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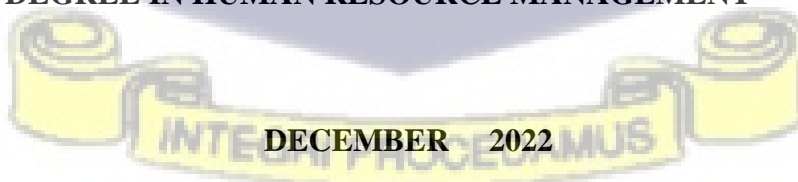
**TELECOMMUTING AND WORK PERFORMANCE IN GHANA: A STUDY OF
PRIVATE AND PUBLIC ORGANISATIONS**

BY

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**THIS THESIS IS SUBMITTED TO THE DEPARTMENT OF ORGANISATION AND
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FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF
PHILOSOPHY DEGREE IN HUMAN RESOURCE MANAGEMENT**

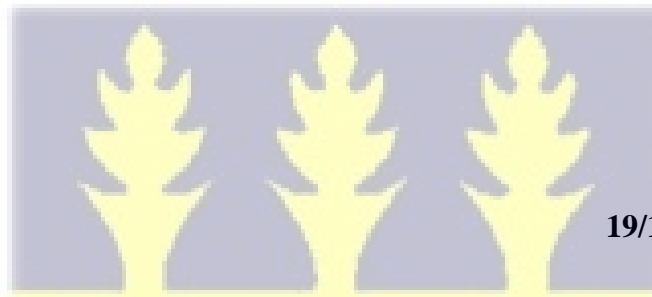


DECEMBER 2022

DECLARATION

I do hereby declare that this thesis is my own research work and has not been presented by anyone for any academic award in this or any other university. All references used in the work have been fully acknowledged.

I bear the single responsibility for all limitations in this work.



19/12/2022

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures specified by the University of Ghana.

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.....4/2/2023.....

DR. YVONNE LAMPTEY

(CO-SUPERVISOR)

DATE



DEDICATION

This work is dedicated to the Almighty God for all the miraculous interventions He makes in my life. Also, this work is dedicated to my grandmother, Madam Margaret Fosuah, also known as Maame Nketiaa, whose emotional, physical and financial contributions designed and developed my whole life from infancy till today and forever.



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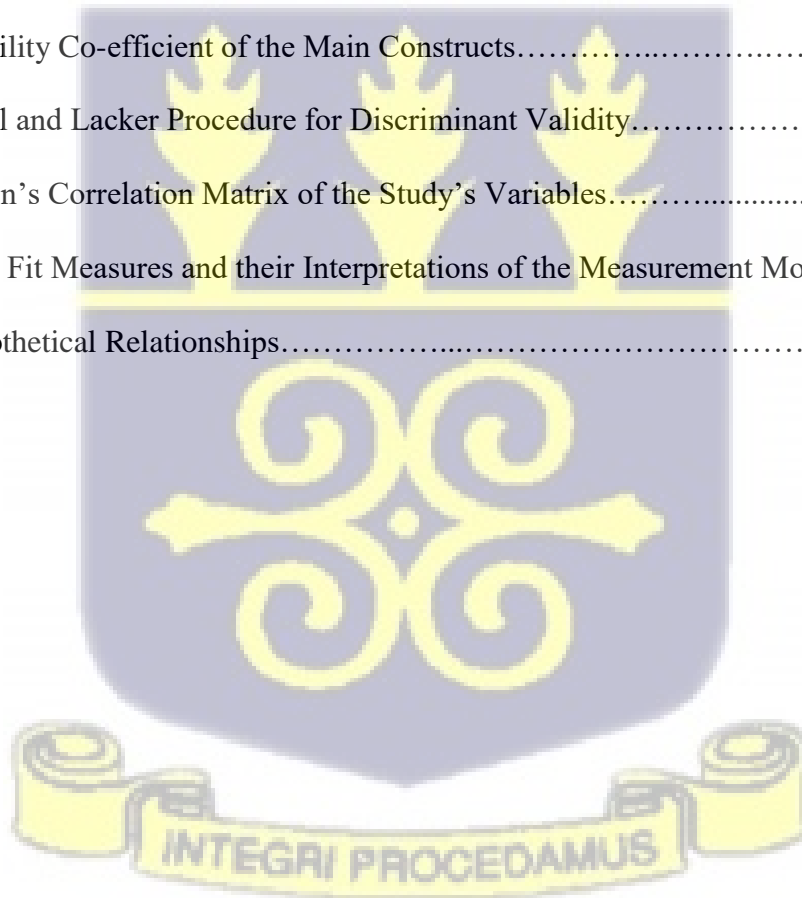
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LIST OF ABBREVIATIONS

COVID-Corona Virus Disease.

