THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT PRACTICES AND INNOVATION ON SUSTAINABILITY COMPETITIVE ADVANTAGE: THROUGH THE MEDIATING ROLE OF HUMAN CAPITAL DEVELOPMENT (AFIELD STUDY IN THE UNIVERSITY OF FALLUJAH)

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THESIS APPROVAL PAGE

I certify in my opinion that the thesis presented by Saad Mohammed Shakir SHAKIR entitled “THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT PRACTICES AND INNOVATION ON SUSTAINABILITY COMPETITIVE ADVANTAGE: THROUGH THE MEDIATING ROLE OF HUMAN CAPITAL DEVELOPMENT (AFIELD STUDY IN THE UNIVERSITY OF FALLUJAH)” is well suited in terms of scope and quality as a thesis for a Master of Science degree.

Assist. Prof. Dr. Akram ALHAMAD .....

Thesis Advisor, Department of General Administration

This thesis is accepted by the examining committee with a unanimous vote in the Department of Public Administration as a Master of Science thesis. 22.01.2024

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The degree of Master of Science by the thesis submitted is approved by the Administrative Board of the Institute of Graduate Programs, Karabuk University.

Assoc. Prof. Dr. Zeynep ÖZCAN .....

Director of the Institute of Graduate Program

DECLARATION

I thus affirm that this thesis is the product of my own research and all information presented has been acquired and elucidated in adherence to the institution's academic guidelines and ethical principles. Furthermore, I hereby affirm that all assertions, findings, and materials that are not original to this thesis have been appropriately credited and referenced verbatim.

I acknowladvantage and assume full responsibility for any moral and legal repercussions that may arise from the detection of any actions that contradict the aforementioned statement, without imposing any temporal limitations.

Name Surname: Saad Mohammed Shakir SHAKIR

Signature :

FOREWORD

I am profoundly grateful for the first and foremost blessing in my life, which is the grace of God that has bestowed upon me good health and the capability to pursue my education successfully.

I extend my heartfelt appreciation to Dr. Akram ALHAMAD, my supervisor, whose unwavering commitment and dedicated investment of time and effort have provided invaluable guidance and support throughout my educational journey. The acquisition of knowledge has played a pivotal role in the culmination of my thesis, and I attribute the success of this study to the courage and assistance of individuals who offered significant guidance and suggestions.

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ABSTRACT

This study explores the impact of strategic human resource management (SHRM) practices and innovation on sustainability competitive advantage at the University of Fallujah. This study examines how SHRM practices contribute to fostering an environment that enhances innovation and human capital development and how these factors mediate the relationship between SHRM practices and sustainable competitive advantage. The study employs a quantitative approach and gathers data through surveys with academic administrators at the University of Fallujah. The findings reveal a significant positive relationship between implementing comprehensive SHRM practices such as selection, development, technology, and SCA within the university, but there is no relationship between innovation and SCA. Moreover, human capital development emerges as a critical mediating factor that enhances the university's ability to achieve and maintain a sustainable competitive advantage. The study demonstrates that institutions that invest in their human resources through strategic HR practices see a marked improvement in their innovative capabilities, which is pivotal for sustaining competitiveness in the academic landscape. Based on these results, the thesis argues for a strategic alignment of human resource policies with the overall goals of higher education institutions to cultivate a supportive environment for innovation and development. It underscores the importance of SHRM practices in attracting and retaining talent and building a resilient and adaptable workforce capable of driving sustained institutional success. This research contributes to the strategic human resource management literature by providing empirical evidence of the mediating role of human capital development in enhancing innovation and competitive advantage in the context of higher education.

Keywords: Sustainability Competitive Advantage, Development, Innovations, Selection, Technology, Human Capital Development, University of Fallujah.

ÖZ

Bu çalışma, Stratejik İnsan Kaynakları Yönetimi (SHRM) uygulamalarının ve yeniliğin, Felluce Üniversitesi'nde sürdürülebilir rekabet avantajı üzerindeki etkisini araştırmaktadır. Bu çalışma, SHRM uygulamalarının yenilik ve insan sermayesi gelişimini destekleyen bir ortamı nasıl teşvik ettiğini ve bu faktörlerin SHRM uygulamaları ile sürdürülebilir rekabet avantajı arasındaki ilişkiyi nasıl aracılık ettiğini inceler. Çalışma nicel bir yaklaşım benimser ve Felluce Üniversitesi'ndeki akademik yöneticiler ile anketler yoluyla veri toplar. Bulgular, üniversite içinde seçim, gelişim, teknoloji gibi kapsamlı SHRM uygulamalarının uygulanması ile SCA (Sürdürülebilir Rekabet Avantajı) arasında önemli pozitif bir ilişki olduğunu, ancak yenilik ile SCA arasında bir ilişki olmadığını ortaya koymaktadır. Ayrıca, insan sermayesi gelişimi, üniversitenin sürdürülebilir rekabet avantajını elde etme ve sürdürme yeteneğini artıran kritik bir aracı faktör olarak ortaya çıkmaktadır. Çalışma, stratejik İK uygulamaları yoluyla insan kaynaklarına yatırım yapan kurumların, akademik manzara içinde rekabetçiliği sürdürebilmek için hayati olan yenilikçi yeteneklerinde belirgin bir iyileşme gördüğünü göstermektedir. Bu sonuçlara dayanarak, tez, yükseköğretim kurumlarının genel hedefleriyle insan kaynakları politikalarının stratejik bir hizalanmasını savunarak, yenilik ve gelişim için destekleyici bir ortam oluşturulmasını savunmaktadır. SHRM uygulamalarının, yetenek çekme ve elde tutma ile dirençli ve uyarlanabilir bir iş gücü oluşturma önemini vurgulamaktadır; bu iş gücü, sürdürülebilir kurumsal başarıyı sürükleyebilir. Bu araştırma, insan sermayesi gelişiminin, yükseköğretim bağlamında yenilik ve rekabet avantajını artırmadaki aracı rolüne dair ampirik kanıtlar sağlayarak stratejik insan kaynakları yönetimi literatürüne katkıda bulunmaktadır.

Anahtar Kelimeler: Sürdürülebilir Rekabet Avantajı, Gelişim, Yenilikler, Seçim, Teknoloji, İnsan Sermayesi Gelişimi, Felluce Üniversitesi.

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SUBJECT OF THE RESEARCH

The Impact Of Strategic Human Resource Management Practices And Innovation On Sustainability Competitive Advantage: Through The Mediating Role Of Human Capital Development (Afield Study In The University Of Fallujah)

PURPOSE AND IMPORTANCE OF THE RESEARCH

This research explores how strategic human resource management practices and innovation contribute to sustainable competitive advantage through human capital development mediating role. Its importance lies in offering insights into optimizing HR strategies and innovation for enhanced organizational performance, particularly within the academic context of the University of Fallujah.

METHOD OF THE RESEARCH

Data may be gathered using several methods in a survey. The primary data used for the statistical analysis in this study was collected via a questionnaire sent to the academic administration at the University of Fallujah. The data collection method used in this inquiry facilitated the accumulation of a substantial volume of information at a specific moment. This study used quantitative measurement to validate the study's findings and facilitate comprehension of the investigation's results. This study used the Google Forms website to gather the completed questionnaires. This strategy was chosen for its expediency, efficiency in time management, and effectiveness in gathering many responses.

HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM

The central hypothesis of this research revolves around the proposition that strategic human resource management (SHRM) practices and innovation significantly impact the University of Fallujah's sustainable competitive advantage through the mediating role of human capital. Specifically, the study posits that effective SHRM practices enhance employees' knowledge, skills, and abilities, fostering an environment conducive to innovation. This, in turn, is expected to improve a sustainable competitive

advantage. The research problem seeks to address the gap in understanding how human capital acts as a critical intermediary that transforms SHRM practices and innovation into a durable competitive advantage, particularly in dynamic and competitive environments. This study aims to empirically test these relationships and provide actionable insights for leveraging human capital in strategy execution.

POPULATION AND SAMPLE (IF AVAILABLE)

This study used the available data to ensure that the number of principals at Fallujah University reached 180.

SCOPE AND LIMITATIONS / DIFFICULTIES

This research primarily examines strategic human resource management practices, innovation, and their collective impact on sustainable competitive advantage through human capital within the University of Fallujah. However, its findings may be influenced by the academic sector's specific organizational culture and external environment, potentially limiting generalizability to other industries or regions. Additionally, the reliance on self-reported data could introduce biases, and the study's cross-sectional nature may not fully capture the long-term effects of SHRM practices and innovation on competitive advantage.

1. INTRODUCTION

1.1. Background Of The Study

In the contemporary and highly competitive landscape of the business environment, characterized by effective knowledge sharing, the concept of " sustainability competitive advantage" (SCA) has shifted its foundation from tangible organizational assets to intangible human resources (Emeagwal & Ogbonmwan, 2018; Ong & Ismail, 2008). Given these findings, scientists have focused on identifying the characteristics that may contribute to attaining SCA. According to O'Reilly and Pfeffer (2000), the contemporary environment necessitates the utilization of "knowledge and intellectual capital" (Saha & Gregar, 2012) rather than relying solely on "physical capital." Therefore, this study posits the growing importance of developing new goods and services within the business realm. Other scholars have tried to comprehend the specific aspects that may facilitate a company in attaining a competitive sustainability advantage (SCA). In a study conducted by Barney (1991), the focus was on examining the correlation between sustainability competitive advantage (SCA) and human resources management practices. The study's findings revealed that each business runs with an implicit knowledge base and possesses the capacity to enhance its SCA.

Experts have frequently employed a behavioral approach to analyze the interconnection between strategic human resources management techniques. The literature frequently uses behavioral models to describe the relationship between strategic human resources management (HRM) practices and the specific strategy pursued by a business. These approaches emphasize the importance of different role behaviors in this context. Significant importance is attributed to developing individual human capital as a mediator in the relationship between organizational strategy and outcomes, strategic human resource management, and sustainability competitive advantage (McMahan & Wright, 1999).

According to Emeagwal and Ogbonmwan (2018), the behavioral perspective posits that the various roles individuals assume within an organization have a crucial influence in shaping the strategies adopted by the organization. The existing body of literature has confirmed that an employee plays a significant role in attaining sustainability competitive advantage (SCA) inside an enterprise. The integrated model for strategic human resource management (HRM), which incorporates both rational and

progressive approaches, is supported by several theories, such as the resource-based view (RBV). This model suits strategic HRM and sustainability competitive advantage (SCA).

Human capital development is a crucial determinant of an organization's ability to gain a competitive advantage. To effectively enhance employee skills, capability, and knowledge and so positively impact an organization's strategic objectives, strategic human resource management (HRM) practices are implemented. Based on the abovementioned considerations, McMahan, Virick, and Wright (1999) characterize "strategic HRM practices" as the organizational framework through which a firm's HR department endeavors to accomplish its organizational goals. Strategic human resource management (HRM) practices connect a firm's business needs with its operational activities (Fındıklı & Rofcanin, 2015; Greer, 2021).

These practices aim to align and direct employees following the organization's strategic objectives (Hsu & Wang, 2012) while also enabling the firm to attain a competitive advantage (Farnham, 2010; Wright & Nishii, 2007). According to Boxall, Björkman, and Xiucheng (2002), implementing "strategic HRM practices" within an organization can give the company a distinct competitive advantage that is difficult to replicate. The impact of strategic human resource management (HRM) techniques on an organization's performance is mainly driven by internal factors rather than external resources.

Within this context, human resources is regarded as a crucial asset that should be strategically utilized alongside other resources to optimize the organization's overall performance. According to Findikli, Yozgat, and Rofcanim (2015), it is imperative to consider strategic human resource management (HRM) practices as a comprehensive framework aimed at improving employee motivation, reducing turnover, and ultimately facilitating the successful implementation of organizational strategies for both the firm and its employees. This perspective aligns with Chang and Huang's (2005) study, which demonstrated a substantial impact of human resource strategies on favorable organizational results. According to Guest (1989), the crucial differentiating factor that connects strategic HRM practices to HRM is the adoption and integration of strategy decisions within HRM systems.

Prior scholarly investigations have primarily focused on examining the correlation between strategic human resource management (HRM) practices and sustained competitive advantage (SCA), particularly emphasizing the role of motivation in shaping employee behavior toward attaining organizational objectives. According to Schuler and Jackson (1987), the findings of the study indicate that strategic human resource management (HRM) methods can be utilized to establish sustainability competitive advantage (SCA) by aligning them with the overall organizational strategy. The study posited that these assets possess significant value for the business, as they are limited in availability, possess unique qualities, and are challenging to replicate or substitute. Consequently, they contribute to enhancing the organization's sustained competitive advantage.

In international commerce's dynamic and ever-changing realm, pursuing sustainability competitive advantage has grown progressively intricate and arduous (Hitt & DeMarie, 1998). This topic is addressed by examining strategic human resource management's (SHRM) crucial role in promoting long-lasting competitiveness. This study centers on the effective utilization of strategic human resource management (SHRM) methods in response to the changing business paradigm, which now emphasizes the significance of human capital as a critical driver of competitive advantage. The present study posits that in a time characterized by ongoing technical breakthroughs and evolving market dynamics, the strategic management of human resources has paramount importance. This study aims to elucidate the complex correlation between strategic human resource management (SHRM) practices, including innovations and technology, and their influence on the long-term viability of maintaining a competitive advantage.

This study also emphasizes the mediating of human capital development in the relationship between strategic human resource management techniques and competitive advantage. The argument suggests that cultivating human capital is crucial in bolstering the efficacy of strategic human resource management (SHRM) techniques, contributing to a university's competitive stance. This study aims to develop a thorough understanding of how strategic human resource (HR) initiatives contribute to establishing and maintaining distinctive organizational capabilities by merging theories from strategic management and human resource management.

Given the unique challenges and opportunities faced by the University of Fallujah, including its geographical context and the need for rebuilding and development post-conflict, this study is timely and relevant. The university setting offers a distinctive environment for exploring the interaction between SHRM practices, innovation, and human capital development. It provides insights into how higher education institutions can leverage their human resource capabilities in challenging contexts to achieve long-term sustainability and competitive advantage.

This study contributes to the body of knowledge by offering empirical evidence on the efficacy of SHRM practices in fostering innovation and developing human capital within the higher education sector. Focusing on the University of Fallujah provides a valuable case study on how universities in similar contexts can implement strategic human resource management to achieve their sustainability competitive advantage. The findings are expected to inform policy and practice for the University of Fallujah and other institutions seeking to enhance their competitive standing through strategic human resource management and innovation.

1.2. Problem Statement

The research highlights that the university's failure to apply SHRM techniques effectively threatens its ability to sustain a competitive advantage. Despite growing acknowledgment of human capital's role in achieving organizational goals, there is a clear gap in understanding and applying effective SHRM practices within academic institutions. This gap is particularly evident at the University of Fallujah, where traditional HR methods are still in place, limiting the university's ability to adapt to changes in the education sector and leverage its human capital for long-term prosperity (Hamadamin & Atan, 2019; Abunaila, 2022).

This study addresses the limited investigation of the mediating function of human capital development in the association between strategic human resource management (SHRM) practices and competitive advantage. Specifically, the research focuses on higher education institutions, such as the University of Fallujah, to explore this link. Although widespread agreement exists regarding the significance of cultivating human capital, the precise mechanisms by which strategic human resource practices can augment this capital and consequently foster a sustainability competitive advantage

remain inadequately delineated or comprehended within the academic sphere (Sadq & Hasan, 2018). The absence of precise and scientific data poses a notable obstacle for educational institutions aiming to achieve excellence within a competitive academic landscape. This study seeks to fill the existing research vacuum by examining the optimization of strategic human resource management (SHRM) practices at the University of Fallujah. The objective is to explore how these practices may successfully create human capital, enhancing the university's competitive position within the education sector.

This study aims to investigate and assess the present condition of strategic human resource management (SHRM) practices at the University of Fallujah. It aims to identify particular areas where these practices may exhibit deficiencies or misalignment with the institution's overarching strategic objectives. The significance of this investigation lies in the fact that higher education institutions, such as the University of Fallujah, are encountering challenges arising from globalization, technological progress, and evolving student demographics. These factors necessitate adopting a more strategic and adaptable strategy towards human resource management. The current human resources (HR) procedures implemented at the university may be unable to tackle these difficulties effectively, which could result in a deficiency in attaining and sustaining a competitive advantage within the academic industry.

Furthermore, this study intends to elucidate the role of strategic human resource (HR) initiatives in developing human capital and their potential to transform HR practices into a sustainable source of competitive advantage for the University of Fallujah. The significance of this component is especially crucial within the framework of an educational establishment, as the caliber and involvement of teachers and staff directly influence the standard of instruction and research, which are essential determinants of competitiveness in the academic sphere. The study aims to generate empirical data and theoretical perspectives on the precise methods by which strategic human resource practices might be enhanced and harmonized within the context of the University of Fallujah. The objective is to provide a resilient framework that strengthens the university's competitive position and establishes a model for other educational institutions encountering comparable difficulties in the ever-changing higher education environment.

1.3. Research Questıon

The research questions were formulated from the abovementioned data on Sustainability Competitive Advantage. The following research questions were developed.

1. Do the strategic human resource management practices (development, technology, and selection) impact the sustainability competitive advantage at the University of Fallujah?
2. Does the innovation impact human capital development at the University of Fallujah?
3. Do the strategic human resource management practices (development, technology, and selection) impact human capital development at the University of Fallujah?
4. Does the innovation impact human capital development at the University of Fallujah?
5. Does human capital development mediate the relationship between strategic human resource management practices (development, technology, and selection), innovation, and sustainability competitive advantage at the University of Fallujah?

1.4. Research Objectıves

The research objectives are formulated based on the problem mentioned above statements on the factors that could enhance the Sustainability Competitive Advantage:

1. To determine the impact of strategic human resource management practices (development, technology, and selection) on sustainability competitive advantage at the University of Fallujah.
2. To determine the impact of innovation on sustainability's competitive advantage at the University of Fallujah.
3. To examine the impact of strategic human resource management practices (development, technology, and selection) on human capital development at the University of Fallujah.
4. To examine the impact of innovation on human capital development at the University of Fallujah.

5. To investigate the mediating impact of human capital development in the relationship between strategic human resource management practices (development, technology, and selection), innovation, and sustainability competitive advantage at the University of Fallujah.

1.5. Signification Of The Study

The significance of this study is twofold, encompassing both theoretical and practical dimensions, which together provide a comprehensive understanding of how strategic human resource management (SHRM) practices and innovation contribute to sustainable competitive advantage through human capital. From a theoretical perspective, this research enriches the Resource-Based View (RBV) by empirically testing the mediating role of human capital in the relationship between SHRM practices, innovation, and competitive advantage. It extends the RBV framework by illustrating how human capital is a pivotal resource that transforms strategic practices into tangible outcomes. On the practical side, this study offers invaluable insights for organizational leaders and HR practitioners, especially within the academic context of the University of Fallujah. It highlights the importance of investing in human resources and fostering an innovative culture as critical strategies for achieving long-term success. By demonstrating the direct impact of strategic HR practices and innovation on organizational performance, the study provides a clear roadmap for institutions aiming to enhance their competitive positioning through effective human capital management.

1.5.1 Significance To Theory

This study significantly contributes to the firm's resource-based view (RBV) by examining how strategic human resource management (SHRM) practices and innovation serve as critical internal resources to enhance a firm's sustainable competitive advantage. By focusing on the mediating role of human capital, the study underscores the RBV assertion that unique and valuable resources, particularly those embodied in human capital, are essential for achieving and sustaining competitive advantage. The investigation within the University of Fallujah provides empirical evidence to support the theory that strategic investments in human resources and innovation can lead to

superior organizational performance. This alignment with RBV highlights the importance of human resources as a critical driver of competitive advantage. It expands the theory's applicability by integrating innovation as a complementary resource that can further amplify a higher education competitive positioning in conjunction with strategic human resource practices.

The research study centered on the University of Fallujah holds great importance due to its potential to address the crucial gap between strategic human resource management (SHRM) and the sustained competitive advantage within higher education. This study seeks to provide significant insights into the transformative power of strategic HR efforts in an academic setting by closely investigating how SHRM practices at the University of Fallujah can affect and be developed through human capital development. The results of this study are anticipated to provide substantial contributions to the scholarly body of knowledge on strategic human resource management (SHRM) in the context of higher education. Additionally, they are expected to provide valuable practical insights for university administrators and policymakers. This study explores the potential alignment between strategic human resource management (SHRM) practices and human capital development to attain a sustainable competitive advantage. The findings of this research can potentially support the University of Fallujah and other similar institutions in maximizing their capabilities, thereby enhancing their reputation and efficacy within the highly competitive and globalized educational environment.

1.5.2 Significance To Practice

The study holds great importance for educational administration and management, notably due to its case study at the University of Fallujah. This study provides practical insights and empirically supported approaches for university administrators and human resource professionals, illustrating the effective implementation of strategic human resource management methods to cultivate and utilize human capital, ultimately leading to enduring competitive advantage. By comprehensively examining the distinct obstacles and potential advantages inherent in the University of Fallujah, this research furnishes educational establishments with a more profound comprehension of how strategic human resource management can be effectively incorporated into their objectives. This improves operational efficiency and

academic performance, placing them in a more advantageous position in the competitive educational environment. The study's results and suggestions have the potential to be a helpful resource for universities seeking to adapt and succeed in the continuously changing landscape of higher education. As a result, this study makes a noteworthy contribution to educational management.

