0.527
5	INV1	0.489	0.868	0.525
6	INV2	0.503	0.869	0.557
7	INV3	0.531	0.824	0.525
8	INV4	0.503	0.818	0.457
9	INV5	0.519	0.819	0.516
10	SL1	0.505	0.502	0.877
11	SL2	0.494	0.575	0.892
12	SL3	0.556	0.571	0.912

Source: Field Data, 2023

Cross-factor loadings are the most popular method for determining the degree of reliability between a set of latent variables and a main variable or idea. In statistical

analysis, the components that are accepted are those that correlate most strongly with the dependent variable. Human Capital factor 1 item were given a score of 0.831, factor 2 item were given a score of 0.908, factor 3 items were given a value of 0.866, and factor 4 items were given a score of 0.879. The criteria from fifth to ninth place weighed most strongly under innovation and should be used to evaluate innovation. Since INV1, INV2, INV3, INV4, and INV5 loaded similarly across all structures, it was chosen to use them. The numbers come out to be (0.8668), (0.8669), (0.824), (0.818), and (0.819), respectively. Because of their high Strategic Leadership loadings, indicators 10 through 12 are useful criteria for making judgements about a leader's strategic intelligence. Because of their high weight, SL1, SL2, and SL3 were used in all construction. 0.877, 0.892, and 0.912 are the final values.

#### **4.4 Descriptive Analysis**

Descriptive statistics, such means and standard deviations, were utilised to summarise respondents' perspectives on the many variables studied. References and other information may be found in the following sections.

##### **4.4.1 Human Capital**

After completing validity and reliability tests, four (4) variables were chosen for use in quantifying human capital.

**Table 4.6: Descriptive Statistics of Human Capital**

Variables	Min	Max	Mean	Std. Dev
Our employees are highly skilled	1	5	3.88	0.861
Our employees are widely considered the best in our industry	1	5	3.93	0.857
Our employees are creative and bright	1	5	3.92	0.825
Our employees are experts in their particular jobs and functions”	1	5	3.93	0.824
<i>Overall Mean</i>			3.92	0.842

Source: Field Data, 2023

In this stage of the study, descriptive statistics, including means and standard deviations, were used to summarise respondents' thoughts on human capital. The data analysed in Tables in this section were obtained after questioning respondents to share their perceptions on the human capital base of their respective organizations. Respondents were asked to select options from a Likert Scale of 1-5 where 1= Strongly disagree, 2= disagree, 3= Neutral, 4= agree and 5= strongly agree. For the purpose of the analyses, means were interpreted as follows: mean scores between 0- 0.99 = strongly disagree, 1-1.99= disagree, 2-2.99= neutral, 3-3.99= agree and 4-4.99= strongly agree. According to the results in Table 4.6, all of the questions measure human capital. Our personnel are generally regarded as the greatest in our business, and their expertise in their specific duties and responsibilities has earned them a mean score of 3.93, while their creativity and intelligence have earned them a mean score of 3.92. 3.88 is the mean score for the statement "Our staff are well qualified." Human capital indicators were found to have means greater than the overall mean of 3.92. In practice, this means that our personnel are universally regarded as the finest in their field, are specialists in their specific tasks and duties, and are creative and intelligent.

#### 4.4.2 Strategic Leadership

After completing reliability and validity testing, three (3) factors were utilised to evaluate the strategic leadership using the scale scores between 0- 0.99 = strongly disagree, 1-1.99= disagree, 2-2.99= neutral, 3-3.99= agree and 4-4.99= strongly agree.

**Table 4.7: Descriptive Analysis of Strategic Leadership**

Variables	Min	Max	Mean	Std. Dev
My company's executives mentor and coach.	1	5	3.86	0.911
Leaders in my company want learning opportunities.	1	5	3.98	0.856
My company's executives make sure its actions match its beliefs.	1	5	4.04	0.857
<i>Overall Mean</i>			3.96	0.875

Source: Field Data, 2023

In this step of the research, descriptive statistics, such as means and standard deviations, were used to summarise the viewpoints of respondents on strategic leadership. According to the data shown in Table 4.7, all of the questions measure strategic leadership. Leaders in my company ensure that the organization's activities align with its ideals have an average score of 4.04, but leaders in my firm consistently seek out learning opportunities scored 3.98. The average score for "In my company, leaders mentor and coach those they lead" is 3.86. The averages of the indicators used to evaluate strategic leadership were found to be greater than the average mean of 3.98. In practise, this implies that in an organisation, leaders ensure that the company's actions are compatible with its principles, and leaders seek for chances to learn continuously.

#### 4.4.3 Innovation

After conducting reliability and validity testing, the study settled on five (5) factors to employ in the innovation evaluation.

**Table 4.8: Descriptive Analysis of Innovation**

Variables	Min	Max	Mean	Std. Dev
Innovation and technical leadership are valued.	1	5	3.92	0.870
Improve product quality using innovative technologies.	1	5	3.94	0.813
To boost productivity, we might create new production and manufacturing processes.	1	5	4.03	0.783
To boost productivity, we buy new equipment.	1	5	3.96	0.809
We benefit greatly from our new methods.	1	5	3.92	0.845
<i>Overall Mean</i>			3.95	0.824

Source: Field Data, 2023

In this part of the study, the study determined the mean and standard deviation of the respondents' evaluations of innovation. All of the items in Table 4.8 seem to be ingenuity-based exams. To increase output, we might establish novel approaches to production and manufacturing. This is rated the highest at 4.03, followed by "we buy new instruments or equipment to boost production" at 3.96. We can build new technologies to increase product quality demand by an average of 3.94 percentage points. The mean score of 3.92 implies that we are highly focused on technical leadership and innovations, and that these efforts are generating significant profits. The results indicated that indicators of innovation were those that scored higher than the median of 3.95. This allows the company to invest in new equipment and techniques of production to boost output.