CFA- Confirmatory Factor Analysis.

DC-Dynamic Capabilities.

EFA- Exploratory Factor Analysis.

ICT-Information and Communications Technology.

IT- Information Technology.

LAN- Local Area Network.

NASA- National Aeronautical and Space Agency.

NWC- Neighborhood Work Centre.

RBV-Resource Based View.

SEM- Structural Equation Model.

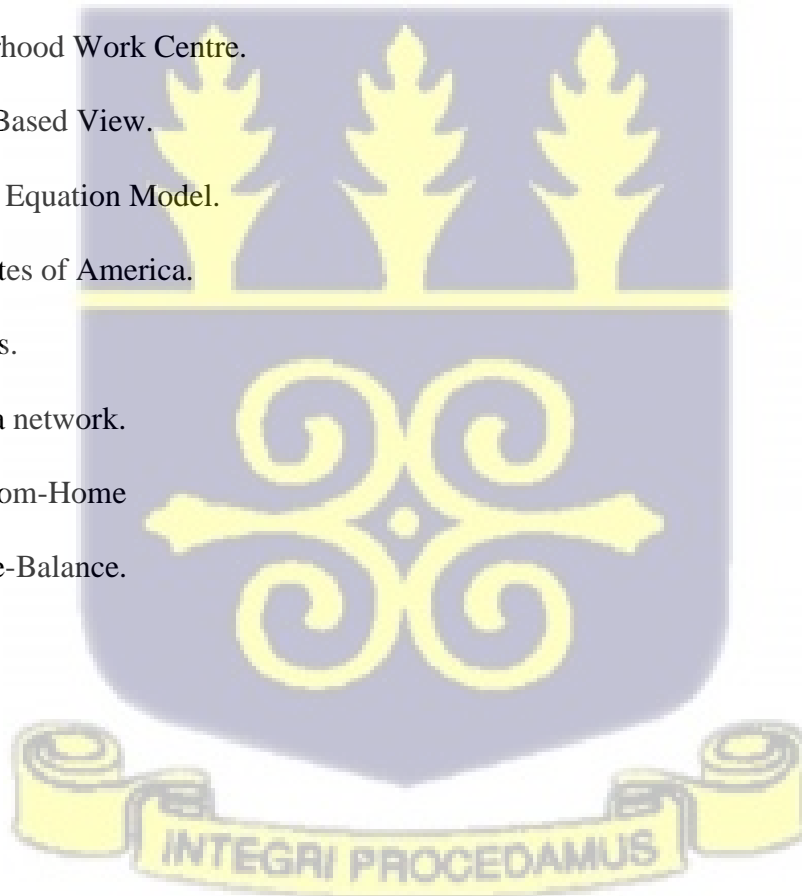
USA-United States of America.

US-United States.

WAN- wide area network.

WFH-Work - From-Home

WLB-Work-Life-Balance.



ABSTRACT

The purpose of this study was to identify and determine how telecommuting impacts work performance in private and public sector organisations in Ghana. This study used quantitative approach for data collection. The sample size for the study was three hundred and thirty-seven (337) respondents from eighteen years and above. The analytical tool for analysing the data for this study was the Structural Equation Model (SEM). The outcome of the research indicated a high correlation between telecommuting and work performance in the organisations studied. Further, it was revealed that the design processes of telecommuting practices influence work performance of organisations in Ghana. The results also showed that telecommuting design positively correlated with work performance. The study further indicated that there is no link between the challenges of telecommuting and its adoption, thus nullifying the outcomes of other researches in other countries. While telecommuting has numerous benefits, most organisations in Ghana have not embraced it. It is therefore recommended that organisations in Ghana implement telecommuting work practice because it will facilitate the reduction of financial resources they spend on commuting their employees to their workplaces as well as helping employees to reduce their own transportation expenses and also reducing the negative health consequences they suffer as a result of long commuting hours to their traditional offices. It is further recommended that organisations develop strategies to enhance the adoption of telecommuting towards employee and organisational benefits.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The advancement in technology has accelerated the adoption of telework as opposed to the traditional office-work schedules (Tori, Goduto, Manfredini, & Melzi, 2021). Telecommuting – the practice of working away from the traditional office location, using information and communications technology has an important and growing stake at the workplace and has a potential impact on workers’ health, safety and well-being (International Labour Organisation, 2021). So far as applied information and communication technologies (ICTs) progressively find their way into the workplace, telecommuting has become ubiquitous in today’s organisations (Welz & Wolf, 2010). Information and communication technology has created a platform through which one can choose where and when to work and not necessarily appearing at a centralised brick and mortar location called office (Peter, 2018). Telecommuting has been accelerated by recent developments in information technology (Fulk & DeSanctis, 1999). Telecommuting has been a topic of research dating back some decades ago (Williams, 2021). In 1973, Jack Nilles, a former National Aeronautical and Space Agency engineer was one of the first to define telecommuting as when workers may complete their work, utilising telecommunications and computer tools, at a location much closer to their homes (Nilles, Carlson, Gray & Hanneman, 1976).