1.6. Research Scope

The research study encompasses many aspects and is thoroughly examined, explicitly focusing on the University of Fallujah as a case study. The primary focus of this study is to analyze the strategic human resource management strategies used at the University of Fallujah and their impact on the institution's capacity to sustain a competitive advantage in the higher education sector. This study examines diverse strategic human resource management (SHRM) approaches, including Development, Innovation, and Technology, and their impact on cultivating human capital within the university setting. Furthermore, this study aims to investigate the precise mechanisms by which this strategic human resource management (SHRM) approach can result in improved organizational performance and a more robust competitive advantage within the academic industry. The examination of the University of Fallujah serves as a distinctive framework for this investigation, presenting valuable perspectives on the obstacles and prospects encountered by tertiary education establishments in a swiftly evolving educational environment.

The scope of this research encompasses examining the mediating function played by human capital development in the connection between strategic human resource management techniques and the attainment of competitive advantage, and this necessitates a comprehensive examination of how academic administration's cultivation and strategic advancement at the University of Fallujah can enhance the favorable effects of strategic human resource management (SHRM) practices on the university's competitive position. This study aims to uncover the primary variables and processes facilitating this mediation, thereby offering a comprehensive understanding of the interaction between human resource management strategies and human capital in pursuing long-term competitive advantage. The study employs a case study methodology to conduct a comprehensive and specific examination, enhancing the

overall theoretical and practical comprehension of strategic human resource management (HRM) within the academic domain. The anticipated research findings are poised to provide significant insights for policy and practical applications for the University of Fallujah and other educational establishments aiming to optimize their human capital.

1.7. Key Terms Definition

Sustainability competitive advantage refers to a company's strategic advantage over its competitors in the marketplace. It is a crucial factor. Sustainability pertains to the ability of a company to sustain a favorable position within its sector or market over an extended duration, ensuring its long-term viability and financial success. The idea discussed holds significant importance within strategic management and business studies, as it encompasses a range of definitions and perspectives (Barney, 2000).

Selection is a crucial element of human resource management, acting as how prospective workers are assessed and selected to occupy positions within an organization (Yassine & Singh, 2021).

Technology refers to utilizing conceptual knowledge to accomplish practical objectives, particularly in a manner that can be replicated (Brooks, 1980). The term "technology" can encompass the outcomes of these endeavors (Grossman & Cormack, 2014), encompassing physical objects like utensils or machines and non-physical entities like software. The utilization of technology is of utmost importance in science engineering and individuals' daily routines (Hitomi, 2017).

Innovation is ubiquitous in contemporary society. Many organizations incorporate innovation into their vision, mission, and objective statements. Politicians frequently include the concept of innovation in their public addresses. The role of chief innovation officer is increasingly prevalent. Centers dedicated to fostering innovation have emerged at several university campuses. Despite the widespread nature of this phenomenon, it has led to the designation of innovation as the most significant and excessively utilized term in the United States (O'Bryan, 2013).

Development is a broad concept that embraces the multifaceted process of enhancing, expanding, or progressing in several facets of human endeavor (Barbosa &

Corbella, 2014). In its most comprehensive interpretation, the term pertains to the gradual transformations occurring in the economy, society, culture, and politics, which result in an improved standard of living and a greater emphasis on environmental sustainability (Camagni & Nijkamp, 1998).

Human Capital Development is critical in improving a firm's assets and employees to increase productivity and sustain competitive advantage. Human capitals refer to processes that relate to training, education, and other professional initiatives in order to increase the levels of knowledge, skills, abilities, values, and social assets of an employee, which will lead to the employee's satisfaction and performance, and eventually on firm performance(Son, 2010; Schultz, 1993).

1.8. Thesis Organization

Chapter 2: This chapter summarises the study findings of numerous professors and scholars. This study includes the subjects' definitions, interpretations, arguments, and the findings from their extensive investigation. This study generates hypotheses about the probable influence of particular contextual elements on understanding the present challenge. The research's conceptual framework depicts the conceptual model and its underlying premise.

Chapter 3: Discusses the idea and planning stages of the whole data-gathering operation. This section thoroughly discusses the research techniques and methods to steer the study. This study explained the sampling procedure used to choose respondents and the sample makeup of the study participants. In addition, This study described their data-gathering approach and the equipment that would be employed.

Chapter 4: This study used descriptive statistics to examine the demographic section, regression model, correlation test, normality test, and assessment of critical and relevant consumer responses. These procedures accomplished the primary goal of the research, as explained in this chapter. Furthermore, given the encouraging findings, we recommend doing analogous experiments.

Chapter 5: This chapter focuses on the study analysis's findings and outcomes and any comments or proposals proposed by This study. The first section of this chapter discusses the desired outcomes that will aid in achieving the research aim. As a result,

our attention moved to developing ideas and proposals with the potential to improve services and accelerate research advancement in the following years.

2. LITERATURE REVIEW

2.1. Introduction

This study aims to identify the factors influencing the sustainability competitive advantage in the education sector. This chapter focuses on the relevant literature, such as strategic human resource management practices (development, selection, and technology), innovation, and human capital development. Altogether, one section contains strategic human resource management (SHRM) and innovation, which is the independent variable, mediating variable (human capital development), and dependent variable (sustainability competitive advantage). This chapter reviews and correlates to the sustainability competitive advantage in the education sector. This chapter generally discusses the definitions of variables, hypotheses, theoretical frameworks, and theories.

2.2. University Of Fallujah

Iraqi universities are vital pillars in the country's education system, offering various undergraduate and postgraduate programs. They foster academic excellence, research, and innovation, significantly developing the nation's human capital. These institutions are committed to providing quality education, embracing modern teaching methodologies, and promoting a culture of learning and intellectual growth among students (Iraqi Ministry of Education, 2023).

The University of Fallujah, situated in the city of Fallujah in Iraq, is a distinguished higher education establishment that has served as a notable center for academic and cultural activities within the surrounding area. The University of Fallujah has grown and progressed significantly since 2013, gaining a wealth of academic, research, and institutional accomplishments that continue to position us as an effective partner in the Anbarian and the larger Iraqi society. The university was founded to address the educational requirements of Fallujah and its neighboring regions. Over time, it has developed into a prominent institution renowned for its commitment to scholarly achievement and research within Iraq. The institution provides a diverse array of undergraduate and postgraduate programs spanning multiple fields of study, encompassing science, humanities, and social sciences. This comprehensive curriculum appeals to students from both domestic and bordering regions. The university is

renowned for its dedication to delivering high-quality education and cultivating a conducive environment that facilitates academic and personal development.

The University of Fallujah has had obstacles and opportunities commonly experienced by higher education institutions within shifting socio-political situations in recent years. The institution has successfully managed periods of regional turmoil and prioritized revitalizing and modernizing its academic programs and physical facilities. The ability to demonstrate resilience and adaptability has played a crucial role in upholding the educational standards and reputation of the institution. The institution assumes a pivotal position in improving the local community, serving not only as a purveyor of higher education but also as a source of employment and a hub for cultural and scientific progress. University of Fallujah, due to its advantageous geographical positioning and increasing impact, is a crucial component of Iraq's educational sphere, making substantial contributions to enhancing the nation's human resources and scholarly investigations (Iraqi Ministry of Education, 2023).

2.3. Strategic Human Resources Management Practices And Higher Education In Iraq

Universities, akin to other entities, endeavor to endure within the contemporary and intricate commercial landscape. Universities strive to thrive and endure within the competitive market landscape, thus undertaking endeavors to cultivate their strategic resources to attain their objectives. In recent years, there has been a growing tendency towards implementing human resource management practices in educational institutions, particularly within the context of universities. One possible explanation for this phenomenon is that university personnel are widely seen as possessing expertise and knowledge.

Consequently, a greater emphasis is placed on fostering academic growth, while the management of human resources receives relatively less attention. This phenomenon is demonstrated in the little body of literature on the topic. Unlike other institutions, universities face various financial and nonfinancial obstacles (Mahdi & Almsafir, 2014). These issues are further compounded by worldwide competition and the evolving demands of the labor market (Mahdi & Almsafir, 2019). Warner and Palfrayman (2001) analyzed management processes within a university setting in their study. Their findings

indicated that adopting a "people-oriented approach" that prioritizes best practices and recognizes the importance of "academic excellence" can be an effective system.

In contrast, public university management structures emphasize non-profit objectives and prioritize the welfare of individuals, resulting in expenditures that extend beyond mere profit considerations. Conversely, the majority of private colleges use a contrasting approach. Like many other institutions, universities are frequently impacted by political, social, and economic transformations within the broader societal context. The above factors contribute to competition among institutions (Jabbouri & Khalid, 2016). All individuals involved in the endeavor demonstrate a solid commitment to attaining their desired goals and concurrently establishing sustainable competitive advantage (Taylor, 2013).

In order to include strategic human resource management (HRM) practices within universities, it is imperative to integrate the administrative framework within the academic process. Unfortunately, these entities will encounter challenges when attempting to synchronize the academic process with the management system. Differentiating universities and colleges from other businesses results from their inherent characteristics. Pausits and Pellert (2007) conducted a study proposing that universities and colleges should embrace change as a consistent element within their culture, akin to other corporate organizations, and subsequently implement strategic human resource management methods. In addition, Smeenk et al. (2008) posited that the presence of variance availability and certain location consistencies about the suitable human resource management (HRM) policy and procedure will favor employee performance.

In Iraq, the issue surrounding the attainment of sustainable competition remains ambiguous. The difficulty aligns with Middlehurst's (2013) observation regarding the impact of privatization of university education on universities and colleges. Middlehurst said this privatization has increased competitiveness, posing a significant challenge for these institutions. Therefore, Iraqi universities are confronted with the task of establishing a framework that is appropriate for the attainment of a Student-Centered Approach (SCA). A recent study by Emeagwal and Ogbonmwa (2018) found that successfully applying strategic human resource management (HRM) strategies is crucial for a university to attain sustained competitive advantage.

2.4. Sustainability Competitive Advantage

The concept of competitive advantage refers to a company's strategic advantage over its competitors in the marketplace. It is a crucial factor. Sustainability pertains to the ability of a company to sustain a favorable position within its sector or market over an extended duration, ensuring its long-term viability and financial success. The idea discussed holds significant importance within strategic management and business studies, as it encompasses a range of definitions and perspectives (Barney, 2000).

According to Ford (2020), a prominent figure in strategic management, sustainability competitive advantage is attained when a company successfully maintains its unique value proposition for customers, which is challenging for competitors to imitate. Porter highlights the significance of establishing distinct value propositions by implementing cost leadership, differentiation, or focus initiatives. According to Porter (1985), the author posits that sustained competitive advantage is not a fixed concept but necessitates ongoing adaptation and reinvention to respond to dynamic market conditions effectively.

An alternative viewpoint is presented by Jay Barney (1986), who incorporates the resource-based view of the organization to delineate sustainability competitive advantage. Barney's theoretical framework examines a firm's internal resources and capabilities. For a competitive advantage to be enduring, it must originate from resources and capabilities that possess the following characteristics: value, rarity, inimitability, and non-substitutability (VRIN); this theory posits that a company's internal features, as opposed to its exterior market positioning, play a crucial role in sustaining a competitive advantage over rival firms in the long run (Barney, 1991).

According to Richard D'Aveni's (1994), hyper-competition theory critically examines the conventional belief in the enduring viability of competitive advantage; in the contemporary dynamic and highly competitive market environments, advantages are progressively ephemerality is suggested that companies should adopt a strategy of continuously generating and capitalizing on new possibilities. This approach emphasizes the importance of leveraging transient advantages through innovation and strategic flexibility rather than relying solely on a single enduring strategy (D'Aveni, 1994).

In the contemporary landscape of the business industry, each firm or organization must possess the necessary capabilities to effectively leverage exceptional performance through its unique organizational framework, surpassing competitors within the same market. This phenomenon is commonly known as "competitive advantage." The matter of how a corporation might attain exceptional outcomes in the current competitive industry has garnered considerable attention from researchers. According to Kuncoro and Suriani (2018) as well as Mahdi and Almsafir (2014), it is argued that the adoption of a value-creating strategy that is not concurrently adopted by any other business operating in the same market is considered to confer a competitive advantage. A company must effectively execute a strategy to improve its organizational performance, granting it a competitive advantage over existing or prospective firms entering the market. To attain competitive advantages, most firms develop a business strategy that effectively utilizes and leverages the resources within their control, recognizing their potential to build a competitive advantage.

Covin and Lumpkin (2011), along with the support of Pratono et al. (2019), posit that in a dynamic global market where the sustainability of competitive advantage is questioned, strategic human resource practices play a crucial role in explaining the reasons behind the failure of certain firms to attain and maintain a competitive advantage, while others succeed (Covin & Lumpkin, 2011).

According to Kuncoro and Suriani (2018), for a firm to establish itself as the market leader, it must possess a competitive advantage to outperform existing competitors and potential new entrants. The significance of competitive advantage concerning an organization's performance and ability to survive and establish a prominent market position is evident from its description. The advantage, therefore, is contingent upon the specific form of competitive advantage that the firm intends to employ and the scope of the activities it aims to encompass (Kuncoro & Suriani, 2018). One crucial determinant of attaining a competitive advantage for any firm lies in implementing distinctive tactics that differentiate it from other market participants. Furthermore, the sustainability of the advantage is contingent upon the challenges faced by present or prospective competitors in their attempts to replicate or identify an alternative (Dirisu & Ibidunni, 2013; Rockwell, 2019).

2.5. Strategic Human Resources Management Practices

A corporation may achieve sustained competitive advantage by effectively using its people resources. A research-based approach to human resources encompasses applying human resources principles to different contexts and difficulties, providing empirical proof of the effectiveness of resource utilization. In order to establish a lasting competitive advantage, organizations use distinctive resources that are difficult to imitate and cannot be easily replicated or replaced (Amrutha & Geetha, 2020). According to Anwar and Balcioglu (2016), faith is often put in basic imitations inside governmental institutions. However, they claim that corporate organizations may also quickly adopt new competitive models and strategies, as well as rely on the abilities of their personnel, in order to achieve success. Theories that prioritize decision-making regarding the focus of attention revolve around comprehending organizational objectives, resembling an organizing paradigm, a concept in strategic management (Alhamad, Aljanabi, & Almaali, 2022).

According to this theory, the elements that contribute to the firm's long-term competitiveness will be seen as more significant than external market conditions and the short-term behavior of rivals. The notion encompasses the human, organizational, and financial dimensions and the material component. According to Sadikova (2020), an organization's ability to enhance employee productivity may not be fully realized due to employees not exerting their maximum effort. Providing offices and benefits to employees allows companies to attract more experienced, skilled, and capable individuals (Yong et al., 2020).

Hameed and Anwar (2018) have observed that HRM's activities significantly impact the compensation and selection process. Furthermore, the effectiveness of HRM within an organization is closely linked to the strategic management functions of HRM. Strategically, human resources management practices encompass policies that address key areas such as promoting workforce engagement, evaluating performance, applying knowledge, preparing employees for future roles, providing training, retaining staff, and managing administrative matters (Singh et al., 2020).

In addition, the research conducted by Anwar and Ghafoor (2017) recognized creativity, market understanding, technological adaptability, financial accessibility, and

the presence of economies of scale as crucial factors for achieving success in today's fiercely competitive industry.

Practical HR and human resources administration are essential for a business's overall performance, enabling the organization to achieve several benefits. However, the primary barrier to achieving sustained financial growth and profitability for many nations lies not in their inability to comprehend the capabilities of their skilled workforce but instead in the ongoing quest of development-oriented businesses in these countries to identify and implement optimal HR practices for enhanced efficiency (Troth & Guest, 2020). Abdullah and Othman's (2016) study demonstrates that the success of an organization is closely tied to its effective implementation of HR management strategies. According to Anwar (2017), selective hiring procedures favor organizational performance, indicating there is more to recruitment strategies than this. Researching to enhance the productivity of an organization's workforce would be advantageous for the employees and guarantee the fulfillment of all stakeholders' needs.

The author posits a correlation between training methods and overall outcomes. The author's conclusion asserts a favorable correlation between training methods and collaboration, suggesting that individuals who successfully finish training programs would have enhanced work-life balance and increased organizational investment prospects. The significant finding of this research contradicts the notion that overall pay and compensation policies are generally directly linked to organizational success (Alhamad, Osman, Manaf, Abdullah, & AlShatnawi, 2015). Conversely, the awards, in every case, exhibit a positive correlation. Consequently, it was hypothesized that workers would enhance their productivity if they received equitable compensation and rewards, prompting the corporation to modify its remuneration and incentive strategies. Studies have shown a significant rise in customer and employee satisfaction when workers are treated favorably and actively engaged in HR management procedures. Similarly, the productivity and development of employees are likely to improve when people have significant HR management positions inside the organization and when an HR framework that effectively influences all these tasks is established. Furthermore, companies enhance their reputation and standing within the community by establishing a human resources approach that integrates these elements (Alhamad, 2019).

Khan and Pucelj (2023) assert that good human resource management is crucial to a company's overall performance. The efficiency of employees is a crucial aspect of workplace practices that have been shown to benefit both government agencies and individual government departments. To assess their success, they must consider many factors related to staff retention, job security, the present administration, job preparedness, and work quality. In his study, Mohad determined a significant correlation between salary and training and the overall profitability of a firm. A study by Hanić and Jevtić (2020) also revealed a significant correlation between efficient human resource management, including management training and employee remuneration, and the organization's overall success. The role of HRM is to identify, nurture, develop, and empower new employees, as well as to promote, acquire, understand, and gather to engage. The function of human resources has always been seen as crucial in many types of company enterprises. The worldwide HRM not only changes the appearance of the firm but also catalyzes organizational transformation. The HR department has had a significant impact on the growth of these organizations, particularly in terms of enhancing efficiency. One of the advantages employers provide to their employees, who serve as managers and production workers, is maintaining and training them (Othman & Abdullah, 2016).

In addition to these responsibilities, HR plays a crucial role in establishing the rules and procedures of the company and department and cultivating and advancing the corporate culture. In addition, Lombardi et al. (2020) have examined the impact of human resource management activities on organizational innovation and explored the potential relationship between this and information management expertise. Additional models required to enhance HR management include evaluation, organizational proficiency, performance appraisal, and comprehensive job evaluation methodologies. HR managers must examine many organizational elements while dealing with in-related difficulties, such as efficiency, continual training processes, promotion chances, and the availability of career paths for workers (Anwar & Qadir, 2017).

The workers have recognized competition as a motivator for progress in HR operations. These adjustments have significantly impacted their development of skills and principles that align with the business goals. Sani studied the relationship between strategic human resource management and organizational performance in Nigerian insurance businesses, considering their influential role in shaping organizational culture.

Delegating HR procedures to line managers, fostering employee growth, implementing a job-oriented recruiting method, adopting a job-based performance evaluation procedure, establishing a results-oriented career preparation procedure, and integrating an HR system into the overall management techniques have become crucial considerations for many successful organizations. According to Stahl et al. (2020), the research states that the organizational environment does not influence strategic human resources management methods.

Development

The term "development" is widely utilized in numerous academic disciplines, and its interpretation varies depending on the specific context in which it is employed (Samuels, 2013). Development, in its most expansive interpretation, encompasses the progression, advancement, or transformation of a subject matter, frequently to attain a more sophisticated, intricate, or effective condition (Norgaard, 2006).

In economics, development is commonly linked to enhancing the quality of life, economic well-being, and overall affluence within a specific geographic area or nation. Economists, such as Amartya Sen, have broadened the scope of this notion to encompass not only economic advancement but also the augmentation of individuals' capacities, freedoms, and choices. Sen's work emphasizes that development should be evaluated based on the augmentation of human capabilities rather than solely relying on indicators such as income growth or gross domestic product (GDP) increments. The viewpoint above emphasizes the significance of various elements, including education, health, and individual rights, while evaluating the development progress (Sen, 1999).

According to the United Nations Development Programme (UNDP) (1990), human development is conceptualized as expanding individuals' opportunities and enhancing their capabilities, encompassing three fundamental dimensions: longevity, education, and access to resources necessary for attaining a satisfactory quality of life (Fukuda-Parr,2003). The Human Development Index (HDI), formulated by the United Nations Development Programme (UNDP), is a comprehensive measure that combines life expectancy, education, and per capita income indicators. These indicators categorize countries into different levels of human development (Miščević, 2021).

Development is a multifaceted concept incorporating the iterative process of enhancing, expanding, or progressing in several facets of human endeavor (Raymond, 2012). In its most comprehensive interpretation, the term denotes the gradual transformations occurring in the economy, society, culture, and politics, resulting in an improved standard of living and a heightened focus on environmental sustainability (Shiffrin & Dumais, 2013). Economic development pertains to the augmentation of wealth and improvement of living standards, commonly assessed using metrics such as growth in the gross domestic product (GDP), income levels, and employment rates (Sacks & Wolfers, 2010). Development within social and personal contexts entails the augmentation of human capacities, encompassing the domains of education and health, and acquiring skills and knowledge that empower individuals and communities (Oghenekohwo & Frank-Oputu, 2017). The term "development" can also encompass technological and infrastructural progressions contributing to enhanced productivity and efficiency. Development encompasses a multifaceted endeavor to attain a world that is more wealthy, egalitarian, and sustainable (Ullah et al., 2022).

Selection

Selection is a crucial element of human resource management, acting as how prospective workers are assessed and selected to occupy positions within an organization (Yassine & Singh, 2021). This process includes identifying individuals with the appropriate skills and experience for the position and ensuring they are compatible with the organization's culture and values. Efficient selection methods are crucial for the success of an organization since they immediately impact employee performance, contentment, and, ultimately, the rate at which employees stay with the firm (Anwar & Abdullah, 2021). Companies may cultivate a dedicated and driven team by selectively recruiting people who possess the requisite credentials and align with the organization's vision and values.