#### 4.5 Bartlett's Test of Sphericity and KMO Test

Table 4.9 indicates that the KMO sampling adequacy for this investigation was 0.905.

If the correlation between the variables is significantly different from zero or an identity matrix, then the variables under consideration have high importance in this dimension.

An appropriate number of participants were included in the research, suggesting that

exploratory factor analysis may be employed to get credible results. As may be seen in Table 4.9 below, this was statistically significant (p value <0.05). This finding suggests that some of the factors may be responsible for the inside correlations. The research revealed that the majority of the items employed in evaluating the latent construct had significant significance.

**Table 4.9: Bartlett’s Test of Sphericity and KMO Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.905
Bartlett's Test of Sphericity	Approx. Chi-Square	2665.744
	df	66
	Sig.	.000

Source: Field Data, 2023

#### 4.6 Structural Equation Model Analysis and Hypotheses Testing

The structural model, also called the inner model, allows researchers to assess the model's potential and forecast one or more goal constructions. Analyses of the mediating and moderating models will be conducted using a 5000-sample Bootstrap sample with replacement and a standard error derived in accordance with the confidence level of the measurement model (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014). In this study, we accounted for statistical variables including f-values, p-values, path coefficients, R2 values, effect sizes of f2 and q2, and R2 values for the structural model. The route coefficient has been given a value of +1, indicating a very positive association in the structural model. The p-value and t-value were applied to the structural path coefficient when the standard error of the structural path coefficient varied widely during bootstrapping. The predicted t-value was 1.96 at the 0.05 level of significance.

#### 4.6.1 Predictive Relevance

Coefficients of the routes explored for the structural model are shown in Table 4.8. T-values greater than 1.65 at the 5% level of significance indicated that these constructs warranted attention. Confirmatory factor analysis (CFA) is another method that has similarities with this one. The alternative is to note that all p-values for the aforementioned constructions were less than 0.10.

##### 4.6.1.1 Coefficients of Determination (R<sup>2</sup>) and Adjusted R<sup>2</sup> (R<sup>2</sup>adj)

A significant percentage of the variance in the dependant variable may be attributed to the independent variables, as shown by coefficient of determination tests (R<sup>2</sup>). How successfully the independent factors predicted the dependent outcome is quantified by (R<sup>2</sup>). An R<sup>2</sup> of 0.10 or higher, as stated by Falk and Miller (1992), is considered to be necessary to recognise a model's predictive importance. Table 4.10 presents the corrected R<sup>2</sup> values (predictive accuracy) of 0.472 for Innovation and 0.337 for Strategic Leadership.

**Table 4.10: Coefficients of Determination (R<sup>2</sup>) and R<sup>2</sup>Adjusted**

Construct	R-square	R-square adjusted
Innovation	0.472	0.469
Strategic Leadership	0.337	0.335

Source: Field Data, 2023

#### 4.7 Model Fit Summary

Several studies have further subdivided the three basic kinds of fit indices in CFA, which are the "actual fit indices," the "parsimony correction indices," and the "comparative fit indices" (e.g., Kline, 2005; Brown, 2015). It is overstated that a model's poor fit is due to the fact that it only considers a particular type of data. In this

study, the Normed Fit Index (NFI) and Standardized Root Mean Square Residual (SRMR) indices were used to conduct parsimony correction, comparative fit, and absolute fit, respectively. It was determined that the computed model has an SRMR of less than 0.08. The calculated NFI value for this model was not sufficiently high (> 0.95). The SRMR value of 0.057 found in Table 4.11 suggests a satisfactory degree of fit for this inquiry. The Chi-square was 337.822, and the Normed fit index was calculated to be 0.875.