Telecommuting originated from distributed work (Lister & Harnish, 2019; Simpson, 1953). Distributed work is an arrangement that permits employees and their tasks to be distributed across locations away from a primary workplace or physical organisational site (Gajendran & Harrison, 2007). In the early 1950s, Simpson (1953), conducted a study to determine the need for office efficiency in factory production methods during the first half of the twentieth century.

The term telecommuting is used to mean the same as remote work, telework, working from home, virtual working and flexible workplace. Some scholars on the other hand argue that the terms are not the same. According to Meunier (2020), remote work is being away from the employer or a traditional office location while completing work using technological tools specific to the nature of work.

Telework has been in existence for some time and has been implemented by organisations in the world (Griggs, 2021). Telework is largely used by people in education and health, information and communication as well as large firms (Pigni & Staffolani, 2019). As at 2001, the International Telework Association and Council (ITAC) indicated that 28 million teleworkers were found in the United States, and the number was increasing at 10% each year (ITAC, 2015).

Upwork has indicated that 1 in 4 Americans, which is more than 26% of the American workforce will be working remotely through 2021. They also estimated that 22% of the workforce (36.2 million Americans) will telecommute by 2025. It was believed that 25-30% of the workforce would work remotely by 2021 (Global Workplace Analytics, 2021). An International Labour Organisation (2021) report indicated that as of mid-April 2020, 59 countries had implemented telework for non-essential publicly employed staff. Even though telecommuting has been in existence for more than four decades, its proliferation has been exacerbated by the popularity of the Internet and the rise of online collaboration tools such as Zoom and Microsoft Teams which makes remote working possible. Zoom, which was first launched in 2012, gained 300 million daily meeting participants during 2020 (Techrepublic, 2020).

The assertion that the practice of telecommuting has increased as a result of increased ICT is also made by Ansong and Boateng (2017), when they cited Ye (2012), by stating that the rapid development of the Internet and telecommunications tools in addition to the increasing speed of

information exchange have become a major influence on the trend for organisations to allow alternative working environment where employees can perform their work away from their traditional office buildings which is allowed by the organisation's working policies. Also, Tamsal and Awais (2016), opined that issues that precipitate telecommuting will be widespread as a result of the economic conditions, environmental factors, and the rapid growth of the ICT with a smarter technology.

Technological advancement as well as the need for organisations to improve work performance for a sustained competitive advantage will continue to change how employees perform their assigned duties. This will lead to a more general adoption of telecommuting (Peter, 2018). While telecommuting has been in existence for more than four decades, its adoption in Ghana and other African countries as well as the advanced countries is very minimal even though Statista (2019), indicated that just as the COVID-19 became widespread, the need for telecommuting was gradually becoming widely accepted. Again, Gálvez, Tirado and Martínez (2020), emphasised that the adoption of telecommuting at a wider level in different organisations has affected the organisational culture and work processes of companies and the behaviour of their employees; but without changing or truncating the way work is done in the traditional office setting, The modern era of electronic workspace has started and will continue to be widespread in the future. (Catană, Toma, Imbrică & Burcea, 2022).

Thorstensson (2020), emphasised that telecommuting has become more significant as a result of the associated restrictions that emerged due to the Coronavirus pandemic and the desire of various countries to implement physical spacing to thwart the spread of the disease. He further stated that a catalyst for the adoption of teleworking was an effort by organisations to implement measures to sustain the productivity levels of their workers in order to gain competitive advantage. The

immediate increase in the adoption of telecommuting revives the need to appreciate the impact of telecommuting for employees and organisations.

The term telecommuting was created by Nilles (1975, 1994), for his description of the work schedule that allows employees to perform their assigned duties away from the traditional office location while remaining in contact with their superiors and colleagues using the organisation's dedicated interconnected computer systems via the Internet or the Virtual Private Network. The International Labour Organisation (2021), defined telework or telecommuting as applying information and technological devices through the Internet or Virtual Private Network to facilitate organisational work performance without being in the traditional office location of the employer. According to Allen, Golden and Shockley (2015), telecommuting refers to “an alternative work arrangement in which employees perform tasks elsewhere that are normally done in a primary or central workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organisation. Fried and Hansson (2013), provide a straightforward description of remote work, stating, “Remote work just means you're not in the office 9am–5pm, all day long” (p. 108). Consequently, the following five main types of teleworking are encountered in the world of work (Morgan, 2004; Hislop & Axtell, 2009).