The selection process usually occurs in a sequence of phases intended to gradually narrow down contenders until the most suitable person for the position is found. The process starts with evaluating applications and resumes, whereby those who fail to satisfy the fundamental requirements are eliminated. Subsequently, preliminary interviews are held, often by telephone or digital platforms, to assess the applicants'

interest and aptitude for the position. The following steps may include administering aptitude or skill assessments, which provide objective data on applicants' talents pertinent to the employment tasks they will be required to carry out (Bina, Mullins, & Petter, 2021).

Personal interviews, which delve deeply into the applicants' interpersonal skills, problem-solving ability, and cultural compatibility, are crucial to the selection process, providing valuable insights (Spain, 2020). The nature of these interviews might vary, ranging from individual chats to panel interviews or group deliberations, contingent upon the job's prerequisites and the company's selection protocols (Alola & Alafeshat, 2021). Behavioral and situational questions are often used to forecast applicants' performance in certain situations, offering insight into their practical utilization of skills and knowledge.

The concluding phase often entails doing background and reference checks to authenticate the information the applicants provide and get insights into their work ethic and professional demeanor (Ahmed, Khan, Thitivesa, Siraphatthada, & Phumdara, 2020). Assessment centers are often used to conduct a thorough evaluation, whereby applicants participate in various exercises and activities that replicate job-related responsibilities. After completing these phases, the organization extends a job offer to the chosen applicant, marking the end of the selection process. This careful method guarantees that the organization fills the vacancy, selects a candidate likely to succeed in the post, and positively impacts the organizational culture and goals.

Tecnology

The term "technology," which holds significant importance in contemporary society, is commonly described as utilizing scientific information for practical reasons, specifically emphasizing its application in various industries. "it" refers to a broad array of tools, technologies, processes, and systems utilized for problem-solving or attaining specified objectives. The concept and scope of technology have undergone substantial changes throughout history, mirroring the progress of human understanding and its implementation across diverse domains (Berrett & Sullivan, 2012).

Technology, in its broadest interpretation, encompasses the various instruments and machinery employed to address practical challenges encountered in the actual world. The aforementioned encompasses concrete instruments, such as machinery and devices, and abstract entities, such as software and techniques. In 1937, an American sociologist, Read Bain, wrote that "technology" encompasses many objects and artifacts, including tools, machinery, utensils, weaponry, instruments, housing, clothes, communication, and transportation equipment. It also encompasses the skills and knowledge required for production and utilization. According to Bain (1937), the definition provided emphasizes the multifaceted nature of technology, which includes both tangible objects and the accompanying knowledge and advantage involved in their development and utilization.

Manuel Castells offers an alternative viewpoint on technology, which is significant in the contemporary digital era. The author defines technology within the information society's framework, encompassing various tools and systems that employ information to generate, manipulate, and disseminate data. The significance of information and communication technologies (ICTs) in contemporary society is emphasized by this term since technology is progressively focused on the handling and distribution of information (Castells, 2011).

The scope of technology extends beyond its tangible manifestations, encompassing the methodologies and procedures that facilitate its creation and utilization. Thomas Hughes emphasizes a more comprehensive perspective, wherein technology is viewed as a system that includes tangible equipment and objects and the necessary expertise, information, and procedures required for their creation and functioning. Hughes (1987) posits that his perspective underscores the inherent systemic characteristics of technology, which encompass the integration of human skills, organizational structures, and cultural components.

2.6. Innovation

Innovation, a fundamental notion in diverse domains, including business, technology, and science, is the iterative progression of generating, cultivating, and executing novel concepts, products, services, or methodologies. The above concept holds significant importance in fostering economic growth, enhancing competitiveness,

and addressing intricate issues in contemporary cultures (Mikalef, Boura, Lekakos & Krogstie, 2019).

From a business and economic standpoint, Joseph Schumpeter, a prominent early scholar on innovation, defines it as the introduction of a novel product or enhanced product quality, the establishment of a fresh market, the identification of a previously untapped supply source, the adoption of an innovative production method, or the implementation of a novel organizational structure within any given industry. Schumpeter emphasizes that innovation extends beyond creating novel ideas or methodologies (Śledzik, 2013). Instead, it encompasses implementing those ideas in practical contexts and their consequential effects on markets and society (Hospers, 2005).

In technology and engineering, innovation is frequently linked to advancing novel technologies or using pre-existing technologies to generate fresh solutions or enhance efficacy. Clayton Christensen's theory of disruptive innovation encapsulates this viewpoint, as he distinguishes between sustaining innovations that enhance current products and disruptive innovations that generate entirely novel markets and value networks, ultimately supplanting established market-leading firms and products (Christensen, 2013).

Innovation is another facet characterized as the systematic development and execution of efficacious resolutions to complex social and environmental problems to foster societal advancement. The concept above, which has garnered significant attention in contemporary times, encompasses novelty and the consequential societal influence and advancements it engenders. Social innovation is a concept that centers around the improvement of social needs more effectively compared to current solutions. Individuals, groups, or organizations drive it and necessitate the collaboration of various sectors within society (Phills & Miller, 2008).

2.7. Human Capital Development

Human Capital Development is a comprehensive and complex notion involving the cultivation and augmentation of an individual's competencies, expertise, and capacities, facilitating their efficacy and efficiency in diverse capacities and

environments. The progress mentioned above is often regarded as a crucial expenditure for individuals and companies, as it propels economic expansion, fosters innovation, and enhances general social well-being (Son, 2010).

Gary Becker, a Nobel laureate in economics, is credited with pioneering the concept of human capital from an economic standpoint. The author defined "it" as the competencies and expertise individuals obtain through formal education and specialized instruction, resulting in improved efficiency and increased financial prospects. Becker's research underscored the significance of allocating resources towards education and training, drawing a parallel between such investments and the acquisition of physical capital. This correlation is rooted in the notion that education/training and physical capital contribute to heightened productivity and subsequent economic advancement. The viewpoint mentioned above emphasizes the significance of human capital development in the context of economic development, emphasizing its contribution to improving the caliber of the labor force and, subsequently, the efficacy and competitiveness of the economy (Becker, 2009).

Within organizational development, human capital development pertains to the systematic enhancement of employees' abilities, understanding, and proficiencies to optimize their performance within their respective job functions. Researchers such as Dave Ulrich (1996), who argues that enhancing human capital inside businesses entails deliberately allocating resources towards training and development initiatives, fostering career progression, and facilitating ongoing learning prospects, have thoroughly examined the notion. Investments of this nature are crucial for firms to sustain a competitive advantage, effectively respond to evolving market needs, and foster innovation (Ulrich, 1998).

The concept of human capital development encompasses not only individual growth but also social progress, as it encompasses broader endeavors that seek to enhance the overall skills of a society's workforce (Šlaus, I., & Jacobs, 2011); this encompasses many educational frameworks, such as public school systems, vocational training programs, and lifelong learning initiatives. The significance of human capital development in attaining sustainable development goals, with a specific focus on poverty reduction and inequality mitigation, is underscored by the United Nations (Swamy et al., 2018). The United Nations emphasizes the significance of ensuring fair

and equal opportunities for education and healthcare to cultivate human capital, which is essential for the advancement and prosperity of countries (Nations, 2015). The notion of human capital development also holds significant importance within personal development, and this pertains to an individual's ongoing endeavor to gain additional skills and knowledge to foster personal development and enhance professional progression. The viewpoint described above is supported by prominent figures such as Stephen R. Covey, who promotes a proactive stance toward personal growth. Covey emphasizes the significance of continuous learning, acquiring new skills, and enhancing personal effectiveness as essential strategies for successfully navigating the complexities

2.8. Research Hypotheses And Development

Relationship Between The Strategic Human Resources Management Practices And Sustainability Competitive Advantage

Continuous efforts to build organizational capacities, technical breakthroughs, and personnel skills are crucial for achieving and sustaining a long-term competitive advantage in an ecologically sustainable way (Kim, Seok, Choi, Jung, & Yu, 2020). Organizations that allocate resources to improve their internal processes, management practices, and innovation capabilities are expected to achieve higher operational efficiency, agility, and responsiveness to market changes. As a result, they can establish a sustainable competitive advantage (Clauss, Kraus, Kallinger, Bican, Brem, & Kailer, 2021). Research indicates that companies prioritizing developing and implementing advanced technologies aligned with their strategic goals will experience increased productivity, enhanced product or service quality, and improved environmental sustainability, this will give them a competitive advantage over their rivals (Abumalloh, Nilashi, Ooi, Wei-Han, Cham, Dwivedi, & Hughes, 2023). The hypothesis suggests that organizations prioritizing ongoing skill development and knowledge enhancement among their employees will foster a culture of continuous improvement, innovation, and adaptability; this is essential for maintaining a competitive advantage in a rapidly changing business environment (Azeem, Ahmed, Haider, & Sajjad, 2021). This study emphasizes the importance of development in every aspect of the organization as a critical factor for attaining a lasting competitive advantage. It underlines the

interdependence between development initiatives and the long-term success and sustainability of the organization.

H1a: development has a positive impact on sustainability competitive advantage.

The selection in areas such as talent acquisition, technology implementation, and supplier partnerships significantly enhances an organization's ability to maintain a competitive advantage sustainably (Srivastava, Franklin, & Martinette, 2013). Firms that employ strategic, value-based selection criteria in hiring possess a more innovative, engaged, and productive workforce, directly contributing to a sustainability competitive advantage by fostering a culture of excellence and adaptability (Al Aina & Atan, 2020). Companies that strategically select and integrate advanced technologies tailored to their operational needs and market demands are better positioned to improve efficiency, drive innovation, and respond dynamically to changes, thereby securing a long-term competitive advantage (Agustian, Mubarok, Zen, Wiwin, & Malik, 2023). Organizations that carefully choose suppliers based on sustainability, reliability, and ethical standards enhance their supply chain resilience and strengthen their brand reputation and customer loyalty, further contributing to a sustainable competitive advantage (Baah & Jin, 2019). This study underscores the belief that strategic selection processes are crucial for embedding sustainability into the core strategy, achieving a lasting competitive advantage in the rapidly evolving business environment.

In this study, Muisyo Ho and Julius (2021) investigate the impact of strategic selection procedures on a firm's ability to establish and retain a competitive advantage. These processes include talent acquisition, technology adoption, and supplier choice. The results emphasize that meticulous recruitment improves the workforce's quality and inventiveness, prudent technology selection promotes operational efficiency and market responsiveness, and strategic supplier selection guarantees supply chain resilience and sustainability. Moreover, the study highlights the need for a comprehensive and future-oriented strategy when selecting options. It emphasizes that these choices are fundamental in integrating sustainability into the fundamental business model. The research proves that strategic selection is crucial for companies seeking a lasting competitive advantage in the complex commercial landscape.

H1b: Selection has a positive impact on sustainability competitive advantage.

Mugoni, Nyagadza, and Hove (2023) examine the impact of green reverse logistics technology on achieving a competitive sustainability advantage within the business sector. It explores how environmentally friendly practices in reverse logistics, such as recycling, remanufacturing, and waste reduction, contribute to a company's competitive positioning. The study employs a mixed-method approach, incorporating quantitative data analysis and qualitative case studies from various industries to assess the correlation between green reverse logistics technologies and improvements in operational efficiency, cost reduction, customer satisfaction, and environmental performance. Findings suggest that companies integrating these technologies enhance their environmental sustainability and achieve significant competitive advantages, including increased market share and brand loyalty. The research highlights the critical role of innovative reverse logistics practices in fostering a sustainable business model and offers strategic insights for companies seeking to navigate the complexities of sustainability and competition.

Saha et al. (2022) found that incorporating digital transformation into the Technology process has a favorable impact on enhancing sustainability competitive advantage, distribution, and consumption levels to fulfill consumers' needs. Unhelkar et al. (2022) discovered that using industry 4.0-based technologies, namely the use of RFID in Technology, may effectively control the time it takes for Technology to be developed and significantly decrease expenses, enhancing competitive advantage. In their studies, Lee et al. (2022a, 2022b) examined the impact of IoT technology on enhancing both technological and organizational performance in manufacturing enterprises in Malaysia. In their study, Ślusarczyk et al. (2021) discovered that implementing industry 4.0 technologies, such as automation, robotization, and information management, had a noteworthy impact on the technology and logistics companies in Poland and Malaysia. In their study, Kim and Lee (2021) discovered that digitalization has a significant impact on enhancing the efficiency of technology in the healthcare manufacturing sector. Prior research indicates that digital technology enhances corporate efficiency, productivity, and competitive advantage.

H1c: Technology has a positive impact on sustainability competitive advantage.

Relationship Between The Innovation And Sustainability Competitive Advantage

Various organizations have achieved success and continue to prosper due to their ability to innovate, which gives them a competitive advantage (Goksoy, Vayvay, & Ergeneli, 2013; Lim, Chesbrough, & Ruan, 2010). Organizations use innovation to establish a competitive advantage by developing unique products or services, excelling in performance compared to competitors or delivering superior, more cost-effective, and quicker services (Aziz & Samad, 2016). This approach allows the organization to establish a lasting competitive advantage by acquiring expertise in technology, knowledge, and experience in creativity and development and by bringing novel concepts via product, process, or business model innovation. This yields favorable outcomes for the organization and promotes the expansion of the whole national economy (Abbing, 2010; Cottam, Ensor, & Band, 2001). Competitive advantages may arise from goods and services with exceptional distinctions from the standard items in their particular field or having cheaper costs than their rivals (Porter, 1998). Furthermore, Porter (1998) said that competitive advantage stems from a business's capacity to optimize the efficiency of its manufacturing process, create higher-quality products and services, and provide services that elicit high levels of customer satisfaction.

In their study, Distanont and Khongmalai (2020) investigated the relationship between innovation and competitive advantage within the frozen food industry, specifically focusing on small and medium-sized firms (SMEs). The results demonstrated that innovation bolstered competitive advantages via external causes. The external influences were categorized into two groups: micro-oriented factors and macro-oriented elements. The innovative development of frozen food enterprises was more influenced by external forces at the micro level rather than those at the macro level. The findings indicated that entrepreneurs must be flexible and proactive to confront imminent economic shifts, particularly those in small and medium-sized enterprises (SMEs). These changes are anticipated to transpire not just on a worldwide scale but also at the regional and national levels. External influences, alongside internal settings, play a crucial role in fostering creativity inside an organization. In this crucial rivalry, innovation will serve as the strategic instrument to strengthen and establish businesses, enabling them to achieve competitive advantages that are on par with or beyond those

of other nations, ultimately leading to sustainable growth. Innovation is an essential factor in several aspects of business competition. Innovation enables businesses to present new or improved products to the market before their competitors and thus increase their market share.

H2: innovation has a positive impact on sustainability competitive advantage.

Relationship Between SHRM Practices And Human Capital Development

Investing consistently in development initiatives, such as formal education, training programs, experiential learning, and technology-enhanced learning environments, is vital for improving the quality, productivity, and innovation potential of human capital (Rahim, Murshed, Umarbeyli, Kirikkaleli, Ahmad, Tufail, & Wahab, 2021). Comprehensive education and focused training programs are believed to greatly enhance people's skills, knowledge, and abilities, enhancing work performance and increasing contributions to organizational objectives (Sima, Gheorghe, Subić, & Nancu, 2020). The research indicates that engaging in hands-on, experiential learning opportunities, such as internships, mentoring programs, and on-the-job training, is crucial for applying theoretical information in practical settings. These experiences promote a more profound comprehension and improve problem-solving abilities (Kavishe, 2022). It is additionally postulated that utilizing cutting-advantage technologies in educational and developmental procedures, such as e-learning platforms, virtual reality (VR) simulations, and educational tools powered by artificial intelligence (AI), enhances accessibility, engagement, and the efficacy of learning results (Swanson, 2022). This study emphasizes that a comprehensive strategy for development is crucial to maximizing the growth of human resources, leading to improved individual capacities, work contentment, and, ultimately, organizational effectiveness and creativity.

H3a: development has a positive influence on human capital development.

The selection procedures, which include recruiting, talent acquisition, and internal resource allocation, are essential for improving and optimizing the human capital inside organizations (Motshwane & van Niekerk, 2022). Organizations that

utilize strategic and competency-based selection criteria in their recruitment and talent acquisition processes are more inclined to attract and retain individuals with exceptional potential. This approach ensures that employee capabilities align with organizational objectives, promoting a culture of excellence and innovation (Avdeev, Ternovykh, Lytneva, & Kozlov, 2022). Research indicates that strategically selecting employees for specialized training and development programs, considering their potential for growth and alignment with future organizational needs, dramatically improves the workforce's skill set, productivity, and adaptability. This, in turn, contributes to the overall development of human capital (Kiran, Shanmugam, Raju, & Kanagasabapathy, 2022). Strategic selection in distributing internal resources, such as project assignments and leadership positions, fosters organizational talent development, encourages professional advancement, and enhances employee engagement and motivation (Sodirjonov, 2020). This study emphasizes the importance of careful and strategic selection in all aspects of human capital management. It suggests that such practices maximize the growth of individual employees and collectively improve organizations' capacity, innovation, and competitiveness in the long run.

H3b: Selection has a positive influence on human capital development

Incorporating technology in organizations significantly improves their workforce's growth, productivity, and flexibility (Ahmed, Nathaniel, & Shahbaz, 2021). Utilizing sophisticated educational technologies, such as e-learning platforms, mobile learning applications, and virtual reality (VR) training simulations, enhances the learning experience by providing personalized, flexible, and interactive opportunities for improving skills and knowledge (Belov & Novikov, 2021). Integrating productivity tools and collaborative technologies in the workplace improves work process communication and encourages efficiency and innovation. This indirectly contributes to human capital development by enhancing work practices and allowing employees to concentrate on more valuable tasks (Ferreira & Franco, 2020). Organizations that establish technology-enabled learning environments are believed to promote ongoing professional growth, facilitate lifelong learning, and accommodate various learning preferences. As a result, they cultivate a more skilled, innovative, and adaptable workforce (Mastromarco & Simar, 2021). This study emphasizes the idea that

technology plays a role in promoting the development of human capital. It argues that making wise investments in technological resources and tools is essential for fostering a skilled, knowledgeable, and adaptable workforce, enabling them to address the challenges of the contemporary business environment effectively.

H3c: Technology has a positive influence on human capital development.

Relationship Between Innovation And Human Capital Development

In the contemporary business environment, innovation emerges as a pivotal force driving sustainable competitive advantage, yet its effectiveness is significantly influenced by the organization's human capital (Alfawaire & Atan, 2021). That human capital significantly mediates the relationship between innovation and organizational performance. Specifically, the research demonstrates that the skills, knowledge, and competencies embodied in human capital enhance the organization's ability to innovate effectively (Azeem & Sajjad, 2021); this, in turn, leads to improved organizational performance, evidenced by increased efficiency, higher productivity, and more excellent competitive positioning in the market. The study contributes to the existing body of knowledge by highlighting human capital's indispensable role in maximizing the benefits of innovation. It underscores organizations' need to invest in human resources through continuous training, development, and engagement strategies to foster an innovative culture. This research provides valuable insights for organizational leaders and policymakers on aligning human capital development with innovation strategies to achieve sustained competitive advantage.

H4: innovation has a positive impact on human capital develop

Relationship Between The Human Capital Development And Sustainability Competitive Advantage

The concept of human capital is knowledge in the literature, with three distinct kinds identified (Cummins, 2009). Human capital is often regarded as a physical resource with more productivity potential than other assets inside a business (Nico & Eduardo, 2017). It encompasses individuals' talents, abilities, and knowledge (Gannon & Doherty, 2015). Another perspective examines how expertise, knowledge, and

proficiency are acquired through formal education or practical experience (Ployhart & Vandenberg, 2010). The final category pertains to the production orientation standpoint.

Furthermore, the phenomenon in which a worker participates in training and development activities to improve their performance by cultivating their skills and knowledge within the context of organizational development can be conceptualized as human capital (Alnidawi & Abdulrahman, 2017). From a scholarly perspective, it can be argued that human capital development is an investment made by a company to enhance its workforce's skills and abilities to attain a competitive advantage (Gannon & Doherty, 2015). This statement suggests that for an organization to pursue sustainability competitive advantage (SCA) successfully, it is necessary to allocate resources towards the development of its personnel, ensuring they possess the necessary knowledge and abilities to effectively and efficiently perform their responsibilities within a highly competitive business environment (Nico & Eduardo, 2017). The research has extensively shown the importance of human capital development in the performance of a corporation and its ability to achieve sustained competitive advantages (Hsu & Wang, 2012).

From the Resource-Based View (RBV) paradigm standpoint, it can be argued that the tacit knowledge required for a company to gain a competitive advantage is derived from internal development (Chaudhry & Roomi, 2010). The employee's sense of belonging and subsequent devotion to the organization are enhanced during this process. Employee commitment refers to the state in which employees exhibit a strong sense of passion and dedication and a feeling of security and willingness to invest their efforts to contribute to the organization's overall success.

According to Alnidawi (2017), the research suggests that when employees have a good emotional connection to the organization and take pride in their membership, they are more likely to exert their efforts toward attaining success inside the organization. Several prior studies have demonstrated that implementing high-performance work practices (HPWP) can effectively improve an employee's knowledge and skills (Huselid, 1995). Additionally, it has been found that strategic human resource management (HRM) practices play a significant role in enhancing employee productivity, directly impacting a firm's overall performance (Todericiu & Stăniţ harassed, 2015). Furthermore, research has observed that cultivating human capital can

yield advantageous outcomes for organizations, enhancing their competitive advantage (Kadir et al., 2018).

H5: Human capital development has a positive impact on sustainability competitive advantage.