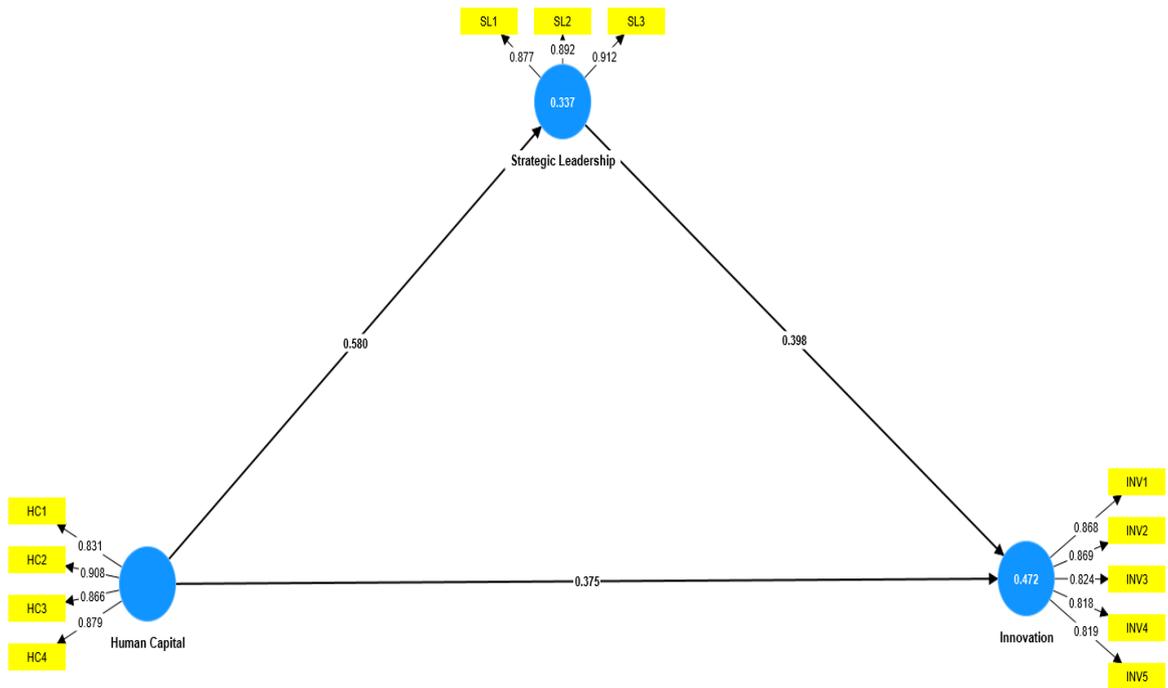
**Table 4.11: Model Fit Summary**

	<b>Estimated model</b>
SRMR	0.057
d_ULS	0.250
d_G	0.167
Chi-square	337.822
NFI	0.875

*Standardized Root Mean Squared Residual (SRMR); Exact fit criteria d\_ULS and d\_G*

Source: Field Data, 2023





**Figure 4.1: Measurement Model Assessment**

#### 4.8 Hypotheses for Direct and Indirect Relationship

In this part, SmartPLS 4 is used to test the hypotheses of the research. The results are shown in Table 4.10 below. The main goal of the study is to find out how human capital affects innovation by looking at how strategic leadership works as a link.

**Table 4.12: Hypotheses for Direct and Indirect Relationship**

Construct	Path Coefficient	T	P values	Hypotheses
Human Capital -> Innovation	0.375	6.638	0.000	Supported
Human Capital -> Strategic Leadership	0.580	13.057	0.000	Supported
Strategic Leadership -> Innovation	0.398	6.599	0.000	Supported
Human Capital -> Strategic Leadership -> Innovation	0.231	6.398	0.000	Supported

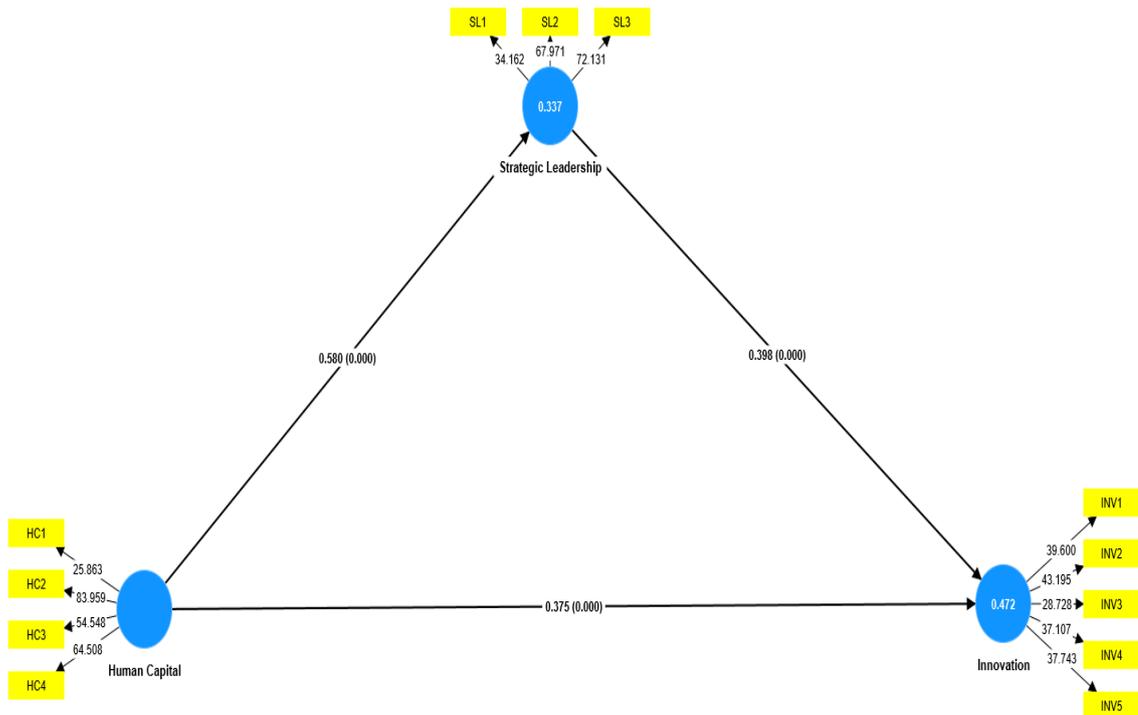
Source: Field Data, 2023

Table 4.10 shows that human capital significantly affects innovation when  $B=0.375$ ,  $t=6.638$ ,  $P=0.000$ , and  $Sig<0.05$ . The positive route coefficient and small p-value for H1 indicate that there is a significant positive direct influence from human capital to innovation. A positive path coefficient indicates that raising human capital levels leads to increased innovation.