Mediating Role of Human Capital Development

High-Performance Work Practices (HPWP) encompass various elements, including staffing, rewards, employee training and development incentives, and employee performance management. These components are designed to enhance an employee's skills, knowledge, and behavior, enabling them to make valuable contributions to the organization's competitive strategy (Huselid, 1995). An organization's utilization of contemporary technical equipment is contingent upon the presence of skilled and knowledgeable employees. While the introduction of technology has enabled organizations to acquire and deploy advanced equipment, achieving the organization's objectives may be hindered if there is a lack of competent employees who can effectively utilize this equipment (Fareed et al., 2016). Widodo and Ali (2015) state that attaining an organization's goals and purpose is contingent upon implementing strategic human resource management (HRM) practices. According to Zehir and Kole (2016), an organization's attainment of distinctiveness is contingent upon its workers' exceptional performance. According to Khalique and Pablos (2015), there is a prevailing belief that attaining organizational success necessitates using strategic human resource management (HRM) techniques, contingent upon the commitment demonstrated by employees. According to Garavan and Collins (2001), specific research suggests a reciprocal association between the growth of human capital and the performance of organizations. While existing literature has proven the positive impact of strategic human resource management (HRM) activities on the development of human capital, scholars such as Godard (2004) and Posthuma et al. (2013) have contended that these practices are seldom and incomplete.

This study proposes to analyze the mediating function of human capital development by combining the Resource-Based View (RBV) and behavioral theories. It suggests that the effective management and development of human capital through strategic HRM practices can contribute to an organization's competitive advantage. The

concept of "Human Capital Development" in this context pertains to the attitudes and behaviors of employees. It is based on the belief that these factors mediate the link between "strategic HRM practices" and sustainable competitive advantage (SCA). This mediation is achieved by integrating the social exchange theory (SET). Previous research has demonstrated that when a business invests in developing its human capital, it can gain a competitive advantage (Miah & Islam, 2013).

According to the research conducted by Widodo and Moch Ali Shahab (2015), it was established that a focus on identifying a strategic approach that guides the organization and its corresponding human resource management (HRM) systems implies that human resources are limited to and responsible for advancing the strategic goals of the organization. Constructing a comprehensive network of work organizations based on a shared set of objectives and demands necessitates using strategic human resource management (HRM) principles. Likewise, in alignment with the social exchange theory, strategic human resource management (HRM) strategies enhance improvement initiatives that reinforce compelling obligations to respond meaningfully (Bowen & Ostroff, 2004). Based on the Resource-Based View (RBV) theory, it is evident that organizations that adopt a human resource management (HRM) approach, recognizing individuals as valuable assets in achieving organizational objectives, are likely to engage in long-term investments aimed at enhancing employees' skills, known advantage, and capabilities. Similarly, such organizations prioritize stimulating employees' motivation and emphasize meeting employees' needs beyond mere profit generation. Developing lasting competitive advantages is essential in this scenario (Macky & Boxall, 2007). Organizations must recognize and embrace human resource management (HRM) techniques that are anticipated to enhance the cultivation of human capital and influence employee attitudes and behaviors, enabling organizations to effectively accomplish their objectives (Jackson & Jiang, 2014). Human Resource Management (HRM) is recognized as having the authority to provide a practical framework that can support and guide the level of proficiency, creativity, and ingenuity of its employees, to communicate to them appropriate behavior, and to enhance the skill set of its employees in order to align them with the organization's plan.

According to Bontis, Crossan, and Hulland (2002), the knowledge, skills, and competencies embedded within human capital are essential for leveraging innovation into sustainable outcomes, highlighting the mediating role of human capital in achieving

competitive advantage through the strategic management of organizational know advantage and learning processes ("Managing an Organizational Learning System by Aligning Stocks and Flows," Journal of Management Studies).

Recent empirical research further supports this hypothesis by demonstrating how investments in human capital development—such as training, mentorship programs, and career development opportunities—enhance an organization's ability to innovate and adapt to changing market demands. For instance, a study by Becker and Huselid (2006) found that organizations with robust human capital development practices were more likely to sustain competitive advantages over time, as these practices ensure the continuous renewal and enhancement of the workforce's capabilities, thereby facilitating the effective implementation of innovative ideas ("Strategic Human Resources Management: Where Do We Go From Here?," Journal of Management).

Moreover, the dynamic capabilities framework suggests that an organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments is central to sustainable competitive advantage (Teece, Pisano, & Shuen, 1997). Within this framework, human capital development is a critical dynamic capability enabling organizations to foster innovation and agility. By enhancing the skills and abilities of their workforce, organizations can better exploit innovative opportunities and maintain competitiveness in the face of technological changes and market volatility ("Dynamic Capabilities and Strategic Management," Strategic Management Journal). This body of literature collectively reinforces the hypothesis, providing a theoretical and empirical basis for understanding the mediating role of human capital development in linking innovation with sustainable competitive advantage.

H6: Human capital development mediates the relationship between strategic HRM practices, innovation, and sustainable competitive advantage.

2.9. Literature Gaps

The research navigates the university's complex strategies in human resource management and sustainability competitive advantage. While extensive literature has explored various facets of SHRM and its implications for organizational performance

and competitiveness, several gaps provide fertile ground for further investigation. This analysis aims to identify and elaborate on these literature gaps, offering a pathway for future research directions. A significant gap exists in understanding how specific SHRM practices are integrated with sustainability goals to achieve a competitive advantage. While there is broad acknowledgment of the importance of sustainability in HR practices, detailed mechanisms through which these practices contribute to environmental, social, and economic sustainability remain underexplored (Vázquez-Brust, Jabbour, Plaza-Úbeda, Perez-Valls, de Sousa Jabbour, & Renwick, 2023). Future research could identify and categorize SHRM practices that directly influence sustainability outcomes, providing a more precise roadmap for organizations seeking to enhance their sustainability profile through human resource management.

Another notable gap is the lack of robust quantitative measures to assess the impact of SHRM practices on sustainability competitive advantage. While qualitative case studies and theoretical frameworks abound, empirical research employing quantitative methods to measure the direct correlation between SHRM practices and sustainability outcomes is sparse (Oatis, 2022). Developing standardized metrics and methodologies for quantifying the sustainability impact of SHRM practices would significantly advance the field by providing more concrete evidence of the benefits of integrating sustainability into HR practices. The literature often treats SHRM practices as universally applicable across various sectors without considering different industries' unique challenges and opportunities. There is a need for more sector-specific research that considers the contextual nuances influencing the effectiveness of SHRM practices in driving sustainability competitive advantage. For instance, the healthcare sector might prioritize different aspects of sustainability compared to the manufacturing sector, influencing the selection and implementation of SHRM practices (Mehrajunnisa, Jabeen, Faisal, & Mehmood, 2022). Research delineating these differences can guide more tailored and effective SHRM strategies across diverse sectors.

Most existing studies provide a snapshot of the relationship between SHRM practices and sustainability outcomes, lacking a longitudinal perspective that could offer insights into the long-term effects of these practices. Longitudinal studies are essential to understand the durability of the competitive advantage attained through SHRM practices and to observe how this relationship evolves, especially in response to changing market conditions and sustainability challenges (Battour, Barahma, & Al-

Awlaqi, 2021). Such studies could also explore how organizations adapt their SHRM practices in anticipation of or response to sustainability trends and regulations. The global and cross-cultural applicability of SHRM practices in fostering a sustainable competitive advantage is another area that requires further exploration. Cultural norms and values significantly influence HR practices and employee expectations, which affects the implementation and effectiveness of SHRM strategies aimed at sustainability (Karman, 2020). Research that examines these practices from a global perspective, considering cultural variability, would enrich the understanding of how SHRM can be effectively adapted to diverse cultural contexts to support sustainability goals.

The intersection of technology, SHRM practices, and sustainability constitutes an emerging field with considerable potential for exploration. Digital HR technologies, such as artificial intelligence, big data analytics, and blockchain, offer new avenues for enhancing the efficiency and impact of SHRM practices on sustainability outcomes. However, the literature offers limited insights into how these technologies can be strategically leveraged within SHRM to advance sustainability goals (Ren, Cooke, Stahl, Fan, & Timming, 2023). Future research could investigate the role of technology in facilitating the integration of sustainability into HR practices and in measuring the impact of these practices on sustainability competitive advantage.

2.10. Theories

Theories of Strategic Human Resource Management Practices

The practices of Strategic Human Resource Management (SHRM), which are essential in contemporary organizational management, are supported by many fundamental theories that offer a structure for comprehending their influence on the effectiveness and competitiveness of organizations (Eneh & Awara, 2016). As conceptualized by Jay Barney, the firm's Resource-Based View (RBV) is considered a fundamental theory in this discipline. According to this theoretical framework, it is argued that businesses have the potential to attain enduring competitive advantage by effectively cultivating and using resources and competencies that possess the qualities of being valuable, rare, inimitable, and non-substitutable (VRIN). Within the Strategic Human Resource Management (SHRM) framework, this viewpoint emphasizes that

human resources represent a vital strategic asset. It further asserts that implementing efficient HR practices can facilitate the development of these resources, hence fostering the creation of distinctive capabilities that are challenging for competitors to imitate. Barney's Resource-Based View (RBV) framework offers a theoretical foundation for comprehending how strategic human resource (HR) practices contribute to the development of a firm's internal capabilities and competitive advantage (Barney & Wright, 2011).

One notable theory within the Strategic Human Resource Management (SHRM) pertains to the Best Fit and Best Practice methods. The Best Fit method, as elucidated by respected researchers like Schuler and Jackson (1995), asserts that human resource strategies should align with the overall business plan of an organization to achieve optimal performance. The proposition put out by this approach suggests that a single HR strategy cannot be universally applicable to all organizations. Instead, it argues that HR practices should be customized to align with each firm's unique conditions, industry, and corporate strategy. In contrast, the Best Practice perspective posits that specific human resource (HR) policies, such as extensive training, employee empowerment, and incentive-based remuneration, consistently impact organizational performance, irrespective of the particular business environment. The proposed methodology, as advocated by scholars like Jeffrey Pfeffer, posits that the implementation of these strategies has the potential to augment employee competencies, drive, and overall job contentment, hence resulting in heightened production and organizational achievement (Schuler & Jackson, 1987; Pfeffer, 1998).

Expanding upon these fundamental theories, the Human Capital Theory constitutes a significant notion within Strategic Human Resource Management (SHRM), reinforcing the strategic significance of personnel. Based on the research by economists like Gary Becker, this idea argues that investing in employee education, training, and development is essential for improving productivity and promoting creativity. According to Human Capital Theory, employees are not merely regarded as resources to be employed but as valuable assets that can be cultivated to provide long-term value. The significance of ongoing learning and skill enhancement as crucial elements in enhancing organizational performance and attaining strategic goals is emphasized in the theory (Becker, 2009).

Theory in SHRM, as discussed by scholars like Donaldson, offers a perspective that there is no best way to manage human resources. Instead, the effectiveness of HR practices is contingent upon the organization's external environment, technology, size, strategy, and other situational factors. This theory suggests that HR strategies should be flexible and adaptable, aligning with the specific needs and conditions of the organization to optimize performance. The Contingency Theory reinforces the idea that strategic HRM must be dynamic and responsive to the changing business landscape and that a one-size-fits-all approach is often ineffective (Donaldson, 2001).

These ideas combined constitute the theoretical foundation of Strategic Human Resource Management (SHRM), offering a comprehensive comprehension of how human resources might be strategically administered to improve corporate performance. The significance of aligning human resources practices with business strategy, investing in employee development, and customizing HR policies to suit the distinct environment of each organization is emphasized. Using these theoretical frameworks, firms can efficiently harness their human resources to attain a sustainable competitive advantage and fulfill their long-term strategic objectives.

Theory of Human Capital Development

The theory of Human Capital Development, which holds a central position in contemporary economic and organizational theory, posits that investments in individuals' education, skills, and health play a critical role in augmenting productivity, fostering innovation, and facilitating sustained economic growth over the long term. The development of this theory is attributed to Gary Becker, a Nobel winner in economics, who posited that human capital might be likened to physical capital. According to Becker (2009), investments in human resources, such as education, training, and health, can augment an individual's capabilities and output. Becker's seminal research emphasized that these investments generate significant benefits for individuals in terms of increased income and enhanced life prospects and institutions and economies by fostering greater efficiency and expansion. The viewpoint described has significantly changed how education and training are seen, transforming them from simple expenses to strategic investments essential for fostering economic development (Becker, 2009).

In addition to the notion mentioned above, Theodore Schultz, a prominent economist in the human capital theory, broadened the purview of human capital enhancement to encompass domains outside conventional education and training. Schultz (1961) highlighted that elements such as workplace training, health status, and migration are crucial elements of human capital. The author stated that these factors substantially influence boosting the labor force's caliber, augmenting total economic prosperity. Schultz's research shed light on the complex and various aspects of human capital and its wider ramifications, emphasizing the significance of investing in a wide array of human talents to promote economic growth and development. The perspective above is based on the present-day requirements of the international labor force, wherein the ability to adapt, engage in ongoing education, and foster comprehensive growth are becoming progressively essential in a constantly changing economic environment (Schultz, 1961).

2.11. Conceptual Framework

The current study examines the inter-relationship among strategic human resource management practices and innovation on sustainability competitive advantage through the mediating role of human capital development. The various variables considered in the current study are illustrated in Figure 1.

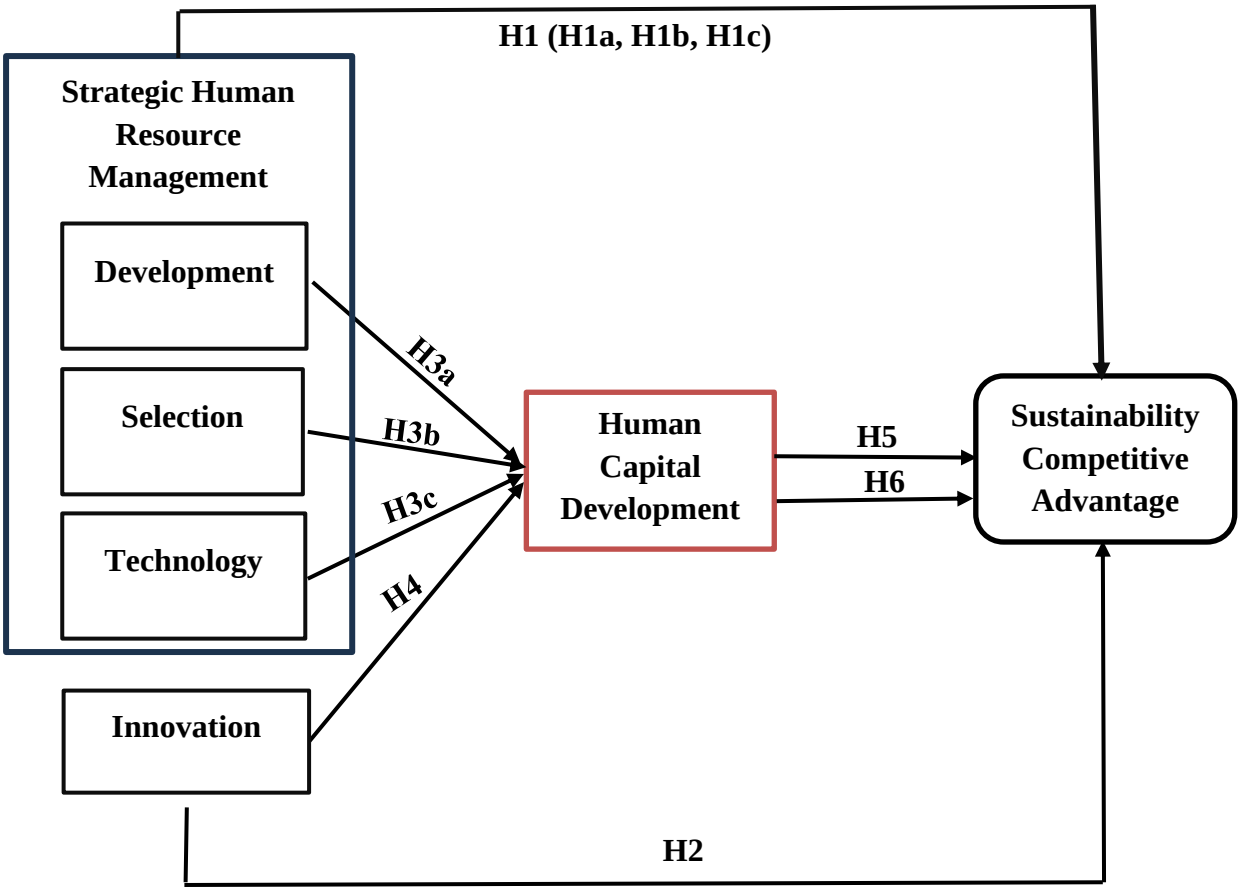


Figure 1: Resarch Framework

2.12. Summary

Previous studies have provided valuable insight to support the current study, previous research for each variable, and the relationship between strategic human resource management (SHRM), such as (development, innovation, technology, and selection), human capital development, and sustainability competitive advantage are explained in details, The literature showed the strategic human resource management (SHRM), such as (development, innovation, technology, and selection), are essential determinants of human capital development, and sustainability competitive advantage. Each of these variables is applied throughout this study. Previous studies on the theory of the resource-based view (RBV) and the theory of human capital development are also discussed in this chapter.

3. RESEARCH METHODOLOGY

3.1. Introduction

The preceding chapter, containing the literature review, illustrated the studies on sustainability competitive advantage. More specifically, the variables examined in this research include strategic human resource management (SHRM) (development, technology, and selection), innovation, human capital development, and sustainable competitive advantage. This chapter presents the study methodology, the research design, data sampling, the data instrument, and the testing of the research objective. The questionnaire was used as a data-collecting instrument to accomplish the research objective.

3.2. Research Design

A research design is a structured framework or model for conducting research tasks. This text outlines the essential procedure for acquiring valuable data and information to construct or answer research inquiries. Essentially, the comprehensive blueprint outlines the methodology for doing this study.

The current study utilizes a quantitative research strategy, the most appropriate research methodology for this investigation. The quantitative technique involves a systematic investigation that examines certain factors, which may be summarised as numerical data and applied to the whole population (Finnerty et al., 2013). Quantitative research focuses on gathering and analyzing data from research participants, making it easy to collect, understand, and connect to the subject being studied. Additionally, quantitative findings are derived from the author's ability and arguments, which are used to support the theory and outcomes. It refers to a technique extensively using systematic empirical connections to improve known advantage. This form of research employs a foundation and impression premise to derive precise components, hypotheses, and concerns via assessment, observation, and analysis of ideas (Creswell, 2017).

This study used the descriptive measurement technique and survey methodologies. This study used a descriptive technique to purposefully characterize the features of the education sector at the University of Fallujah. It aimed to identify the

characteristics and answer questions about who, when, where, and what difficulties are present in this sector.

Furthermore, this study aims to use a survey methodology to construct questionnaires to get replies and gain a deeper comprehension of the relationship between employee sustainability and competitive advantage in the education sector, specifically at the University of Fallujah in Iraq, as per the findings of (Zikmund et al., 1994), a questionnaire is a method of gathering data from a subset of the study population. Hence, the data will be gathered using the web linkages designed explicitly for the education sector at the University of Fallujah in Iraq.

3.3. Data Sampling

The research focuses on a specific set of employees within the community. The group consisted of personnel from the Academic Administration Department of the University of Fallujah in Iraq. According to the research, there is a positive correlation between the number of items and the sample size (Hinkin, Tracey, & Enz, 1997; Kozak, 2002; Tinsley & Tinsley, 1987). The large sample size is crucial for generating precise results for analysis since the sampling error diminishes as the sample size increases, as shown by (Osborne & Costello, 2004; Uhl & Schoner, 1969). The University of Fallujah in Iraq had 180 individuals serving in academic administration roles, including department chairs, deans of colleges, heads of centers or institutes, provosts, senior research officers, and university or college presidents. This information is based on data from the HR department at the University of Fallujah in 2023.

Thus, to prevent any mistakes, the research used the standardized minimum sample size table developed by Sekaran to ascertain the sample size, as seen in Table 3.1. The University of Fallujah group contains 123 samples, ensuring an error rate of less than 5% at a 95% confidence level. Given the impracticality of incorporating the whole population of the academic administrative units, a convenience sample method was used.

N	S	N	S	N	S
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Figure 2: Resarch Framework

Source: "Research Methods for Business A skill-building approach" by (Bougie & Sekaran, 2019)

Convenience sampling is a kind of sampling in which the initial primary data source that is readily accessible is used for the study without any further criteria. This sampling technique entails recruiting people from any available source, often opting for the most accessible options. Convenience sampling involves selecting people without establishing any predetermined criterion for inclusion. Every individual is welcome to take part (Kothari, 2004).

Convenience sampling offers several benefits: (i) It is simple and easy to conduct research using this method; (ii) It is helpful for pilot studies and generating hypotheses; (iii) Data collection can be done quickly; (iv) It is the most cost-effective option compared to other sampling methods.

This study distributed the questionnaire to respondents (academic administration) who are working at the University of Fallujah.

3.4. Data Collection Method

Data may be gathered using several methods in a survey. The primary data used for the statistical analysis in this study was collected via a questionnaire sent to the academic administration at the University Of Fallujah. This study used the provided data to ascertain that the University Of Fallujah employee count amounted to 180.

The data collection method used in this inquiry facilitated the accumulation of a substantial volume of information at a specific moment. This study used quantitative measurement to validate the study's findings and facilitate comprehension of the investigation's results. This study used the Google Forms website to gather the completed questionnaires. This strategy was chosen for its expediency, efficiency in time management, and effectiveness in gathering many responses.

3.5. Data Instrument

This study used the primary data. The core data for this study came from a survey questionnaire issued to respondents who were explicitly asked to answer the critical research questions. Descriptive information was taken from article sources. Descriptive data is used mainly to understand phenomena and identify research gaps. It also helps this study build the literature review and strengthen the research framework.

A data instrument tool is a set of tools used by this study to gather information, analyze the subject under study, and conclude. In this study, data is collected via a questionnaire. This study created a closed-structured questionnaire to gather data for this investigation. It is considered the most practical and easy way to collect data. The questionnaire asks the responder to answer one of five pre-determined questions. The approach entails utilizing the 5-Likert Scale to formulate particular questions and restrict the possible answer options. The research used a quinquennial measure, as indicated in Table 1.

Tablo 1: Illustrates The Five Likert

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Development

The term "development" is a broad concept that embraces the multifaceted process of enhancing, expanding, or progressing in several facets of human endeavor (Barbosa & Corbella, 2014).

Tablo 2: Development Scale Items.

Ser.	Attributes
1	Employee development helps maintain skills and knowledge.
2	Employee development creates scope for internal promotions.
3	development courses achieve the aims of the university.
4	The development courses enhance the level of Employees at the university.

Source: (DeVellis & Thorpe, 2021; Barbosa & Corbella, 2014)

Innovation

Innovation is widely used in modern society, with organizations and politicians often incorporating it into their visions and objectives. The role of chief innovation officer is also becoming more prominent. However, this has led to a misinterpretation of the concept, causing erroneous decisions and challenges for corporations in their pursuit of innovation. Centers for fostering innovation have emerged on university campuses (Kuratko, Covin, & Hornsby, 2014).

Tablo 3: Innovation Scale Items

Ser.	Attributes
1	Developing innovation based on new technology is a strategic priority in the university.
2	Technological innovation activities improve teamwork among staff in the university.
3	Process innovation activities improve teamwork in the university.
4	Process innovation initiatives focus on improving core processes in the university.
5	My performance has gotten better through process innovation activities.

Source: (Bulbul, 2012; Kuratko, Covin, & Hornsby, 2014)

Technology

Technology refers to utilizing conceptual knowledge to accomplish practical objectives, particularly in a manner that can be replicated (Brooks, 1980). The term "technology" can encompass the outcomes of these endeavors (Grossman & Cormack, 2014), encompassing physical objects like utensils or machines and non-physical entities like software. The utilization of technology is of utmost importance in the fields of science and engineering and the daily routines of individuals (Hitomi, 2017).

Tablo 4: Technology Scale Items

Ser.	Attributes
1	We are developing a clear vision regarding how technology contributes to the value of the university.
2	We are integrating strategic planning and Technology planning in the university.

3	We are enabling functional areas and general management to the university's ability to understand the value of technology investments.
4	We are establishing an effective and flexible Technology planning process and developing a robust Technology plan in the university.

Source: (Chen & Lou, 2020; Hitomi, 2017; Grossman & Cormack, 2014; Brooks, 1980).

Selection

Selection is a crucial element of human resource management, acting as how prospective workers are assessed and selected to occupy positions within an organization (Yassine & Singh, 2021).

Table 5: Selection Scale Items

Ser.	Attributes
1	Employee selection is taken very seriously by this university
2	Employee selection places priority on the candidate's potential to learn.
3	Employee selection emphasizes the capacity to perform well right away.
4	Employees in this university have clear career paths.

Source: (Yassine & Singh, 2021).

Sustainability Competitive Advantage (SCA)

The concept of competitive advantage refers to a company's strategic advantage over its competitors in the marketplace. It is a crucial factor. Sustainability pertains to the ability of a university to sustain a favorable position within its sector or market over an extended duration, ensuring its long-term viability and financial success. The idea discussed holds significant importance within strategic management and business studies, as it encompasses a range of definitions and perspectives (Barney, 2000).

Table 6: Sustainability Competitive Advantage (SCA) Scale Items.

Ser.	Attributes
1	Our university employees are highly creative and innovative
2	Our university employees are highly involved and flexible to change.
3	Our university employees are more concerned about quality and results.

Source: (Mahdi, Nassar & Almsafir, 2019; Emeagwal &Ogbonmwan, 2018; Barney, 2000)

Human Capital Development

Human Capital Development is a comprehensive and complex notion involving the cultivation and augmentation of an individual's competencies, expertise, and capacities, facilitating their efficacy and efficiency in diverse capacities and environments. The progress mentioned above is often regarded as a crucial expenditure for individuals and companies, as it propels economic expansion, fosters innovation, and enhances general social well-being (Son, 2010).

Table 7: Human Capital Development Scale Items.

Ser.	Attributes
1	The employees working in this university are highly skilled.
2	The employees working in this university are considered the best.
3	The employees in the university are encouraged to be creative.

Source: (Kadir et al., 2018; Sanches, Marin & Morales, 2015; Son, 2010)

3.6. The Technique of Data Analysis

Data analysis scrutinizes, cleanses, converts, and builds data models to uncover crucial insights, form logical conclusions, and aid decision-making. This study analyzed data using SPSS version 26.0 for this study assignment. SPSS version 26.0 has various

features, such as reliability testing and correlation analysis, that are useful for writing the response in this research.

Reliability Analysis

The dependability evaluation is the initial test validation step (Wells and Wollack, 2003). Reliability analysis is used to investigate measurement items' internal consistency. Cronbach alpha reliability coefficients are calculated to analyze and test the new dimension's elements. Cronbach's alpha coefficient is a statistical metric used to analyze the internal consistency of items in a questionnaire. Cronbach's alpha coefficients vary from 0 to 1.00, with values approaching 1.00 indicating great consistency (Wells & Wollack, 2003). Standardized tests with high stakes need internal consistency coefficients of more than 0.90, but standardized exams with lower stakes require values greater than 0.80 or 0.85. The authors recommend that the dependability coefficient be equal to or greater than 0.70 (Lehman et al., 2005; Wells and Wollack, 2003). Bougie and Sekaran (2019) found that a reliability analysis of 0.60 is low, and a value of 0.80 is acceptable. Table 8 summarises the reliability coefficients of the items obtained.

Table 8: Summary of Reliability Coefficient

Reliability coefficient	Remarks
Less than (0.60)	Poor
0.60 - 0.70	Acceptable
0.07 - 0.80	Good
More than 0.90	Excellence

Sources (Bougie & Sekaran, 2019).

Descriptive Statistics

The descriptive statistical analysis looks at the total views of respondents for each questionnaire category. It comprises frequency, mean, percentages, and standard deviation (Cavana et al., 2001). Descriptive statistics are preferred because they may properly reflect a wide range of traits, including the behavior, perspectives, capabilities, beliefs, and knowledge of people, groups, organizations, or events; this is consistent with the present research, which examines firm behaviour and collects information to evaluate a hypothesis. As previously stated, descriptive statistics include calculating the mean, median, and standard deviation from interval data (Wen, 2006). A data distribution's major trend and variance level are determined by its mean score and standard deviation. Given that the Likert scale was used to evaluate the results of the variables' measurement outputs, the mean score may be interpreted in the following ways: According to Oliveira et al. (2012), scores may be classified as high, medium, or low. High scores vary from 5.00 to 7.00, moderate from 3.00 to 4.99, and poor scores of 1-2.99.

Table 9: Summary of Descriptive Analysis

Mean score	interpretation
1.00 – 1.99	Low
2.00 – 3.49	Moderate
3.50 – 5.00	High

Source : (Oliveira et al., 2012)

Correlation Analysis

According to previous research by Sekeran et al. (2022), The correlation is determined by evaluating the variation in one variable concerning another set. To ascertain the existence of any correlation between two variables, the appropriate statistical approach has to be used (Bewick et al., 2003). As per the findings of Hair et al. (2007) Furthermore, the R-value of the correlation coefficient pertains to three distinct objectives: (1) The objective is to determine if the correlation coefficient is

statistically significant, (2) To quantify the degree of correlation, and (3) To determine the correlation between the variables, whether it is positive or negative.

According to Coakes et al. (2010) and Sekaran (2003), A score of 1.0 (or above) in research implies a complete positive association. Alternatively, a complete negative correlation might be represented by a value of -1 (minus 1) (Coakes et al., 2010).

Mediation Analysis

Experimental studies in psychology rarely involve manipulating the mediator and measuring mediating variables. If a research study includes measures of a mediating variable and the independent and dependent variable, mediation may be investigated statistically (Fiske, Kenny, & Taylor, 1982). Along these lines, intercession investigation is a strategy to build data acquired from an examination study when measures of the intervening procedure are accessible.

There are three noteworthy ways to deal with factual intercession examination: (a) causal steps, (b) difference in coefficients, and (c) product of coefficients (MacKinnon, Rose, Chassin, Presson, & Sherman, 2000). These strategies utilize data from the accompanying three regression equations:

$$\mathbf{Y=i1+cX+e1}, \quad \mathbf{(1)}$$

$$\mathbf{Y=i2+c'X+bM+e2}, \quad \mathbf{(2)}$$

$$\mathbf{M=i3+aX+e3}, \quad \mathbf{(3)}$$

Where i1, i2, and i3 represent the intercepts. Y is the outcome variable, X is the predictor variable, and M is the mediator. c is the coefficient that relates the exogenous variable to the endogenous variable. c' is the coefficient that relates the independent variable to the dependent variable, taking into account the mediator. b is the coefficient that relates the mediator to the dependent variable, adjusted for the independent variable and is the coefficient that relates the independent variable to the mediator. e1, e2, and e3 are residuals. Equations 2 and 3 are shown. It should be noted that the intermediate process may be modified to include both linear and nonlinear effects and the interaction between X and M in Equation 2, which will be explained in more detail later in this paper.

The most often used method for evaluating the effectiveness of an intervention is the causal stages approach, as described in the influential works of Baron and Kenny (1986) and Bolger (1998). The Baron and Kenny technique to obtaining intervention involves four phases. In Equation 1, it is necessary to establish a crucial connection between the external variable and the endogenous variable. In Equation 3, it is necessary to have a significant relationship between the independent variable and the hypothesized mediating variable. Third, the mediating variable requires a chance to be substantially recognized as the dependent variable when both the independent and mediating variables are predictors of the dependent variable in Equation 2.

Furthermore, the magnitude of the coefficient linking the independent variable to the dependent variable must exceed the magnitude of the coefficient linking the independent variable to the dependent variable in the regression model that includes both the independent variable and the mediating variable as predictors of the dependent variable. Measuring intervention requirements should be implemented as a realistic technique for evaluating intervention. Regarding the discussed example, there are several limitations to this technique.

3.7. Summary

This chapter provides a guide for carrying out the research. The first section of this chapter describes the study's design and methodology, starting with developing hypotheses, progressing to preparing questionnaires, and ending with data collection. This chapter elaborates on the analytical tools appropriate for this inquiry. After collecting the questionnaire survey data, this study analyzed it using SPSS v.26. the framework and methodology also addressed research design, measurement, and data collection.

4. RESULTS AND FINDINGS

4.1. Introduction

The current chapter is broken into three pieces. The first portion examines the demographic features of the respondents. The second section describes the psychometric qualities of the measuring scales used in the research, namely the Cronbach's Alpha Reliability Test. Lastly, the third portion focuses on the examination of the research hypotheses.

4.2. Response Rate and Demographic Profile

The response rate and the respondents' demographic profile are essential in explaining the implications of the research findings. Therefore, the present section discusses the response rate and respondent profiles (demographic characteristics).

4.2.1. Response Rate

The present study examined the sustainability competitive advantage of the employees (Academic administration) of the University of Fallujah in Iraq; the university was selected to distribute the questionnaires to because, among the university categories in Iraq, this is one of the best options for Sustainability Competitive Advantage.

Following more than three weeks of online data collection and through email involving the distribution of (175) questionnaires at the University of Fallujah in Iraq, (135) questionnaires were retrieved, while the remaining (40) were unreturned or incomplete.

Table 10: Summary Of Questionnaires Distributed

University of Fallujah (Iraq)	Total	Present (%)
Distributed questionnaires	175	100
Usable questionnaires	135	77.1
Unreturned/incomplete questionnaires	40	22.9

4.2.2. Respondents Demographic Characteristics

The demographic profiles of the respondents, including gender, age, educational, occupational, experiential, and income, are presented in Table 11.

Table 11: Frequency And Percentage Of Demographic Information

		Frequency	Percent
Gender	Male	102	75.6
	Female	33	24.4
	Total	**135**	**100.0**
Age	less than 20	7	5.2
	21-30	65	48.1
	31-40	43	31.9
	41-50	16	11.9
	50th	4	3.0
	Total	**135**	**100.0**
Education Levels	Primary	12	8.9
	Secondary	10	7.4

	Diploma	24	17.8
	Bachelor	72	53.3
	H. Diploma	6	4.4
	Masters	11	8.1
	Total	**135**	**100.0**
Occupation	CEOs	17	12.6
	Operation Manager	8	5.9
	HR. Mangers	22	16.3
	Supervisors	22	16.3
	Support Staff	14	10.4
	Other Workers	52	38.5
	Total	**135**	**100.0**
Experience	1-3 years	42	31.1
	4-6 years	53	39.3
	7-10 years	26	19.3
	Above 10 years	14	10.4
	Total	135	100.0
Income (IQD)	Below 300000	53	39.3
	300000 - 599999	36	26.7
	600000 - 799999	28	20.7
	800000 - 899999	9	6.7
	Above 1000000	9	6.7
	Total	**135**	**100.0**

Certainly, Table 11 provides a detailed breakdown of demographic, educational, occupational, experiential, and income characteristics of University of Fallujah in Iraq employees, offering insights into their diverse backgrounds. Regarding gender distribution, the group is predominantly male, with men making up over three-quarters of the population (75.6%). Women represent less than a quarter (24.4%), indicating a significant gender imbalance within this group. Age-wise, the group skews younger, with nearly half (48.1%) being in the 21-30 age range, suggesting a relatively youthful demographic. The next largest age group is 31-40 years, constituting nearly a third of the population (31.9%), indicating a significant presence of mid-career individuals. The remaining age groups (less than 20, 41-50, and above 50 years) are relatively minor, suggesting fewer representatives at the lower and higher end of the age spectrum. Educational attainment is varied, with the majority holding a Bachelor's degree (53.3%); this suggests that a group with a solid educational foundation will likely be professionals. Those with Diplomas and master's degrees also represent significant portions (17.8% and 8.1%, respectively), indicating a range of educational qualifications within the group. Primary and Secondary education levels are less common, indicating higher educational attainment among the majority. Occupationally, the group is diverse, encompassing various roles from high-ranking positions like CEOs (12.6%) to other general worker roles (38.5%). The presence of HR Managers and Supervisors (each at 16.3%) indicates a significant number of individuals in managerial or supervisory roles. The variety in occupations suggests a broad range of skills and professional experiences within the group. Experience levels in the group indicate a mix of relative newcomers and more seasoned professionals. The largest segment has 4-6 years of experience (39.3%), followed by those with 1-3 years (31.1%). This suggests that many in the group are in their careers' early to mid stages. Those with 7-10 years and more than 10 years of experience are fewer, representing more seasoned professionals. Income levels vary significantly. The largest group earns below 300,000 IQD (39.3%), indicating a substantial portion with lower income. The remaining individuals are distributed across various income brackets, with 26.7% earning between 300,000 and 599,999 IQD and smaller percentages in the higher income ranges. This income distribution suggests a range of economic standings within the group, from lower to higher earners.

4.3. Reliability Analysis

According to Sekaran (2019), a reliability test is used to measure the variable's consistency and stability, with the primary tool for the test being Cronbach's alpha. A Cronbach's alpha coefficient near 1.00 shows better data reliability; one less than 0.70 is deemed poor, while one higher than 0.80 is deemed good (Sekaran, 2019).

Table 12: The Stability Of The Instrument Cronbach's Alpha For The Variables

No.	Variables	No. of items	Cronbach's alpha	Remarks
1	Selection	4	0.891	Good
2	Development	4	0.916	Excellence
3	Innovations	5	0.925	Excellence
4	Technology	4	0.909	Excellence
5	Human Capital Development	3	0.892	Good
6	Sustainability Competitive Advantage	3	0.894	Good
	Total	23	0.975	Excellence

Table 12 in the document evaluates the stability and reliability of an instrument used in research, utilizing Cronbach's alpha coefficients for various variables. Cronbach's alpha measures internal consistency, indicating how closely related a set of items are as a group. A higher value typically suggests a higher level of reliability. Each variable is evaluated on its reliability and given a qualitative rating in this table. The variable 'Selection' has a Cronbach's alpha of 0.891, marked as "Good," indicating a high level of consistency. 'Development,' 'Innovations,' and 'Technology' each score above 0.9 (0.916, 0.925, and 0.909, respectively), earning the rating "Excellence"; this suggests exceptional internal consistency and reliability for these variables. 'HCD ' and 'SCA' are also rated as "Good," with alpha values of 0.892 and 0.894, indicating strong reliability. The overall instrument, encompassing all variables, achieves a Cronbach's alpha of

0.975, classified as "Excellence." This high score reflects the instrument's exceptional stability and reliability, suggesting it is a highly effective tool for the study. The table thus highlights the robustness of the research instrument in terms of the consistency and reliability of the variables it measures.

4.4. Factor Analysis

The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity are statistical tests used to assess the suitability of data for factor analysis. The KMO measure is a statistic that indicates the proportion of variance among variables that might be common variance. The value can range from 0 to 1, with a higher value indicating more excellent suitability for factor analysis. In this case, the KMO measure is 0.908, which is very high. This suggests that the dataset is highly suitable for factor analysis since a significant proportion of the variance in the variables is likely shared.

On the other hand, Bartlett's Test of Sphericity tests the hypothesis that the correlation matrix is an identity matrix, implying that the variables are unrelated and, therefore, unsuitable for factor analysis. In Table 4.4, the Approximate Chi-Square value for Bartlett's Test is 821.973, and the significance (Sig.) value is 0.000. This meager significance value indicates a statistically significant difference from the identity matrix. In other words, the variables are likely related, further supporting the data's suitability for factor analysis; the following Table 13, "Kaizarr Mir UConn," measures to judge the adequacy of the sample and test "Bartlett" of the data.

Table 13: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.908
Bartlett's Test of Sphericity	Approx. Chi-Square	821.973
	Sig.	.000

In summary, the KMO measure and Bartlett's Test of Sphericity in Table13 suggest that the dataset is highly suitable for factor analysis. The high KMO value indicates that the variables share common underlying factors, and the results of Bartlett's Test confirm that the variables are sufficiently correlated to proceed with factor analysis.

This makes the dataset a strong candidate for this type of statistical analysis, which aims to identify and understand the underlying structures in the data.

4.5. Descriptive Finding

Based on the descriptive analysis findings, the respondents' perceptions of variables were summarized to confirm their validity and reliability. More specifically, descriptive analyses were conducted on the entire measurement selection, development, innovations, technology, HCD, and SCA, and the results are presented in Table 14. Scores less than 1.99 were considered low, while those higher than 3.50 were considered high. The values that fell between (2.00 and 3.49) were considered moderate or neutral (Lopes, 2012).

Table 14: Results Of Descriptive Statistics For Variables

Variables	Items	Mean	Std. Deviation
selection	Employee selection is taken very seriously by this university	2.96	1.221
	Employee selection places priority on the candidate's potential to learn.	2.93	1.238
	Employee selection emphasizes the capacity to perform well right away.	2.87	1.335
	Employees in this university have clear career paths.	2.89	1.391
Development	Employee development helps maintain skills and knowledge.	2.93	1.380
	Employee development creates scope for internal promotions.	3.10	1.376
	Development courses achieve the aims of the university.	2.89	1.291
	The development courses enhance the level of Employees at the university.	3.06	1.274
Innovation	Developing innovation based on new technology is a strategic priority in the university.	2.99	1.338
	Technological innovation activities improve teamwork among staff in the university.	2.93	1.277
	Process innovation activities improve teamwork in the university.	2.79	1.422

	Process innovation initiatives focus on improving core processes in the university.	2.91	1.313
	My performance has gotten better through process innovation activities.	2.88	1.222
Technology	We are developing a clear vision regarding how technology contributes to the value of the university.	2.97	1.371
	We are integrating strategic planning and Technology planning in the university.	2.90	1.362
	We are enabling functional areas and general management to the university's ability to understand the value of technology investments.	2.91	1.318
	We are establishing an effective and flexible Technology planning process and developing a robust Technology plan in the university.	2.96	1.307
HCD	The employees working in this university are highly skilled.	2.78	1.303
	The employees working in this university are considered the best.	2.87	1.303
	The employees in the university are encouraged to be creative.	2.84	1.311
SCA	Our university employees are highly creative and innovative	2.81	1.290
	Our university employees are highly involved and flexible to change.	2.83	1.284
	Our university employees are more concerned about quality and results.	2.92	1.299

Table 14 in the document offers a deeper insight into the perceptions of various aspects of university operations, as reflected through the responses to survey items. Each item under different variables like selection, development, innovation, technology, human capital development (HCD), and Sustainability competitive advantage (SCA) is analyzed in terms of its average response (mean) and the spread of responses (standard deviation) selection: The items under this variable delve into how employee selection is valued in the university. The responses suggest a moderately positive perception, with means close to 3, indicating that respondents generally agree that selection is taken seriously, focuses on potential and immediate performance, and provides clear career

paths. However, the standard deviations (ranging from 1.221 to 1.391) imply variations in how respondents perceive these aspects, indicating differences in individual experiences or opinions. Development assesses perceptions of employee development programs. With means ranging from 2.89 to 3.10, there is a general agreement that development helps maintain skills, creates promotion opportunities, and enhances employees' levels. The standard deviations are relatively close (1.274 to 1.380), suggesting a similar level of variability across these aspects but again pointing to diverse experiences or opinions among respondents. Innovation: the focus here is on the role of innovation and technology in the university. The means (2.79 to 2.99) indicate a moderate agreement that innovation and technology are strategic priorities and improve teamwork and performance. However, the higher standard deviations (significantly 1.422 for process innovation activities improving teamwork) suggest a more significant divergence in responses, implying that experiences with innovation vary more significantly among respondents. Technology covers the integration and value of technology within the university. The responses (between 2.90 and 2.97) show moderate agreement on technology's practical use and planning. The standard deviations, while consistent, indicate some variability, suggesting differing perceptions of how technology is implemented and valued. HCD, here, the focus is on the skill level and creativity of the university's employees. The means are moderately positive (2.78 to 2.87), suggesting a good perception of employee skills and creativity.