The correlation between human capital and strategic leadership was found to be statistically significant ( $B=0.580$ ;  $t=13.057$ ;  $P=0.000$ ;  $Sig<0.05$ ). With a p-value for H2 below 0.05 and a positive path coefficient, we conclude that there is a significant positive direct influence on human capital to strategic leadership. The positive path coefficient indicates that raising the quality of human capital also raises the quality of strategic leadership.

It was shown that strategic leadership significantly influenced creativity ( $B=0.398$ ,  $t=6.599$ ,  $P=0.000$ ,  $Sig<0.005$ ). It implies that strategic leadership has a significant positive direct influence on innovation, given the p-value was less than 0.05 and the path coefficient was positive (H3). Positive path coefficients demonstrate that as strategic leadership increases, so does the pace of innovation.

Strategic leadership significantly impacted both human capital and innovation in an indirect manner ( $B=0.231$ ;  $t=6.398$ ;  $P=0.000$ ;  $Sig<0.005$ ). As the path coefficient was positive and the p value for H4 was more than 0.05, it can be argued that strategic leadership is a causal link between human capital and innovation. A positive path coefficient indicates that strategic leadership significantly influences the link between human capital and innovation. This implies that strategic leadership strengthen the link between human capital and innovation.



**Figure 4.2: Structure Model Evaluation**

#### 4.9 Discussion of Findings

This section discusses the study findings in respect to the body of existing literature. It explains how human capital on innovation by analysing the function of strategic leadership as a mediator. The study goes on to explore the objectives about the connection between human capital, innovation, and strategic leadership.

##### 4.9.1 Effect of Human Capital on Innovation

The findings of the study reveal a robust and positive direct effect from human capital to innovation. This suggests that a higher level of human capital within an organization positively correlates with improved innovation performance. Essentially, the knowledge, skills, competence, creativity, attitude, intellectual agility, and capacity of the workforce have a direct and substantial impact on the firm's ability to innovate and develop distinctive products, services, business models, and strategies. In essence, effective utilization of human capital can empower an organization to continually

function successfully, improve its bottom line through enhanced revenue, client retention, product and service quality, productivity, and efficiency. These findings underscore the pivotal role of human factors in boosting a company's innovation capabilities, giving it a competitive edge.

The observed positive relationship between human capital and innovation aligns with the existing body of literature. Numerous studies have demonstrated the influence of human capital on innovation in various organizational contexts. For instance, research within the field of innovation management consistently underscores the importance of a skilled and knowledgeable workforce in driving innovative practices. Studies like those by this result of this study was in line with the previous studies of Vizano et al. (2020) and Van Uden et al. (2017). The result of Van Uden et al. (2017) illustrate that internal mechanisms that spur human capital are of particular importance for innovative output. This finding contradicts the implicit assumptions of the majority of prior research (Anderson et al., 2014; Chowhan, 2016; Jiang et al., 2012). Arvanitis (2005) and Cho and Pucik (2005) emphasize the role of human capital, particularly in terms of expertise and creativity, in fostering innovation within organizations. Furthermore, the research of Huselid (1995) and Davenport (2005) has highlighted the link between human resource management practices and innovation outcomes. This collective body of research suggests that human capital is a critical driver of innovation.

The findings can be aptly justified within the framework of the Resource-Based View (RBV) theory and its extensions to the Dynamic Capability Theory and the Transformational Leadership Theory. RBV posits that an organization's competitive advantage stems from its unique and valuable resources, and human capital is undoubtedly one of these resources. In line with RBV, the study's results underscore the critical role of human capital as a resource that directly contributes to innovation.

The Dynamic Capability Theory, which emphasises the organization's capacity to adapt and respond to changing circumstances, further supports this. A skilled and adaptable workforce, as a form of dynamic capability, enables the organization to seize opportunities and adapt to evolving market conditions, thereby fostering innovation. The Transformational Leadership Theory comes into play by highlighting the role of leaders in shaping the organization's culture and motivation. Transformational leaders can inspire and empower employees, fostering a culture of creativity and risk-taking, ultimately leading to enhanced innovation. Therefore, these theories collectively validate the study's findings that human capital is instrumental in driving innovation and providing a competitive edge to organizations.

#### **4.9.2 Effect of Human Capital on Strategic Leadership**

The study's findings highlight a significant and positive direct effect of human capital on strategic leadership. This implies that as an organization's human capital is improved, its strategic leadership capabilities also witness enhancement. In practical terms, this signifies that managers should possess the capacity to articulate a strategic vision for the company or specific business units and be adept at inspiring and influencing others within the organization to embrace and implement that vision effectively. The uncovered relationship between human capital and strategic leadership finds support within the existing literature. Human capital is essential for keeping businesses running, especially in areas of a strong strategic leadership, as reported by Supriadi et al. (2020). Previous research has shown the significance of human capital to a company's success (Wisnu et al., 2022). Human capital, according to Prommarat et al. (2015), is responsible for an organization's ability to change, flourish, create value, perform well in business, and even stay in company. According to Alblooshi, Shamsuzzaman, and Haridy (2020), strategic leaders envision a future for their firm

that positions it to thrive in an ever-evolving economic and technological landscape. Strategic leaders may use this vision to motivate employees and departments to work together toward a common goal, as suggested by Alblooshi, Shamsuzzaman, and Haridy (2020). The essential role of human capital in shaping leadership effectiveness has been a topic of research and discussion. Studies by Goleman (1998) and Avolio et al. (2004) have elucidated the importance of emotional intelligence, cognitive abilities, and experience in leadership effectiveness. Research by Judge and Bono (2001) has further explored the role of skills, knowledge, and competencies in leadership capabilities. These studies underscore the notion that human capital, comprising the knowledge, skills, and expertise of individuals within an organization, is a key determinant of effective leadership. Leaders who possess higher levels of human capital are better equipped to articulate strategic visions and influence others positively.

The study's findings can be effectively justified within the framework of the Resource-Based View (RBV) theory, its extension to Dynamic Capability Theory, and the Transformational Leadership Theory. RBV posits that a firm's competitive advantage arises from its unique and valuable resources, with human capital being one of the most valuable of these resources. Within this context, the positive relationship observed between human capital and strategic leadership aligns with RBV. Dynamic Capability Theory further substantiates this by emphasizing an organization's ability to adapt to changing circumstances. A leadership team enriched with human capital, such as knowledge and experience, is better equipped to respond to dynamic business environments, formulate strategic visions, and effectively lead their teams towards achieving organizational goals. Moreover, the Transformational Leadership Theory highlights the significance of inspiring and influencing others to embrace a shared vision. Leaders who possess enhanced human capital are more capable of driving this

transformational leadership style, as their knowledge and skills enable them to articulate compelling visions and motivate their teams effectively.

In summary, these findings provide empirical validation for the essential role of human capital in shaping strategic leadership capabilities, drawing support from established literature and aligning with the theoretical perspectives of RBV, Dynamic Capability Theory, and Transformational Leadership Theory. This demonstrates that a competent and knowledgeable workforce, combined with effective leadership, is instrumental in steering organizations towards their strategic objectives and fostering a culture of innovation and adaptability.

#### **4.9.3 Mediating Role of Strategic Leadership on The Effect Of Human Capital On The Innovation**

The study's findings demonstrate a substantial and positive direct effect of strategic leadership on innovation. The positive path coefficient indicates that as strategic leadership within an organisation strengthens, its capacity for innovation also improves. Moreover, the research highlights that strategic leadership serves as a positive mediator between human capital and innovation. The positive path coefficient emphasises the crucial role of strategic leadership in favourably shaping the relationship between human capital and innovation, reinforcing this mediating effect. Effective strategic leadership encompasses the ability to formulate and implement policies related to human capital, a factor that significantly impacts human capital's performance. Leaders who can articulate a shared vision, inspire a sense of purpose, unify teams, and maintain their engagement have the potential to motivate their teams to achieve extraordinary outcomes. This implies that for a company to maximise its workforce's potential, its leadership should be proficient in fostering a sense of belonging, pride, and responsibility among its employees. Effective management of human capital has the

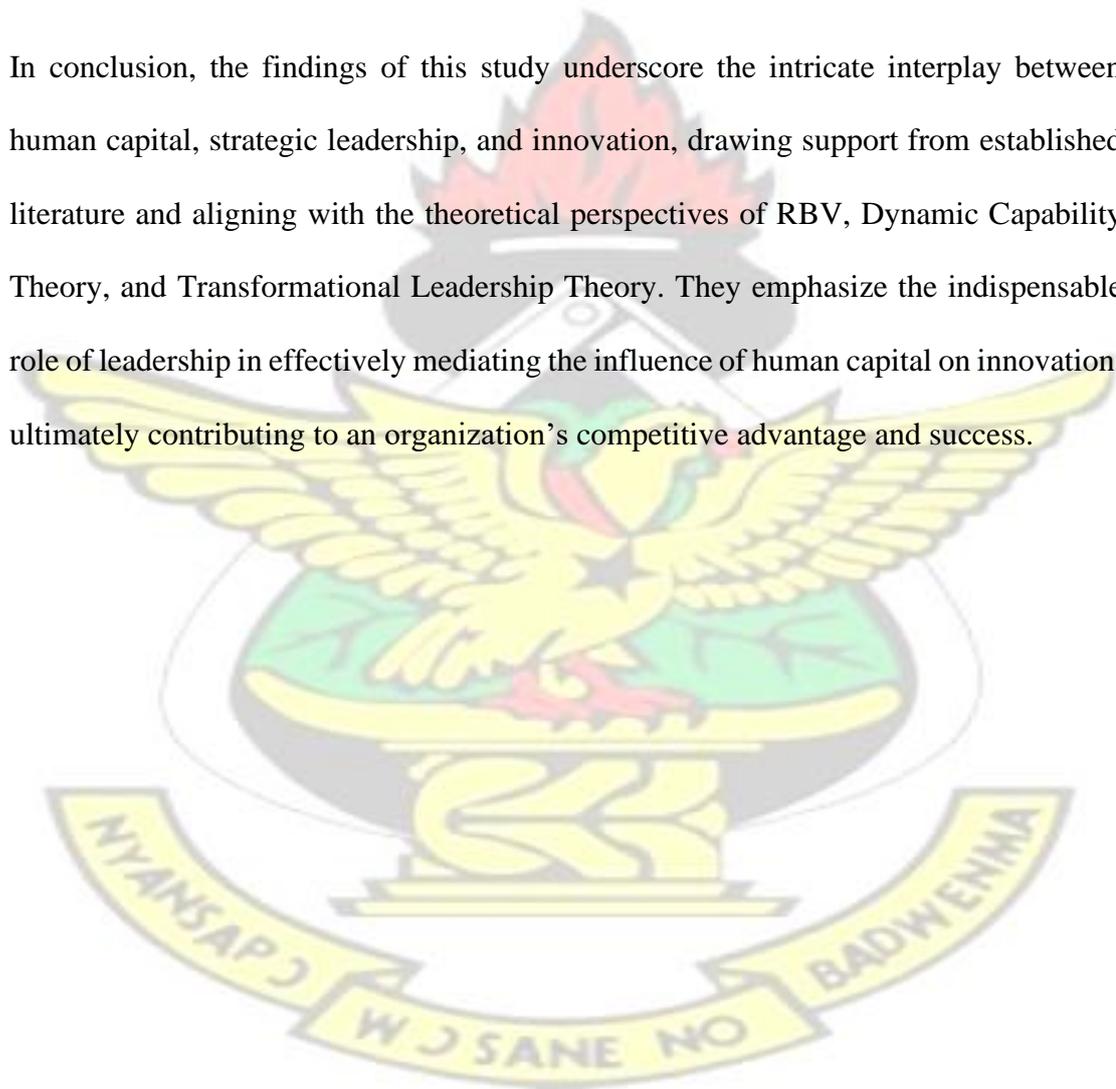
potential to enhance a company's bottom line, manifesting as increased sales and profits due to satisfied customers, improved products and services, higher output with fewer resources, and reduced operating expenses. These findings underscore the notion that human capital can significantly augment a company's value and, in turn, confer a competitive advantage.