The consistent standard deviation (around 1.303) across items indicates a uniform spread in responses, with some respondents perhaps having less favorable views. The items under SCA evaluate employees' creativity, adaptability, and quality orientation. With means ranging from 2.81 to 2.92, there is a moderate agreement that these qualities are present. The standard deviations (1.284 to 1.299) are consistent, indicating a similar perception variation across these aspects. The table shows moderate agreement on several key aspects of university operations, from the seriousness of employee selection to encouraging creativity and innovation. However, the variability in responses across all variables indicates that these perceptions are not uniform, reflecting the diversity of experiences and opinions among the respondents. This variability is crucial for understanding the different dimensions of operational effectiveness in the university setting.

4.6. Pearson Correlation Analysis

In the present study, the significance of the linear bivariate relationship between the independent variables of selection, development, innovations, technology, HCD, and the dependent variable of SCA was measured with the help of Pearson correlation analysis. Table 15 displays the analysis results at the University of Fallujah in Iraq. The correlation analysis was primarily conducted to determine the relationship strength between each independent variable and the dependent variable.

Table 15: Pearson's Correlation Analysis Of Variables

	Selection	**Development**	**Innovations**	**Technology**	**HCD**	**SCA**
Selection	1					
Development	.814**	1				
Innovations	.801**	.795**	1			
Technology	.819**	.779**	.836**	1		
HCD	.771**	.706**	.761**	.806**	1	
SCA	.750**	.747**	.707**	.744**	.821**	1

****. Correlation is significant at the 0.01 level (2-tailed).**

The correlation Table 15 provides a detailed and insightful view into the interrelationships among various organizational operational aspects: Selection, Development, Innovations, Technology, Human Capital Development (HCD), and Sustainability Competitive Advantage (SCA). The correlations, significant at the 0.01 level, reveal strong and meaningful interdependencies between these variables, indicating that improvements or changes in one area are likely to be associated with changes in others. Starting with 'Selection,' the process and criteria for selecting

academic administration exhibit strong positive correlations with all other variables. This high correlation, especially with 'Technology' (0.819) and 'Development' (0.814), suggests that effective academic administration selection is intricately linked with the University of Fallujah's technological advancement and development initiatives. It implies that selecting the proper academic administration can positively influence the effectiveness of technology integration and development programs. 'Development' is strongly related to 'Innovations' (0.795) and 'Selection' (0.814), indicating that academic administration initiatives are closely tied to the University of Fallujah's innovation and selection. This suggests that the University of Fallujah, focused on continuous academic administration, is more likely to foster innovation and is careful in its selection process to ensure this. The 'Innovations' variable, showing the highest correlation with 'Technology' (0.836), underscores the deep connection between technological advancement and innovative practices. This strong bond suggests that technological prowess within an organization is a crucial driver of innovation and vice versa. It also reflects a synergy where technological tools and innovative mindsets mutually reinforce.

Similarly, 'Technology' is closely linked with 'HCD' (0.806), implying that the adoption and integration of technology within an organization go hand in hand with developing its human capital. This relationship indicates that as organizations become more technologically advanced, they also tend to focus more on developing the skills and competencies of their employees, which in turn can lead to better technology usage and implementation. The 'HCD' variable shows a robust correlation with 'SCA' (0.821), highlighting the critical role of human capital in achieving a competitive advantage. This strong linkage suggests that employees' skills, knowledge, and competencies are critical to gaining a sustainable competitive advantage. It reflects that investing in human capital is not just about improving individual employee performance but is also a strategic move toward enhancing the organization's overall competitiveness.

Lastly, 'SCA' exhibits significant positive correlations with all variables, especially with 'HCD,' reinforcing that sustainability competitive advantage relies heavily on human capital quality, effective selection processes, ongoing development, innovative practices, and technological advancements. This interconnection suggests that the University of Fallujah must focus on a holistic approach encompassing all these critical operational aspects to build a sustainable competitive advantage. Table 4.6 reveals a complex interrelationship where each aspect of the University of Fallujah's

operations is not isolated. Instead, these areas are deeply interconnected, with changes in one likely to impact the others. This highlights the importance of a comprehensive and integrated approach in managing the University of Fallujah's resources and strategies to achieve optimal effectiveness and sustainability competitive advantage.

4.7. Hypothesis Testing Result of Direct Relationship of Variables

The hypotheses were tested in the desired model through three measures: the significance of correlation coefficients (R), the coefficient of determination (R2), and the multiple regression (Beta).

The considered possible correlations ranged from +1 to -1, and according to the rule of thumb, R values of 0-0.2 are weak, 0.3 to 0.6 are moderate, and 0.7 to 1 are strong (Brace et al., 2000). As for the coefficient of determination (R2), it is used to provide the proportion of variance of a variable predicted by the other variable. It measures how one can make predictions from a particular model/graph. Lastly, with regards to the multiple regressions (beta), it measures the level to which each set of predictor variables (independent variables) influence the criterion variable (dependent variable). Through the multiple regression analysis, it is possible to test theories/ models regarding how particular variables influence behavior. Generally speaking, the correlation coefficient (R2) measures the relationship between two variables, while multiple regression measures the relationship between a set of variables and a variable.

On the other hand, the coefficient (R2) indicates the linearity between variables. In the present study, r was examined with the help of Pearson Correlation Coefficients calculated for variable pairs to confirm the correlation coefficients in terms of their significance. Concerning this, Beta is measured by applying linear regression analysis. Table 16 presents the results obtained from the first significant hypotheses testing.

The first hypothesis.

H1: selection, development, innovations, and technology positively correlate with SCA at the University of Fallujah in Iraq.

Table 16: The Results Of The Application Of The Regression Selection, Development, Innovations, And Technology Directly Positively Correlate With The SCA

Variables	B	T	Sig.	R	R^2	F	Sig.
Selection	.264	2.367	.019	.802[a]	.642	58.399	.000[b]
Development	.292	2.959	.004				
Innovations	.045	.414	.680				
Technology	.264	2.465	.015				
a. Dependent Variable: Sustainability Competitive Advantage (SCA)							

Table 16 provides the results from a regression analysis examining how four independent variables – selection, development, innovations, and technology – are correlated with Sustainability Competitive Advantage (SCA) at the University of Fallujah in Iraq. In particular, Selection and Technology have a B value of .264, suggesting a similar positive effect on SCA for each unit increase in these variables. Development, with a slightly higher B value of .292, indicates a more substantial positive impact on SCA per unit increase. However, despite being analyzed, innovations do not significantly affect SCA, underscored by a high significance level of .680, indicating that its relationship with SCA could occur by chance. The overall model is robust, evidenced by a high correlation coefficient (R) of .802, indicating a strong positive correlation between the combined independent variables and SCA, and a determination coefficient (R^2) of .642, meaning that approximately 64.2% of the variance in SCA is explained by these variables. The model's predictive capability is further supported by a statistically significant F-value of 58.399, validating the collective impact of these variables on enhancing sustainability competitive advantage.

In summary, the regression analysis shows that selection, development, and technology have a positive and statistically significant impact on sustainability competitive advantage (SCA), with Significance Levels below .05. However, Innovations, despite being included in the model, do not show a statistically significant impact on SCA, as indicated by a Significance Level of .680. The overall model is

strong, as evidenced by a high R-value and a statistically significant F statistic, suggesting that these factors collectively explain a significant portion of the variance in SCA.

The second hypothesis proposes that.

H2: selection, development, innovations, and technology positively correlate with Human Capital Development (HCD) at the University of Fallujah in Iraq.

Table 17: The Results Of The Application Of The Regression Selection, Development, Innovations, And Technology Directly Positively Correlate With The Human Capital Development (HCD)

Variables	B	T	Sig.	R	R^2	F	Sig.
Selection	.278	2.672	.009	.834[a]	.696	74.61	.000[b]
Development	.014	.148	.883				
Innovations	.186	1.830	.070				
Technology	.426	4.267	.000				
a. Dependent Variable: Human Capital Development (HCD)							

Table 17 presents the findings from a regression analysis investigating the relationship between four independent variables selection, development, innovations, and technology and their impact on human capital development (HCD) as the dependent variable. The analysis yields several vital insights. With a B coefficient of .278, selection shows a positive relationship with HCD, indicating that as selection practices improve, there is a corresponding increase in human capital development. This relationship is statistically significant, as evidenced by a T-value of 2.672 and a significance level of .009, suggesting a strong likelihood that the observed effect is not due to chance. Unlike selection, development has a B coefficient of .014, with a T-value of .148 and a high significance level of 0.883; this suggests that Development, in this context, does not have a statistically significant impact on HCD, meaning that changes in development

practices might not directly affect human capital development within the scope of this analysis. Innovations show a positive B coefficient of .186, with a T-value of 1.830 and a significance level of .070. Although this is close to the conventional threshold for statistical significance (.05), it slightly exceeds it, suggesting a positive but not statistically significant relationship at the 5% level; this indicates a potential positive impact of innovations on HCD that warrants further investigation. Technology has the highest B coefficient among the variables at .426, indicating a strong positive impact on HCD; this is further supported by a T-value of 4.267 and a significance level of .000, demonstrating a highly significant effect, this suggests that technological advancements are a key driver of human capital development. The overall model's strength is highlighted by an R-value of .834, indicating a very strong positive correlation between the independent variables and HCD, and an R^2 value of .696, suggesting that these variables can explain approximately 69.6% of the variance in HCD. The model's validity is confirmed by a significant F-value of 74.61 with a significance level of .000b, indicating that the model's predictive capabilities are statistically significant.

In summary, the regression analysis demonstrates that selection and technology significantly enhance human capital development, with technology having the most substantial impact. Meanwhile, development does not show a significant effect, and innovations hover near significance, suggesting their roles in HCD may be more nuanced or require further exploration. The overall model is robust, explaining a significant portion of the variance in HCD, underscoring the critical roles that selection practices and technological advancements play in developing human capital.

The third hypothesis proposes that;

H3: Human Capital Development (HCD) positively correlates with Sustainability Competitive Advantage (SCA) in the University of Fallujah in Iraq.

Table 18: The Results Of The Application Of Human Capital Development (HCD) Is Positively Correlated With Sustainability Competitive Advantage (SCA)

Variables	B	T	Sig.	R	R^2	F	Sig.

Human Capital Development (HCD)	.813	16.597	.000	.821[a]	.674	275.460	.000[b]

a. Dependent Variable: Sustainability Competitive Advantage (SCA)

Table 18 focuses on a singular independent variable, human capital development (HCD), and its impact on the dependent variable, sustainability competitive advantage (SCA). The regression analysis provides a clear and compelling narrative about the importance of human capital in achieving Sustainability Competitive Advantage. The B value for HCD is .813, indicating a strong positive relationship with SCA; this suggests that for every unit increase in HCD, there is a 0.813 unit increase in SCA, highlighting the substantial impact of human capital development on strategic competitiveness. The T-value of 16.597 is exceptionally high, providing strong evidence against the null hypothesis (that the coefficient equals 0). This high R-value indicates a significant and impactful relationship between HCD and SCA. The significance level is 0.000, well below the conventional threshold of 0.05; this means there is a statistically negligible chance that the observed relationship between HCD and SCA is due to random chance, affirming the robustness of the relationship, with an R-value of .821, the model shows a very strong positive correlation between HCD and SCA. This high correlation coefficient demonstrates that as human capital development increases, Sustainability Competitive Advantage also increases significantly. The R^2 value of .674 indicates that human capital development can explain approximately 67.4% of the variability in Sustainability Competitive Advantage. This high R^2 value underscores the significant explanatory power of HCD on SCA. The F-value of 275.460 is exceptionally high, and with a significance level of .000b, it confirms that the model is statistically significant; this signifies that the regression model, with HCD as a predictor of SCA, is highly reliable and has strong predictive power.

In summary, the analysis in Table 4.9 underscores the pivotal role of human capital development in enhancing Sustainability Competitive Advantage. The strong positive correlation, significant T-value, and high R^2 value collectively indicate that HCD is a critical determinant of SCA. The results affirm the strategic importance of investing in human capital to achieve competitive superiority, highlighting the direct and substantial impact that HCD has on an organization's strategic positioning and success.

4.8. Testing The Mediating Effect

The developed research model contains four potential mediating effects between exogenous and dependent variables. The mediating effects tests conducted on human capital development are depicted in the following figures;

They are proposed in the following hypothesis;

H4: Human capital development (HCD) mediates the relationship between development, innovation, technology, selection, and sustainability competitive advantage (SCA) at the University of Fallujah in Iraq.

Table 19: Mediation Analysis of Selection and Sustainability Competitive Advantage

Variable / effect	B	SE	T	P	95% Confidence interval	
					Lower Bound	Upper Bound
SL →HCD	0.8101	0.0581	13.9405	0.000	0.6951	0.9250
SL→SCA	0.3005	0.0768	3.9129	0.0001	0.1486	0.4524
SL→HCD→SCA	0.5931	0.0730	8.1189	0.0000	0.4486	0.7376
Effects						
Direct	0.3005	0.0768	3.9129	0.0001	0.1486	0.4524
Indirect	0.4804	0.737			0.3359	0.6221
Total	0.7809	0.0597	13.0774	0.0000	0.6628	0.8991
SL: Selection, ***HCD:*** Human Capital Development, ***SCA:*** Sustainability Competitive Advantage						

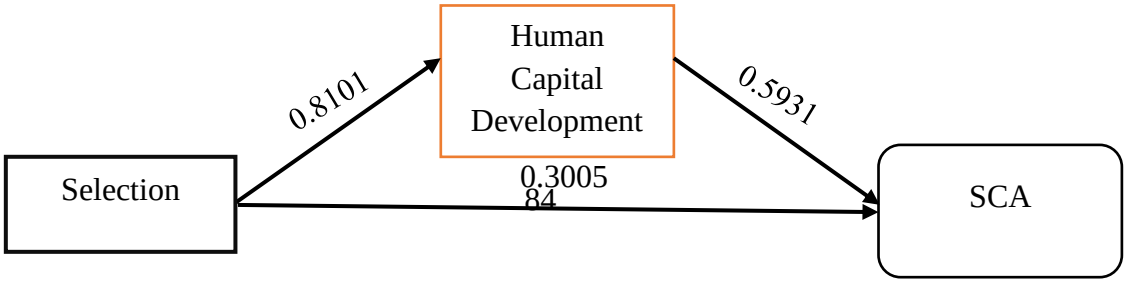


Figure 3: Selection And Sustainability Competitive Advantage Model At The University Of Fallujah

Table 19 presents a mediation analysis that delves into the intricate dynamics between selection (SL), human capital development (HCD), and sustainability competitive advantage (SCA), revealing the multifaceted impact of selection practices on sustainable competitive positioning. Initially, the analysis showcases a substantial positive effect of selection on human capital development, indicated by a robust B coefficient of 0.8101. This effect is statistically solid, with a T-value of 13.9405 and a p-value of 0, suggesting that effective selection practices significantly bolster human capital development. This relationship is further reinforced by the confidence intervals, stretching from 0.6951 to 0.9250, affirming selection's strong and positive influence on human capital. Simultaneously, the analysis uncovers a direct positive impact of Selection on Sustainability Competitive Advantage, as evidenced by a B coefficient of 0.3005. This pathway is also statistically significant, marked by a T-value of 3.9129 and a p-value of 0.0001, with confidence intervals ranging from 0.1486 to 0.4524. It underscores the direct contributions of selection processes to enhancing an organization's sustainability competitive advantage.

Moreover, the analysis illuminates a significant mediated pathway where Selection influences SCA through its impact on HCD, quantified by a B coefficient of 0.5931. The statistical significance of this mediated effect is highlighted by a T-value of 8.1189 and a p-value of 0, with confidence intervals from 0.4486 to 0.7376; this reveals how selection practices indirectly contribute to sustainability competitive advantage by first enhancing human capital development.

The effects analysis further segments the influence of Selection into direct and indirect effects. The direct effect on SCA is reaffirmed, with the indirect effect (mediated by HCD) signifying a considerable portion of Selection's overall impact on SCA. Although there appears to be a typographical error in presenting the indirect effect's coefficients, the essence is that a significant part of Selection's influence on SCA is

channeled through improving human capital. The total effect, encapsulating direct and indirect impacts, stands at 0.7809, substantiated by a T-value of 13.0774 and a 0 p-value, with confidence intervals solidifying the comprehensive impact of selection practices on sustainability competitive advantage.

In conclusion, this mediation analysis underscores the critical role of effective selection processes in directly fostering an organization's sustainability competitive advantage and catalyzing this effect through human capital development. It highlights the strategic importance of integrating selection practices with human capital development initiatives to bolster the University of Fallujah's competitive positioning sustainably.

Table 20: Mediation Analysis Of Development And Sustainability Competitive Advantage

Variable / effect	**B**	**SE**	**T**	**P**	**95% Confidence interval**	
					Lower Bound	Upper Bound
DE→HCD	0.7022	0.0611	11.4885	0.0000	0.5813	0.8231
DE →SCA	0.3288	0.0629	5.2289	0.0000	0.2044	0.4532
DE →HCD→SCA	0.5801	0.0632	9.1798	0.0000	0.4551	0.7051
Effects						
Direct	0.3288	0.0629	5.2289	0.0000	0.2044	0.4532
Indirect	0.4074	0.0774			0.2734	0.5781
Total	0.7361	0.0629	5.2289	0.0000	0.2044	0.4532

DE: Development, HCA: Human Capital Development, SCA: Sustainability Competitive Advantage

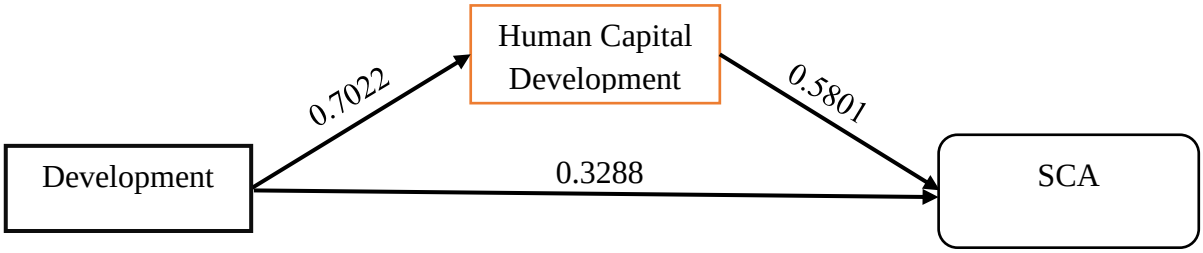


Figure 4: Development And Sustainability Competitive Advantage Model At The University Of Fallujah

The mediation analysis presented in Table 20 offers an in-depth look at how Development (DE) initiatives impact Sustainability Competitive Advantage (SCA), with a particular focus on the mediating role of Human Capital Development (HCD). The findings reveal a multifaceted influence of development activities on sustainable competitive positioning, characterized by both direct and indirect pathways. Firstly, the analysis underscores a significant direct relationship between Development and Human Capital Development, as evidenced by a B coefficient of 0.7022. This substantial positive impact, further supported by a T-value of 11.4885 and a null p-value, indicates that development efforts are a key driver of human capital enhancement. The confidence interval, stretching from 0.5813 to 0.8231, solidifies this strong and positive influence, highlighting the critical role of development in fostering a skilled and capable workforce. Simultaneously, development is shown to directly affect sustainability competitive advantage, with a B coefficient of 0.3288. This significant pathway, validated by a T-value of 5.2289 and a p-value of 0.0000, alongside a confidence interval from 0.2044 to 0.4532, illustrates that development activities sustain the University of Fallujah sustainability competitive advantage.

Moreover, the analysis illuminates a noteworthy indirect effect of development on SCA through HCD, indicated by a B coefficient of 0.5801. The statistical significance of this mediated pathway is highlighted by a T-value of 9.1798 and a p-value of 0.0000, with a confidence interval from 0.4551 to 0.7051. This finding reveals how development initiatives indirectly bolster sustainability competitive advantage by first enhancing human capital, suggesting that nurturing human capital is a pivotal mechanism through which development activities translate into competitive success.

The effects analysis differentiates between the direct impact of Development on SCA and the significant indirect effect mediated through HCD. Despite a lack of specific B and SE values for the indirect effect within the provided data, the indicated range suggests a considerable mediation role of human capital development. The total effect, combining both direct and indirect impacts, is quantified with a B coefficient of 0.7361, illustrating the comprehensive influence of development on achieving a sustainability competitive advantage; this underscores the strategic importance of development initiatives for their immediate impact on competitive positioning and their role in cultivating a robust and skilled workforce, thereby enhancing the organization's sustainable competitive advantage over time.

This mediation analysis highlights the intricate interplay between development activities, human capital enhancement, and sustainability competitive advantage. It underscores the value of investing in development initiatives that directly improve competitive positioning and indirectly contribute to this goal by developing human capital, marking a strategic pathway to sustainable organizational success.