Few studies have examined the relationship between strategic leadership and the organization's performance Chen, Hsu, and Chang (2016). Karamat (2013) indicated in his study that the role of leadership (from previous studies) in achieving the organizational performance has a different result. The study's findings align well with the existing literature on leadership, human capital, and innovation. Research by Avolio et al. (2004) and Bass and Riggio (2006) underlines the transformative impact of leadership on an organisation's innovation capabilities. Leadership that inspires and motivates employees to embrace innovation and foster a culture of creativity is a recurrent theme in this body of literature. Additionally, the role of human capital in driving innovation has been widely documented. Studies by Becker and Huselid (1998) and Davenport (2005) emphasize the contribution of human capital to innovation within organizations. These studies collectively support the findings that strategic leadership serves as a mediator between human capital and innovation, ultimately shaping an organization's ability to innovate.

The observed findings can be effectively justified within the framework of the Resource-Based View (RBV) theory, extending to the Dynamic Capability Theory and the Transformational Leadership Theory. RBV posits that organizations gain a competitive advantage through their unique and valuable resources. In this context, human capital and strategic leadership are both valuable resources that contribute to innovation and competitiveness. The Dynamic Capability Theory highlights the

organization's ability to adapt to changing circumstances, with strategic leadership as a dynamic capability that enables the organization to articulate and execute effective human capital policies to enhance innovation. Transformational Leadership Theory emphasizes how leaders can inspire and motivate their teams to innovate and achieve exceptional results. Leaders with strong human capital and strategic leadership skills can foster a culture of innovation and effectively mediate the relationship between human capital and innovation.

In conclusion, the findings of this study underscore the intricate interplay between human capital, strategic leadership, and innovation, drawing support from established literature and aligning with the theoretical perspectives of RBV, Dynamic Capability Theory, and Transformational Leadership Theory. They emphasize the indispensable role of leadership in effectively mediating the influence of human capital on innovation, ultimately contributing to an organization's competitive advantage and success.



## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**

#### **5.0 Introduction**

This study was conducted to examine the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana. In the first portion of the chapter, the study's results and conclusion are summarised and briefly addressed. The chapter concludes with suggestions for further study.

#### **5.1 Summary of Findings**

##### **5.1.1 Effect of Human Capital on Innovation**

The first goal of the study is to look at how human capital affects their innovation. The data demonstrates that the human capital to innovation was significantly influenced positively. This indicates that better innovation occurs when management enhances human capital. This means that a new way of running a useful and distinctive product, service, business model, or strategy may be achieved by the application of workers' knowledge, skill, competence, creativity, attitude, intellectual agility, and capacity.

##### **5.1.2 Effect of Human Capital on Strategic Leadership**

The second goal of the research is to analyse how agribusiness might benefit from strategic leadership via human capital. According to the results, human capital has a direct and significant effect on strategic leadership. This suggests that better strategic leadership occurs when management enhances human capital. This implies that when a leader motivates his or her team to collaborate to achieve a vision and objective by acquiring knowledge, skill, competence, creativity, attitude, intellectual agility, and capacity enhances strategic leadership.

### **5.1.3 Mediating Role of Strategic Leadership**

The study's third objective examine the mediating role of strategic leadership on the effect of human capital on the innovation of SMEs into Agribusiness. The finding that there was a substantial positive direct effect of strategic leadership on innovation. As strategic leadership grows, innovation will improve, as shown by the positive path coefficient. The result concluded that strategic leadership serves as a positive mediator between human capital and innovation. Since the result shows a positive path coefficient, it implies that strategic leadership plays a crucial mediating role in the relationship between human capital and innovation positively. This also implies that since there is a significant relationship between human capital and innovation, strategic leadership as a mediator strengthen the link between human capital and innovation.