Table 21: Mediation Analysis Of Innovation And Sustainability Competitive Advantage

Variable / effect	**B**	**SE**	**T**	**P**	**95% Confidence interval**	
					Lower Bound	Upper Bound
IN→HCD	0.7813	0.0577	13.5352	0.0000	0.6672	0.8955
IN →SCA	0.1984	0.0759	2.6140	0.0100	0.0483	0.3486
IN →HCD→SCA	0.6662	0.0740	9.0078	0.000	0.5199	0.8125
Effects						
Direct	0.1984	0.0759	2.6140	0.0100	0.0483	0.3486

Indirect	0.5205	0.0777			0.3671	0.6507
Total	0.7189	0.0623	11.5351	0.0000	0.5957	0.8422

IN: Innovation, HCA: Human Capital Development, SCA: Sustainability Competitive Advantage

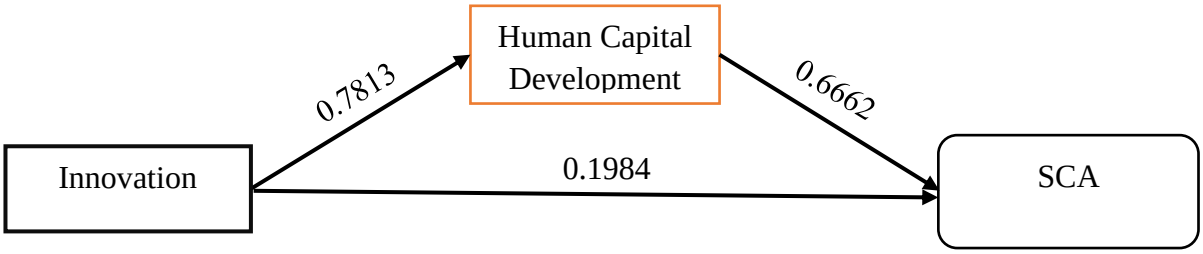


Figure 5: Innovation And Sustainability Competitive Advantage Model At The University Of Fallujah

The mediation analysis in Table 21 explores the relationship between innovation (IN) and sustainability competitive advantage (SCA), with human capital development (HCD) acting as a mediator. This analysis offers profound insights into how innovation drives sustainability competitive advantage, both directly and through the enhancement of human capital.

The analysis begins by illustrating a strong positive relationship between Innovation and Human Capital Development, as indicated by a B coefficient of 0.7813. This significant impact, affirmed by a T-value of 13.5352 and a p-value of 0.0000, suggests that innovation initiatives significantly enhance human capital. The confidence interval, ranging from 0.6672 to 0.8955, reinforces the robustness of this relationship, highlighting the essential role of innovation in fostering a skilled and capable workforce.

Furthermore, Innovation is shown to have a direct positive effect on Sustainability Competitive Advantage, with a B coefficient of 0.1984. This pathway is statistically significant, as evidenced by a T-value of 2.6140 and a p-value of 0.0100, suggesting that innovation activities sustainably enhance the University of Fallujah's

sustainability competitive advantage. The confidence interval from 0.0483 to 0.3486 further validates this direct impact.

Moreover, the analysis reveals a noteworthy indirect effect of Innovation on SCA through HCD, marked by a B coefficient of 0.6662. The statistical significance of this mediated pathway is underscored by a T-value of 9.0078 and a p-value of 0.0000, with a confidence interval from 0.5199 to 0.8125. This finding demonstrates how innovation initiatives indirectly bolster sustainability competitive advantage by first enhancing human capital, suggesting that human capital development is a pivotal mechanism through which innovation translates into competitive success.

The effects analysis distinguishes between the direct impact of Innovation on SCA and the significant indirect effect mediated through HCD. The indirect effect, quantified as 0.5205, despite the absence of specific B and SE values in the provided data, the indicated range from 0.3671 to 0.6507, suggests a considerable mediation role of human capital development. The total effect, combining both direct and indirect impacts, is highlighted with a B coefficient of 0.7189, illustrating the comprehensive influence of innovation on achieving a sustainability competitive advantage; this underscores the strategic importance of innovation initiatives for their immediate impact on competitive positioning and their role in cultivating a robust and skilled workforce, thereby enhancing the organization's sustainable competitive advantage over time.

This mediation analysis emphasizes the intricate interplay between innovation activities, human capital enhancement, and sustainability competitive advantage. It underscores the value of investing in innovation for its direct impact on competitive positioning and its indirect contribution through human capital development, marking a strategic pathway to sustainable organizational success.

Table 22: Mediation Analysis of Technology and Sustainability Competitive Advantage

Variable / effect	**B**	**SE**	**T**	**P**	**95% Confidence interval**	
					Lower Bound	Upper Bound

TE→HCD	0.8037	0.0512	15.7102	0.0000	0.7025	0.9048
TE →SCA	0.2304	0.0804	2.8651	0.0049	0.0713	0.3894
TE →HCD→SCA	0.6270	0.0807	7.7744	0.0000	0.4675	0.7866
Effects						
Direct	0.2304	0.0804	2.8651	0.0049	0.0713	0.3894
Indirect	0.5039	0.0868			0.3305	0.6687
Total	0.7343	0.0572	12.8294	0.0000	0.6211	0.8475
TE: Technology, HCA: Human Capital Development, SCA: Sustainability Competitive Advantage						

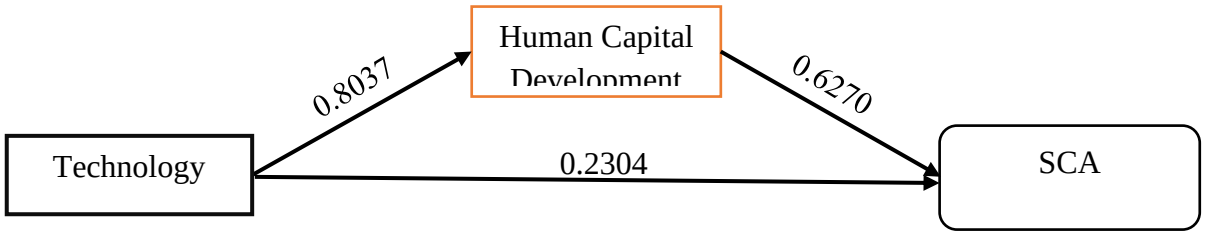


Figure 6: Technology And Sustainability Competitive Advantage Model At The University Of Fallujah

The mediation analysis detailed in Table 22 provides a nuanced understanding of how technology impacts Sustainability Competitive Advantage (SCA) through direct and indirect pathways, with Human Capital Development (HCD) as a critical mediator. The analysis begins with a compelling demonstration of technology's direct positive impact on HCD, as shown by a B coefficient of 0.8037, a T-value of 15.7102, and a statistically significant p-value of 0.0000; this indicates that technological advancements significantly enhance the skills and capabilities of the workforce, as further supported by a robust confidence interval ranging from 0.7025 to 0.9048.

Furthermore, technology directly influences SCA, evidenced by a B coefficient of 0.2304, a T-value of 2.8651, and a p-value of 0.0049, with a confidence interval between 0.0713 and 0.3894; this underscores the direct contributions of technological advancements to bolstering the University of Fallujah's Sustainability Competitive Advantage.

Moreover, the analysis reveals a significant indirect effect of technology on SCA through the enhancement of HCD, with a B coefficient of 0.6270. The statistical significance of this mediated pathway is highlighted by a T-value of 7.7744 and a p-value of 0.0000, alongside a confidence interval from 0.4675 to 0.7866. This finding suggests that technological advancements indirectly support sustainability competitive advantage by first improving human capital, emphasizing the role of human capital development as a pivotal mechanism through which technology influences sustainability competitive advantage.

The effects analysis distinguishes the direct impact of technology on SCA from the substantial indirect effect mediated through HCD, with the latter quantified as 0.5039 and a confidence interval suggesting a considerable mediation role of human capital development. The total effect of technology on SCA, combining both direct and indirect impacts, is illustrated with a B coefficient of 0.7343, highlighting the comprehensive influence of technology on achieving sustainability competitive advantage. This effect is statistically significant, as affirmed by a T-value of 12.8294 and a null p-value, reinforcing the strategic importance of integrating technological advancements with human capital development efforts to enhance the University of Fallujah's competitive positioning sustainably.

In summary, this mediation analysis elucidates how technology contributes to sustainability competitive advantage through direct effects and fostering human capital development, thereby indirectly amplifying its impact. It underscores the critical role of technology in shaping a skilled and innovative workforce, which drives the University of Fallujah sustainable competitive advantage, showcasing the strategic value of technology in achieving the University of Fallujah's long-term success.

4.9. Conclusion

In this chapter, the proposed hypotheses presented in Chapter Two were examined. The study employed SPSS to conduct relevant analyses, including frequency table, descriptive analysis, and reliability. The hypothesized model was also illustrated in this chapter to examine the goodness of fit indices and to confirm the relationship between selection, development, innovations, technology, human capital development (HCD), and sustainability competitive advantage (SCA) in the University of Fallujah, the results confirmed the independent variable effect the dependent variable and supported all the proposed hypotheses.

DISCUSSUON AND CONCLUSION

Introduction

The preceding chapter showcased the outcomes of the hypothesis testing put forward in chapter four. In this chapter, we will review the findings acquired per the four research questions outlined in the first chapter to meet the study objectives. This study analyses the findings of the underlying theories, considering the results acquired and the previous findings provided in the literature. The chapter further outlines the constraints, contributions, and suggestions for future investigations.

Recapitulation of the study

The main aim of the present study is to examine the sustainability competitive advantage at the University of Fallujah. The objectives can be categorized into three to achieve the main objective.

1. To determine the impact of strategic human resource management practices (development, technology, and selection) on sustainability competitive advantage at the University of Fallujah.
2. To determine the impact of innovation on sustainability's competitive advantage at the University of Fallujah.
3. To examine the impact of strategic human resource management practices (development, technology, and selection) on human capital development at the University of Fallujah.
4. To examine the impact of innovation on human capital development at the University of Fallujah.
5. To investigate the mediating impact of human capital development in the relationship between strategic human resource management practices (development, technology, and selection), innovation, and sustainability competitive advantage at the University of Fallujah.

In this research, the survey approach used non-probability sampling to pick the sample. The academic administration at the University of Fallujah in Iraq was the focus, and data was collected using a questionnaire. Hence, the research used a quantitative survey, using convenience sampling to choose the sample. The research collected data from

voluntary participants who were employees at the University of Fallujah in Iraq. The participants completed a questionnaire. Following a three-week email correspondence, 135 questionnaires were sent to participants associated with the University of Fallujah in Iraq. The finished hypothesized model was evaluated for its reliability and validity.

The Relationship between the Construct Variables

When sustainability competitive advantage is concerned, how can the University of Fallujah benefit from human resources? Hence, in the following sections, This study summarizes the key findings regarding the relationships between the exogenous and endogenous variables as proposed in the developed hypotheses. The hypotheses testing showed several implications that required further explanation. The findings and discussions concentrate on the effects of the determinant variables on the exogenous variables (human capital development and sustainability competitive advantage). Lastly, This study discusses the mediating effect of human capital development on the relationship between development, innovations, technology, and sustainability competitive advantage.

The Relationship between selection, development, innovations, and technology positively correlates with SCA.

The results from a regression analysis examine how four independent variables – selection, development, innovations, and technology – are correlated with Sustainability Competitive Advantage (SCA) at the University of Fallujah in Iraq. In particular, Selection and Technology have a B value of .264, suggesting a similar positive effect on SCA for each unit increase in these variables. Development, with a slightly higher B value of .292, indicates a more substantial positive impact on SCA per unit increase. However, despite being analyzed, Innovations do not significantly affect SCA, underscored by a high significance level of .680, indicating that its relationship with SCA could occur by chance. The overall model is robust, evidenced by a high correlation coefficient (R) of .802, indicating a strong positive correlation between the combined independent variables and SCA, and a determination coefficient (R^2) of .642, meaning that approximately 64.2% of the variance in SCA is explained by these variables. The model's predictive capability is further supported by a statistically significant F-value of 58.399, validating the collective impact of these variables on enhancing Sustainability Competitive Advantage.

In summary, the regression analysis shows that Selection, Development, and Technology have a positive and statistically significant impact on Sustainability Competitive Advantage (SCA), with Significance Levels below .05. However, Innovations, despite being included in the model, do not show a statistically significant impact on SCA, as indicated by a Significance Level of .680. The overall model is strong, as evidenced by a high R-value and a statistically significant F statistic, suggesting that these factors collectively explain a significant portion of the variance in SCA.

The Relationship between selection, development, innovations, and technology is positively correlated with Human Capital Development (HCD)

The findings from a regression analysis investigating the relationship between four independent variables, selection, development, innovations, and technology, and their impact on human capital development (HCD) as the dependent variable. The analysis yields several vital insights. With a B coefficient of .278, selection shows a positive relationship with HCD, indicating that as selection practices improve, there is a corresponding increase in human capital development. This relationship is statistically significant, as evidenced by a T-value of 2.672 and a significance level of .009, suggesting a strong likelihood that the observed effect is not due to chance. Contrary to selection, development has a B coefficient of .014, with a T-value of .148 and a high significance level of .883; this suggests that development, in this context, does not have a statistically significant impact on HCD, meaning that changes in development practices might not directly affect human capital development within the scope of this analysis. Innovations show a positive B coefficient of .186, with a T-value of 1.830 and a significance level of .070. Although this is close to the conventional threshold for statistical significance (.05), it slightly exceeds it, suggesting a positive but not statistically significant relationship at the 5% level; this indicates a potential positive impact of innovations on HCD that warrants further investigation. Technology has the highest B coefficient among the variables at .426, indicating a strong positive impact on HCD; this is further supported by a T-value of 4.267 and a significance level of .000, demonstrating a highly significant effect, this suggests that technological advancements are a key driver of human capital development. The overall model's strength is highlighted by an R-value of .834, indicating a very strong positive correlation between the independent variables and HCD, and an R^2 value of .696, suggesting that these

variables can explain approximately 69.6% of the variance in HCD. The model's validity is confirmed by a significant F-value of 74.61 with a significance level of .000b, indicating that the model's predictive capabilities are statistically significant.

In summary, the regression analysis demonstrates that Selection and Technology significantly enhance Human Capital Development, with Technology having the most substantial impact. Meanwhile, Development does not show a significant effect, and Innovations hover near significance, suggesting their roles in HCD may be more nuanced or require further exploration. The overall model is robust, explaining a significant portion of the variance in HCD, underscoring the critical roles that selection practices and technological advancements play in developing human capital.

The Relationship of Human Capital Development (HCD) is positively correlated with Sustainability Competitive Advantage (SCA)

The third hypothesis (**H3**) focuses on a singular independent variable, Human Capital Development (HCD), and its impact on the dependent variable, Sustainability Competitive Advantage (SCA). The regression analysis provides a clear and compelling narrative about the importance of human capital in achieving Sustainability Competitive Advantage. The B value for HCD is .813, indicating a strong positive relationship with SCA; this suggests that for every unit increase in HCD, there is a .813 unit increase in SCA, highlighting the substantial impact of human capital development on strategic competitiveness. The T-value of 16.597 is exceptionally high, providing very strong evidence against the null hypothesis (that the coefficient equals 0). This high R-value indicates a significant and impactful relationship between HCD and SCA. The significance level is .000, which is well below the conventional threshold of .05. This means there is a statistically negligible chance that the observed relationship between HCD and SCA is due to random chance, affirming the robustness of the relationship, with an R-value of .821, the model shows a very strong positive correlation between HCD and SCA. This high correlation coefficient demonstrates that as human capital development increases, Sustainability Competitive Advantage also increases significantly. The R^2 value of .674 indicates that human capital development can explain approximately 67.4% of the variability in Sustainability Competitive Advantage. This high R^2 value underscores the significant explanatory power of HCD on SCA. The F-value of 275.460 is exceptionally high, and with a significance level of .000b, it confirms

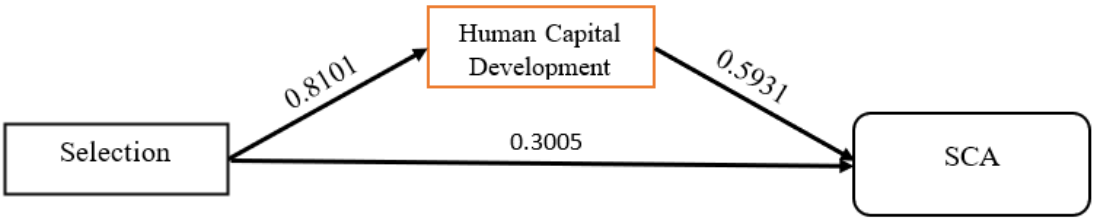
that the model is statistically significant; this signifies that the regression model, with HCD as a predictor of SCA, is highly reliable and has strong predictive power.

In summary, this underscores the pivotal role of human capital development in enhancing Sustainability Competitive Advantage. The strong positive correlation, significant T-value, and high R^2 value collectively indicate that HCD is a critical determinant of SCA. The results affirm the strategic importance of investing in human capital to achieve competitive superiority, highlighting the direct and substantial impact that HCD has on an organization's strategic positioning and success.

The Mediating Role of Human Capital Development (HCD) between development, innovation, technology, selection, and Sustainability Competitive Advantage (SCA)

The study presents a mediation analysis of the relationship between Selection (SL), Human Capital Development (HCD), and Sustainability Competitive Advantage (SCA). The results show a significant positive effect of Selection on Human Capital Development, with a robust B coefficient of 0.8101. This effect is statistically solid, with a T-value of 13.9405 and a p-value of 0. Similarly, Selection directly impacts Sustainability Competitive Advantage, with a B coefficient of 0.3005. This pathway is statistically significant, with confidence intervals ranging from 0.1486 to 0.4524.

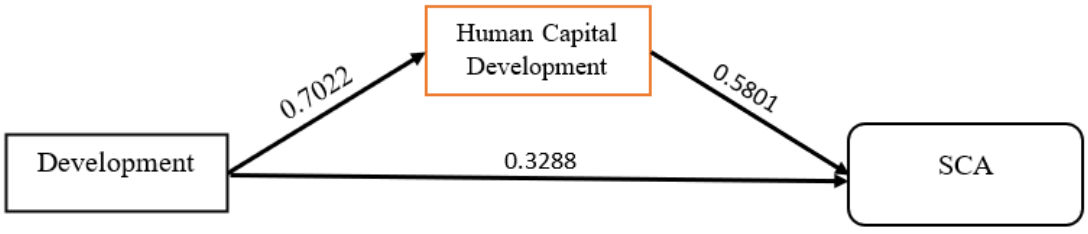
A significant mediated pathway reveals that Selection indirectly contributes to sustainability competitive advantage by enhancing human capital development. The effects analysis further segments the influence of Selection into direct and indirect effects. The direct effect on SCA is reaffirmed, with the indirect effect (mediated by HCD) signifying a considerable portion of Selection's overall impact on SCA. The total effect, encompassing both direct and indirect impacts, stands at 0.7809, substantiated by a T-value of 13.0774 and a 0 p-value.



The mediation analysis examines the impact of Development (DE) initiatives on Sustainability Competitive Advantage (SCA), focusing on the mediating role of Human Capital Development (HCD). The results show a significant direct relationship between DE and HCD, indicating that development efforts are a crucial driver of human capital enhancement. This positive influence is supported by a T-value of 11.4885 and a null p-value, highlighting the critical role of development in fostering a skilled workforce.

The development also positively affects SCA, with a B coefficient of 0.3288, demonstrating that development activities enhance an University of Fallujah sustainable competitive advantage. Additionally, development has a noteworthy indirect effect on SCA through HCD, with a B coefficient of 0.5801. This finding reveals how development initiatives indirectly bolster sustainability competitive advantage by first enhancing human capital, suggesting that nurturing human capital is a pivotal mechanism through which development activities translate into competitive success.

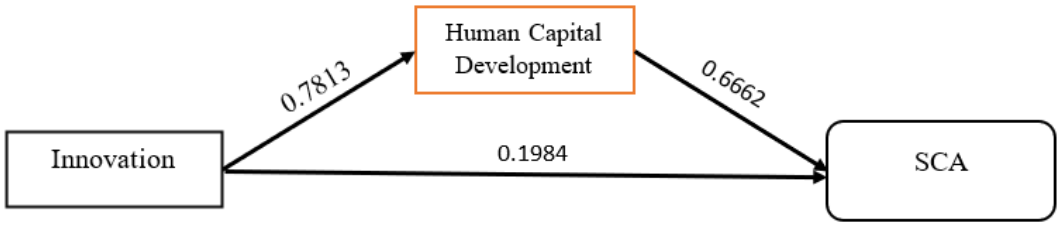
The effects analysis differentiates between the direct impact of Development on SCA and the significant indirect effect mediated through HCD. The total effect, combining both direct and indirect impacts, is quantified with a B coefficient of 0.7361, illustrating the comprehensive influence of development on achieving a sustainability competitive advantage. This highlights the strategic importance of investing in development initiatives that directly improve competitive positioning and indirectly contribute to this goal by developing human capital, marking a strategic pathway to sustainable University of Fallujah success.



The mediation examines the relationship between Innovation (IN) and Sustainability Competitive Advantage (SCA), with Human Capital Development (HCD) acting as a mediator. The analysis shows a strong positive relationship between innovation and human capital, suggesting that innovation initiatives significantly

enhance human capital. This highlights the importance of innovation in fostering a skilled workforce. Innovation positively affects the Sustainability Competitive Advantage, with a B coefficient of 0.1984, indicating that innovation activities sustainably enhance an competitive advantage. The indirect effect of innovation on SCA through HCD is noteworthy, with a B coefficient of 0.6662, demonstrating how innovation initiatives indirectly bolster sustainability competitive advantage by first enhancing human capital.

The effects analysis distinguishes between the direct impact of innovation on SCA and the significant indirect effect mediated through HCD. The indirect effect, quantified as 0.5205, suggests a considerable mediation role in human capital development. The total effect, combining both direct and indirect impacts, is highlighted with a B coefficient of 0.7189, illustrating the comprehensive influence of innovation on achieving a sustainability competitive advantage. Investing in innovation not only for its direct impact on competitive positioning but also for its indirect contribution through the development of human capital is a strategic pathway to sustainable competitive advantage.

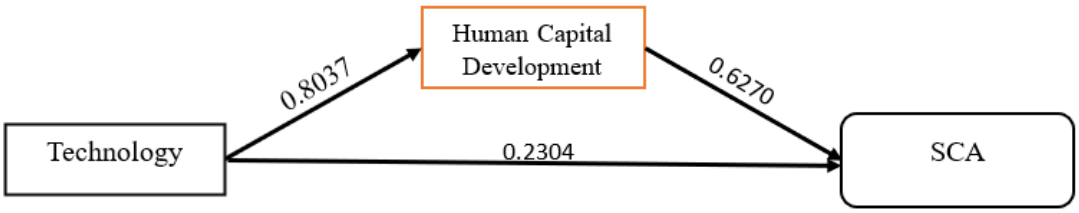


The mediation analysis reveals that technology significantly impacts Sustainability Competitive Advantage (SCA) through direct and indirect pathways, with Human Capital Development (HCD) as a critical mediator. Technology's direct positive impact on HCD is significant, as it significantly enhances the skills and capabilities of the workforce. It also directly influences SCA, with a B coefficient of 0.2304, a T-value of 2.8651, and a p-value of 0.0049. This highlights the direct contributions of technological advancements to sustainably bolstering an sustainably competitive advantage.

However, technology indirectly supports SCA by improving HCD, with a B coefficient of 0.6270. This suggests that technological advancements indirectly support

sustainability competitive advantage by first improving human capital, emphasizing the role of human capital development as a pivotal mechanism through which technology influences competitive success.

The effects analysis distinguishes the direct impact of technology on SCA from the substantial indirect effect mediated through HCD, with a B coefficient of 0.5039 and a confidence interval suggesting a considerable mediation role of human capital development. The total effect of technology on SCA, combining both direct and indirect impacts, is illustrated with a B coefficient of 0.7343, highlighting the comprehensive influence of technology on achieving sustainability competitive advantage. This highlights the critical role of technology in shaping a skilled and innovative workforce, driving the University of Fallujah sustainable competitive advantage.



Theoretical Contributions

The theoretical underpinning of this study is rooted in the firm's Resource-Based View (RBV), which posits that the University of Fallujah can achieve a sustainability competitive advantage by identifying, developing, and deploying valuable, rare, inimitable, and non-substitutable resources and capabilities. Within this framework, human capital is considered a critical strategic asset that can drive sustainability competitive advantage. This study extends the RBV by examining how SHRM practices can enhance the value of human capital, thereby contributing to the sustainability of competitive advantage.

Strategic Human Resource Management (SHRM) encompasses practices designed to ensure that the University of Fallujah's human capital development contributes effectively to its goals. These practices include workforce planning, recruitment, selection, training and development, performance management, and compensation. The study theoretically contributes by linking these SHRM practices to developing a skilled, motivated, and flexible workforce capable of driving innovation and efficiency. It highlights HRM's strategic role in crafting policies aligned with

(SHRM) practices, fostering an environment conducive to sustainable competitive advantage.

Human capital development, characterized by employees' knowledge, skills, abilities, and other attributes, is pivotal in operationalizing the relationship between SHRM practices and sustainability competitive advantage. This study contributes to the theoretical understanding of how human capital mediates this relationship. It posits that effective SHRM practices enhance human capital and amplify its impact on competitive advantage. The mediating role of human capital underscores the importance of investing in people to achieve long-term sustainability competitive advantage.

This research contributes to the theoretical discourse on sustainable competitive advantage by elucidating how SHRM practices and human capital contribute to enduring sustainable competitive advantage. It challenges conventional views of competitive advantage by emphasizing sustainability, not merely in terms of environmental stewardship but as a holistic approach to long-term success that encompasses social, economic, and environmental dimensions. The study posits that the University of Fallujah, which effectively manages its human resources and aligns its HRM practices with strategic objectives, is more likely to achieve a sustainable competitive advantage as it adapts to changing environments and leverages human capital for innovation and growth.

Managerial Implications

This study is focused on underscoring the importance of aligning HRM practices with the overall strategic goals of the University of Fallujah. Managers should ensure that Development, innovation, technology, and Selection strategies are coherent and aligned with the university’s or organization's long-term objectives. This alignment facilitates the development of a workforce that is capable, motivated, and fully engaged in achieving strategic goals, thereby enhancing the University's competitive positioning.

Human capital emerges from the study as a critical mediator between SHRM practices and sustainability competitive advantage. Managers are encouraged to view investments in employee development not as costs but as strategic investments. This includes offering continuous learning and development opportunities, fostering an environment encouraging innovation and advantage sharing, and providing clear career progression paths.

The research highlights the role of innovation in supporting sustainable competitive advantage through human capital. Managers should strive to cultivate an innovation that values sustainability, inclusivity, and ethical practices. This involves embedding these values into the University of Fallujah's mission, strategic objectives, and the daily behaviors and practices encouraged among staff and leadership. A sustainable innovation can attract and retain top talent, foster loyalty, and improve Sustainability Competitive Advantage.

Adopting and strategically using HR technologies can significantly enhance the efficiency and effectiveness of HRM practices. Managers should leverage technology for talent management, including recruitment, performance management, and employee development. Advanced HR analytics can provide insights into workforce trends, predict future needs, and measure the impact of HRM practices on Sustainability Competitive Advantage.

Diversity and inclusion (D&I) are critical components of sustainability competitive advantage. Managers should ensure that HRM practices promote a diverse and inclusive workplace. This includes unbiased recruitment and selection processes, equal opportunities for development and advancement, and a culture that values and respects diversity. A diverse and inclusive workforce can enhance creativity, innovation, and problem-solving capabilities, contributing to the University of Fallujah's resilience and adaptability.

Limitations

While this research provides valuable insights into the impact of strategic human resource management practices on sustainability competitive advantage at the University of Fallujah, it has limitations. Primarily, the study's focus on a single university setting may limit the generalizability of its findings to other academic institutions, especially those with different cultural, economic, or organizational structures. Additionally, the reliance on self-reported data could introduce biases or inaccuracies in representing the effectiveness of SHRM practices and their perceived impact on human capital development. Furthermore, the study's cross-sectional nature means it captures a snapshot in time, potentially overlooking these practices' long-term effects and sustainability. These limitations suggest the need for further research across

diverse educational contexts and longitudinal studies to validate and expand upon the findings of this study.

Recommendations for Further Research

In sum, Central to the findings of this study is the affirmation that SHRM practices, when thoughtfully designed and effectively implemented, serve as foundational elements that significantly contribute to the development, motivation, and retention of a highly skilled and committed workforce. These practices, encompassing development, technology, selection, and innovation, have been shown to directly influence the cultivation of human capital capable of and aligned with the University of Fallujah's objectives. The research posits that such alignment is crucial for fostering an environment where innovation, efficiency, and adaptability are encouraged and deeply embedded within the organizational culture.

Additionally, future studies should consider longitudinal research designs to examine the evolution of these relationships over time, providing insights into the dynamics of SHRM practices, human capital development, and sustainability competitive advantage in a changing organizational and external environment. This approach would allow assessing the long-term impacts of strategic HR interventions and the sustainability of competitive advantages gained through human capital enhancements. Moreover, expanding the scope of research to include diverse industries and geographical locations could enhance the generalizability of the findings, offering a broader understanding of the proposed theoretical model's universal applicability or sector-specific nuances. Such studies would significantly contribute to the strategic human resource management literature and offer practical guidelines for organizations striving to leverage their human capital for sustainable competitive success.

Conclusion

In sum, Central to the findings of this study is the affirmation that SHRM practices, when thoughtfully designed and effectively implemented, serve as foundational elements that significantly contribute to the development, motivation, and retention of a highly skilled and committed workforce. These practices, encompassing development, technology, selection, and innovation, have been shown to directly influence the cultivation of human capital capable of and aligned with the organization's strategic objectives. The research posits that such alignment is crucial for fostering an

environment where innovation, efficiency, and adaptability are encouraged and deeply embedded within the organizational culture.

Moreover, the mediating role of human capital has emerged as a critical pathway through which SHRM practices influence sustainability competitive advantage. This study demonstrates that the quality of an organization's human capital, encompassing development, innovation, technology, and selection, can significantly amplify the impact of SHRM practices on sustainability's competitive advantage. Human capital acts as a conduit through which strategic initiatives translate into tangible outcomes, highlighting the importance of investing in people as a strategic priority for organizations aiming for long-term success and sustainability.

The research conducted at the University of Fallujah provides compelling evidence that underscores the interconnectedness of SHRM practices, human capital, and sustainability competitive advantage. It emphasizes that sustainability competitive advantage is not merely a product of strategic planning but also a result of strategic execution through people management. The findings suggest that organizations that prioritize and effectively manage their human resources, aligning HRM practices with their strategic goals, position themselves to achieve a sustainable advantage over competitors, and are capable of weathering the challenges of an ever-changing academic and global business landscape.

In conclusion, this research contributes significantly to the body of knowledge on strategic human resource management and its impact on organizational sustainability and competitive advantage. It offers valuable insights for academic leaders, HR professionals, and policymakers on the strategic importance of human capital development and management. As the landscape of higher education and global business continues to evolve, the lessons drawn from the University of Fallujah's experience serve as a beacon for other institutions and organizations striving to leverage their human resources for sustainable growth and success. The study advances academic discourse in the field of SHRM and provides practical frameworks that can guide the strategic human resource initiatives of organizations across various sectors.

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LIST OF TABLES

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APPENDIX A

RESEARCH QUESTIONNAIRES

Dear Respondents,

You are invited to participate in this survey about **"THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT PRACTICES AND INNOVATION ON SUSTAINABILITY COMPETITIVE ADVANTAGE: THROUGH THE MEDIATING ROLE OF HUMAN CAPITAL (AFIELD STUDY IN THE UNIVERSITY OF FALLUJAH).":** This research fulfills my Master of Public Administration from Karabuk University. I would appreciate it if you could spare some time and think about completing the survey. I hope that you will cooperate in completing the questionnaire to the best of your ability. This questionnaire consists of three parts/sections. Part one consists of questions about your demographic profile; continue with part two about **Sustainability competitive advantage**, and the third part about **Strategic Human Resource Management Practices (Development, innovation, technology, and Role of Human Capital).** All information provided in this survey will by no means reflect the identity of the participants. It will be kept strictly confidential and used merely for academic purposes.

THANK YOU

SECTION A: Demographic

1. GENDER

Male	Female
102	33

2. Age

less than 20	21-30	31-40	41-50	50th
7	65	43	16	4

3. Education Level

Primary	Secondary	Diploma	Bachelor	H. Diploma	Masters
12	**10**	**24**	**72**	**6**	**11**

4. Occupation Status

CEOs	Operation Manger	HR. Mangers	Supervisors	Support Staff	Other Workers (Drivers)
17	**8**	**22**	**22**	**14**	**52**

6. Experience

1-3 years	4-6 years	7-10 years	Above 10 years
42	**53**	**26**	**14**

7. Monthly Income

Below 296000 IQD	**297000- less than 599 000** IQD	**600000-less than 799000** IQD	**800000-less than 999000** IQD	**Above 1000 000**IQD
53	**36**	**28**	**9**	**9**

SECTION B: Selection

No.	**Items**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	Employee selection is taken very seriously by this university					
2	Employee selection places priority on the candidate's potential to learn.					
3	Employee selection emphasizes the capacity to perform well right away.					
4	Employees in this university have clear career paths.					

SECTION C: Development

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Employee development helps maintain skills and knowladvantage .					
2	Employee development creates scope for internal promotions.					
3	development courses achieve the aims of the university.					
4	The development courses enhance the level of Employees at the university.					

SECTION D: Innovation

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Developing innovation based on new technology is a strategic priority in the university.					
2	Technological innovation activities improve teamwork among staff in the university.					
3	Process innovation activities improve teamwork in the university.					
4	Process innovation initiatives focus on improving core processes in the university.					
5	My performance has gotten better through process innovation activities.					

SECTION E: Technology

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	We are developing a clear vision regarding how technology contributes to the value of the university.					
2	We are integrating strategic planning and Technology planning in the university.					
3	We are enabling functional areas and general management to the university's ability to understand the value of technology investments.					
4	We are establishing an effective and flexible Technology planning process and developing a robust Technology					

	plan in the university.					

SECTION F: Sustainability competitive advantage (SCA)

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	Our university employees are highly creative and innovative					
2	Our university employees are highly involved and flexible to change.					
3	Our university employees are more concerned about quality and results.					

SECTION S: Human Capital Development

No.	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	The employees working in this university are highly skilled.					
2	The employees working in this university are considered the best.					
3	The employees in the university are encouraged to be creative.					

APPENDIX B

Regression (Technology, Development, Selection, Innovations, and SCA)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Technology, Development, Selection, Innovations[b]	.	Enter

a. Dependent Variable: SCA

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802[a]	.642	.631	.71209

a. Predictors: (Constant), Technology, Development, Selection, Innovations

b. Dependent Variable: SCA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	118.450	4	29.613	58.399	.000[b]
	Residual	65.920	130	.507		
	Total	184.370	134			

a. Dependent Variable: SCA

b. Predictors: (Constant), Technology, Development, Selection, Innovations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.301	.179		1.683	.095
	Selection	.264	.112	.254	2.367	.019
	Development	.292	.099	.297	2.959	.004
	Innovations	.045	.109	.044	.414	.680
	Technology	.264	.107	.268	2.465	.015

a. Dependent Variable: SCA

Regression (Technology, Development, Selection, Innovations, AND HCD)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Technology, Development, Selection, Innovations[b]	.	Enter

a. Dependent Variable: HCD

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.696	.687	.66313

a. Predictors: (Constant), Technology, Development, Selection, Innovations

b. Dependent Variable: HCD

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.800	4	32.700	74.361	.000[b]
	Residual	57.167	130	.440		
	Total	187.967	134			

a. Dependent Variable: HCD

b. Predictors: (Constant), Technology, Development, Selection, Innovations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.187	.167		1.124	.263
	Selection	.278	.104	.264	2.672	.009
	Development	.014	.092	.014	.148	.883
	Innovations	.186	.102	.181	1.830	.070
	Technology	.426	.100	.428	4.267	.000

a. Dependent Variable: HCD

Regression (DCD and SCA)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HCD[b]	.	Enter

a. Dependent Variable: SCA

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.821[a]	.674	.672	.67185

a. Predictors: (Constant), HCD

b. Dependent Variable: SCA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	124.337	1	124.337	275.460	.000[b]
	Residual	60.034	133	.451		
	Total	184.370	134			

a. Dependent Variable: SCA

b. Predictors: (Constant), HCD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.552	.150		3.680	.000
	HCD	.813	.049	.821	16.597	.000

a. Dependent Variable: SCA

APPENDIX C

Testing the Mediating Effect

Run MATRIX procedure:

********** PROCESS Procedure for SPSS Version 4.2 **********

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
*****
Model : 4
Y : SCA
X : Sel
M : HCD

Sample
Size: 135

****
*****
OUTCOME VARIABLE:
HCD

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7705	.5937	.5742	194.3386	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.4690	.1813	2.5866	.0108	.1104	.8276
Sel	.8101	.0581	13.9405	.0000	.6951	.9250

****
*****
OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8416	.7082	.4075	160.2052	2.0000	132.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI

```
constant     .3003     .1565     1.9186     .0572     -.0093     .6099
Sel          .3005     .0768     3.9129     .0001     .1486      .4524
HCD          .5931     .0730     8.1189     .0000     .4486      .7376

************************** TOTAL EFFECT MODEL
****************************
OUTCOME VARIABLE:
 SCA

Model Summary
        R       R-sq        MSE          F        df1        df2          p
    .7500      .5625      .6064    171.0188     1.0000    133.0000      .0000

Model
            coeff         se          t          p       LLCI       ULCI
constant     .5784     .1863     3.1047     .0023     .2099     .9470
Sel          .7809     .0597    13.0774     .0000     .6628     .8991

****************** CORRELATIONS BETWEEN MODEL RESIDUALS
******************

          HCD       SCA
HCD     1.0000     .0000
SCA      .0000    1.0000


************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y
**************

Total effect of X on Y
    Effect         se          t          p       LLCI       ULCI
     .7809      .0597    13.0774     .0000     .6628     .8991

Direct effect of X on Y
    Effect         se          t          p       LLCI       ULCI
     .3005      .0768     3.9129     .0001     .1486      .4524

Indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
HCD      .4804      .0737      .3359      .6221

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000
```

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

        Written by Andrew F. Hayes, Ph.D.   www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
*****
Model : 4
    Y : SCA
    X : De
    M : HCD

Sample
Size: 135

****
*****
OUTCOME VARIABLE:
 HCD

Model Summary
        R   R-sq   MSE   F   df1   df2   p
     .7058   .4981   .7093   131.9858   1.0000   133.0000   .0000

Model
            coeff   se   t   p   LLCI   ULCI
constant   .7257   .1968   3.6885   .0003   .3366   1.1149
De   .7022   .0611   11.4885   .0000   .5813   .8231

Standardized coefficients
        coeff
De   .7058

****
*****
OUTCOME VARIABLE:
 SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8546	.7303	.3768	178.6782	2.0000	132.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.2279	.1505	1.5137	.1325	-.0699	.5257
De	.3288	.0629	5.2289	.0000	.2044	.4532
HCD	.5801	.0632	9.1798	.0000	.4551	.7051

Standardized coefficients

	coeff
De	.3336
HCD	.5857

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7470	.5581	.6126	167.9422	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.6489	.1829	3.5487	.0005	.2872	1.0106
De	.7361	.0568	12.9593	.0000	.6238	.8485

Standardized coefficients

	coeff
De	.7470

********** CORRELATIONS BETWEEN MODEL RESIDUALS **********

	HCD	SCA
HCD	1.0000	.0000
SCA	.0000	1.0000

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

```
    Effect         se          t          p       LLCI       ULCI       c_cs
     .7361      .0568    12.9593      .0000      .6238      .8485      .7470

Direct effect of X on Y
    Effect         se          t          p       LLCI       ULCI      c'_cs
     .3288      .0629     5.2289      .0000      .2044      .4532      .3336

Indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
HCD      .4074      .0774      .2734      .5781

Completely standardized indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
HCD      .4134      .0727      .2822      .5692

************************ ANALYSIS NOTES AND ERRORS
************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
*****
Model  : 4
    Y  : SCA
    X  : In
    M  : HCD

Sample
Size:  135

**************************************************************************
*****
OUTCOME VARIABLE:
```

HCD

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7612	.5794	.5945	183.2021	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.5619	.1800	3.1208	.0022	.2058	.9180
In	.7813	.0577	13.5352	.0000	.6672	.8955

Standardized coefficients

	coeff
In	.7612

****
*****
OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8309	.6904	.4324	147.1868	2.0000	132.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.3932	.1591	2.4715	.0147	.0785	.7078
In	.1984	.0759	2.6140	.0100	.0483	.3486
HCD	.6662	.0740	9.0078	.0000	.5199	.8125

Standardized coefficients

	coeff
In	.1952
HCD	.6726

********** TOTAL EFFECT MODEL
****
OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7072	.5001	.6930	133.0587	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI

```
constant     .7675     .1944     3.9481     .0001     .3830     1.1519
In           .7189     .0623    11.5351     .0000     .5957     .8422

Standardized coefficients
        coeff
In      .7072

****************** CORRELATIONS BETWEEN MODEL RESIDUALS ******************

          HCD       SCA
HCD     1.0000     .0000
SCA      .0000    1.0000


************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
    Effect        se         t         p       LLCI       ULCI       c_cs
     .7189      .0623    11.5351      .0000      .5957      .8422      .7072

Direct effect of X on Y
    Effect        se         t         p       LLCI       ULCI      c'_cs
     .1984      .0759     2.6140      .0100      .0483      .3486      .1952

Indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
HCD      .5205      .0777      .3671      .6700

Completely standardized indirect effect(s) of X on Y:
       Effect     BootSE   BootLLCI   BootULCI
HCD      .5120      .0723      .3640      .6507

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
*****
Model : 4
Y : SCA
X : Te
M : HCD

Sample
Size: 135

****
*****
OUTCOME VARIABLE:
HCD

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8061	.6498	.4949	246.8103	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.4683	.1619	2.8925	.0045	.1481	.7885
Te	.8037	.0512	15.7102	.0000	.7025	.9048

Standardized coefficients

	coeff
Te	.8061

****
*****
OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8327	.6934	.4282	149.2989	2.0000	132.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI

constant	.4029	.1553	2.5953	.0105	.0958	.7100
Te	.2304	.0804	2.8651	.0049	.0713	.3894
HCD	.6270	.0807	7.7744	.0000	.4675	.7866

Standardized coefficients

	coeff
Te	.2333
HCD	.6331

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:
SCA

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7437	.5531	.6195	164.5939	1.0000	133.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.6966	.1811	3.8454	.0002	.3383	1.0548
Te	.7343	.0572	12.8294	.0000	.6211	.8475

Standardized coefficients

	coeff
Te	.7437

********** CORRELATIONS BETWEEN MODEL RESIDUALS **********

	HCD	SCA
HCD	1.0000	.0000
SCA	.0000	1.0000

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_cs
.7343	.0572	12.8294	.0000	.6211	.8475	.7437

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_cs
.2304	.0804	2.8651	.0049	.0713	.3894	.2333

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
HCD	.5039	.0868	.3305	.6687

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
HCD	.5104	.0850	.3379	.6707

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:
 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
 5000

------ END MATRIX -----

CURRICULUM VITAE

Saad Mohammed Shakir SHAKIR, graduated from the Department of Public Administrationt, College of Administration and Economics, University of Fallujah 2021, and is currently a master's student at Karabuk University.