### **5.2 Conclusion**

This study was conducted to examine the mediating role of strategic leadership on the effect of human capital on the innovation of agribusiness in Ghana. For the purpose of this investigation, a descriptive cross-sectional survey approach was used. This analysis was conducted using a quantitative approach. The 326 participants were selected using a purposeful sampling method. A predefined questionnaire was the main tool for data gathering. Both SPSS v26 and SmartPls v4 were used for the statistical analysis. Both descriptive and inferential techniques of analysis were used to examine the data. The findings show that human capital has a direct and substantial effect on innovation and strategic leadership. The findings show that innovation was greatly influenced by strategic leadership. From the data gathered, it was concluded that strategic leadership greatly mediates the link between human capital and innovation. Management, according to the findings, should implement human capital by providing their employees with opportunities to develop their expertise in the areas of knowledge, skill,

competence, creativity, attitude, intellectual agility, and capacity, as well as by encouraging them to work together toward a common goal of providing customers with a unique and valuable service or product.

### **5.3 Recommendation**

From the study's results, this section offers advice to different stakeholders. Management and researchers are encouraged to consider these suggestions.

- Human capital has a direct, positive effect on innovation, according to the findings. This suggests that as management improves human capital, innovation improves. As a result, the research suggests that management should train employees to be widely regarded as the best in their industry, to be experts in their particular jobs and functions, and to be creative and intelligent in order to develop new production and manufacturing methods and procedures in order to increase productivity and to purchase new instruments or equipment in order to increase productivity.
- The study also found that human capital has a direct and beneficial influence on strategic leadership. This shows that human capital enhancement by management results in enhanced strategic leadership. Management should train employees to be widely regarded as the best in their industry, to be experts in their specific jobs and functions, and to be creative and bright in enhancing strategic leadership, in which leaders ensure that the organization's actions are consistent with its values and continuously seek out opportunities to learn.
- In conclusion, the study demonstrated that strategic leadership has a good, direct influence on innovation and also functions as a positive mediator between human capital and innovation. Leaders should ensure that the organization's actions are consistent with its values, seek out opportunities to learn, and

motivate his or her team to collaborate to achieve a vision and objective to develop new production and manufacturing methods and procedures to increase productivity, as well as to acquire new instruments or equipment to increase productivity.

The availability of just cross-sectional data makes it impossible to prove causation. Using longitudinal and panel data, future study might empirically evaluate the direction of causation. Quantitative methodologies were used to examine the mediating role of strategic leadership in the connection between human capital and innovation. That's why it's possible that qualitative techniques may be required for future research with similar goals. By exploring the mediating role of strategic leadership, this study implies that future research on the impact of human capital on innovation may benefit from the use of new statistical analytic techniques. Additionally, the study only know whether a company trains its personnel in a particular year. The study don't know who was trained, whether they stayed, or if they left. It may also affect outcomes. Finally, other human resources research have more precise data than our database. Other factors connected to human resources, such as motivating incentives like bonuses or possibilities like knowledge exchange and work design, might be collected in the future. To test the findings' robustness and generalizability, future research might duplicate this study in other countries.

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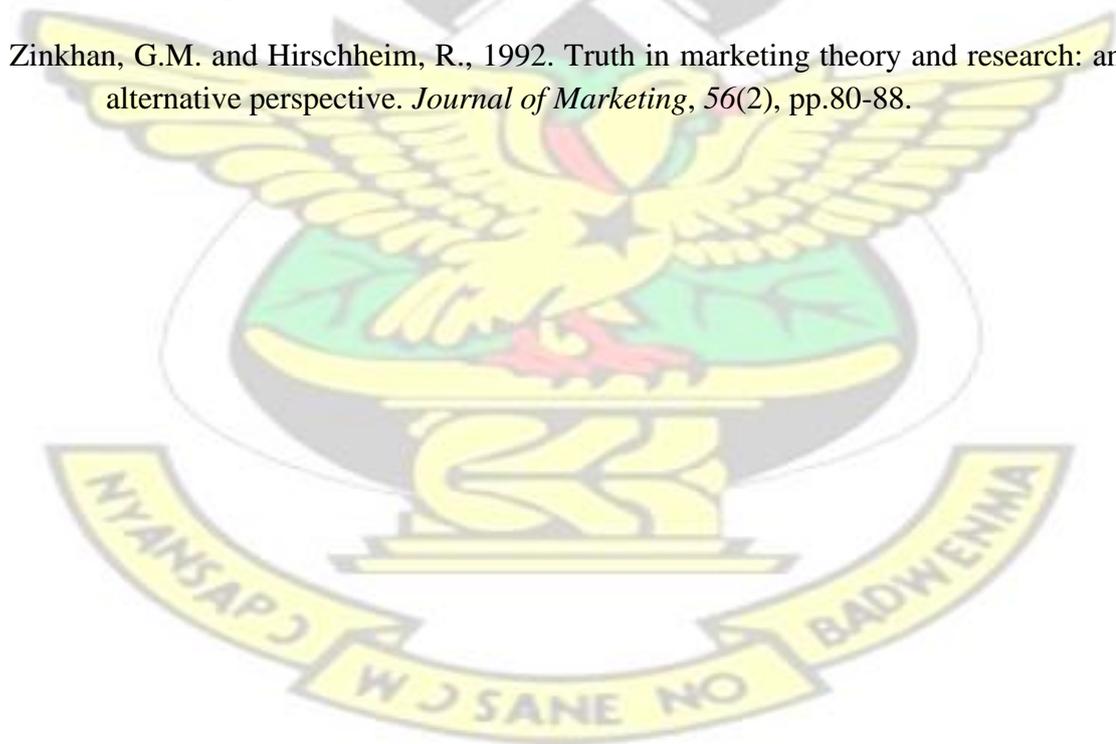
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## APPENDIX



KNUST School of Business



DEPARTMENT OF MARKETING AND CORPORATE STRATEGY

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI

### THE EFFECT OF HUMAN CAPITAL ON INNOVATION IN AGRIBUSINESS: THE MEDIATING ROLE OF STRATEGIC LEADERSHIP

Dear Survey Participant,

Kindly allow me to introduce this important study to you.

Thank you very much for participating in this study that seeks to understand how human capital on innovation in agribusiness: the mediating role of strategic leadership in Ghana. This study aims to obtain empirical evidence to support managerial decision-making and public policymaking in Ghana. You and your organization have been selected as exemplary context to study this phenomenon; hence your active participation would be very much appreciated.

The study is an academic exercise undertaken by this researcher, a student at Kwame Nkrumah University of Science and Technology (KNUST) School of Business. I can assure you that your responses will be treated in the strictest confidence, with the results collected being anonymized and used for statistical and academic purposes only. Kindly note that you are responding to this survey in your capacity as a senior manager or supply chain manager of your firm. The questionnaire has specific instructions to follow and scales to use to indicate your responses. Please consider yourself and your personal experiences in your organisation to respond to the statements in the survey. Although some statements appear quite similar, they are also unique in many ways, so **kindly do well to respond to each statement**. The questionnaire will take about 20 to 25 minutes

to complete, and we think it will be more appropriate if you respond to it at your convenient time.

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Once again, I am most grateful that you have decided to take the time to participate in this survey.

Yours sincerely,

ADU OSEI EBENEZER.

KNUST

Please, indicate your consent for participation here  I agree  I disagree

**SECTION A: DEMOGRAPHIC CHARACTERISTICS:**

This section requires you to tick which category fits your description which will be used for classification and comparison purposes of variables necessitated by this study only. Please indicate by ticking (√) appropriately in the box provided.

Please answer the following questions:

1. *Gender of respondent:* Male  Female

2. *Age of respondent:*

18-30 years  31-40 year's  41-50 years  Above 50 years

3. *Level of Education of respondent:*

Junior High School  Senior High School  Diploma  Bachelor Degree

Graduate Studies (Master / Ph.D.)  Others  For Others, Please specify:.....

4. *Your Position in the Firm*

Business Owner  Supply Chain Manager  Operations Manager

Production Manager  Others

Please specify:.....

5. *How many years has the firm been in operation?*

1 to 5 years  6 to 10 years  More than 10 years

6. *How many years have you been working in your firm?*

1 - 5 years  6 - 10 years  11 – 15 years  16 years and above

7. *How many employees are in the firm?*

Less than 5 employees  5 – 29 employees  30 – 99 employees

More than 100

8. *How many product categories does the firm produce?*

1-2 Products  3-5 Products  More than 5 Products

### **SECTION A: Human Capital**

#### **Section A: Statements describing Human Capital**

Please answer the following questions by considering your firm's use of human capital.

On a scale of 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree) indicate your opinion by ticking  where appropriate in the following statements.

Human Capital						
HC1	Our employees are highly skilled	1	2	3	4	5
HC2	Our employees are widely considered the best in our industry	1	2	3	4	5
HC3	Our employees are creative and bright	1	2	3	4	5
HC4	Our employees are experts in their particular jobs and functions”	1	2	3	4	5

Source: Alolayyan, Alyahya and Omari (2021)

## SECTION B: INNOVATION

### Statements describing the various Innovation (I) activities in Firms

On a scale of 1 to 5 (*1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree*) indicate your opinion *by ticking* ✓ *where appropriate*. Please answer the following questions by considering your firm's experience and practice in pursuant to innovation activities in your firm.

Innovation						
IP1	There exists a very strong emphasis on technological leadership, and innovations.	1	2	3	4	5
IP 2	We can develop new technology to improve product quality	1	2	3	4	5
IP3	We can develop new production and manufacturing methods and procedures to improve productivity	1	2	3	4	5
IP4	We purchase new instruments or equipment to improve productivity	1	2	3	4	5
IP5	We make a considerable profit from our new processes	1	2	3	4	5

Source: Mokhtarzadeh, Mahdiraji, Jafarpanah, Jafari-Sadeghi and Cardinali (2020)

## SECTION C: STRATEGIC LEADERSHIP

Please answer the following questions by considering your firm's experience and practice pursuant to the strategic leadership of the environmental issues.

Strategic Leadership						
SL1	In my organization, leaders' mentor and coach those they lead.					
SL 2	In my organization, leaders continually look for opportunities to learn.					
SL 3	In my organization, leaders ensure that the organization's actions are consistent with its values					

Source: Watkins and Marsick (1993) and Lee, Jae Young (2018)

**THANK YOU ONCE AGAIN**