1.1.1 Mobile telework

With this approach, the worker is not located at any one site but travels in order to maximise the delivery of services or capabilities (e.g., between customer and employer premises).

1.1.2 Home-based telework

With this approach, the worker carries out his/her work activities from home.

1.1.3 Telecentres

These are local facilities where people seek to reduce the burden and cost of commuting to a central office location.

1.1.4 Functional re-location

This is where business functions are concentrated and delivered from a distance.

1.1.5 Telecottages

These are locally-based facilities that offer the teleworking community the opportunity for personal interaction, skills development, and high-performance information and communication technologies.

Teleworking has received substantial attention in the scientific community with regards to the impact of its arrangements on individual teleworkers, including their social relationships, work–family conflict, job satisfaction, organisational commitment and job performance (Kossek, Lautsch, & Eaton, 2006; Gajendran & Harrison, 2007; Martin & MacDonnell, 2012; Richardson & McKenna, 2014; Biron & van Veldhoven, 2016; Stripe & Zarraga-Oberty, 2017; Groen, van Triest, Coers, & Wtenweerde, 2018).

According to Viswesvaran (2002), work performance is an abstract, latent construct that cannot be pointed to or measured directly. This is because typical work performance is usually assessed over a longer time period, in which counterproductive work behaviours are more likely to occur (Koopmans, Bernaards, Hildebrandt, Schaufeli, de Vet & van der Beek, 2011). According to Viswesvaran and Ones (2000), work performance is a scalable action, behaviour and outcome that employees engage in or bring about that are linked to and contribute to organisational goals. But a widely endorsed definition of work performance is that of Campbell (1990). According to him work performance is a behaviour or action that is relevant to the goals of the organisation.

According to Kempplila and Lonnqvist (2003), work performance should be distinguished from work productivity, two concepts that often seem to be used interchangeably in the literature. They further stressed that work productivity is input divided by output, thus, work productivity is a narrower concept than work performance. Over the last years, researchers investigated how telecommuting impacts an organisation's performance (Kamouri & Lister, 2020). Previous studies showed that telecommuting improves productivity, performance and job satisfaction, with some studies reporting a reduction in employee turnover (Baker, Gayle & John, 2007; Ansong & Boateng, 2017; Corzo, 2019).

Lending credence to distinct but complementary theoretical perspectives of telecommuting's effects, research generally associates telecommuting with a range of positive outcomes, particularly higher performance (Onder, 2016). Teleworkers work an additional 1.8 hours more than their regular workday at the office which leads to family life conflicts (Solis, 2016). Two meta-analyses indicate positive relationships between telecommuting and objective or supervisor-rated performance (Gajendran & Harrison, 2007; Martin & MacDonnell, 2012) and recent studies parallel these findings (Bloom, Liang, Roberts, & Ying, 2015; Gajendran, Harrison, & Delaney-Klinger, 2015). Organisations, and especially companies, would benefit from improving successful strategies to provide their employees with the desired stimulus to achieve job satisfaction, which will ultimately be reflected in their performance (Zöllner & Sulíková, 2021). Onder (2016), stressed further that there are a number of features of telecommuting that may be construed as resource increases and/or demand decreases. A commonly cited resource benefit of telecommuting is reduced commute time, which presumably will be channelled into work tasks (Pyöriä, 2011). Rupiëtta and Beckmann (2016), on the other hand indicated that, from a theoretical point of view, the impact of working from home on employees' work effort is ambiguous. As

firms have fewer possibilities to monitor their employees, working from home might induce shirking responsibilities and hence results to lower individual work effort (Gariety & Shaffer, 2007). However, the possibility to work from home increases employees' autonomy and thus their intrinsic motivation (Hackman & Oldham 1976; Bailey & Kurland 2002). Therefore, employees, who work from home, might have a higher commitment and thus respond with extra work effort.

1.2 Statement of the Problem

Technological developments remain an obstacle for organisational leaders to overcome in their efforts to adapt in a rapidly evolving technological world (Collins, Garin, Jackson, Koustas & Payne, 2019; Kuhn & Galloway, 2019). Shifts in traditional work arrangements and how organisations are generating income for survival and growth in the modern economy is pushing organisations to adopt work practices that will be suitable for operational efficiency and employee well-being. As a work practice, telecommuting is increasingly being accepted as an alternative form of working both in the private and public sectors globally. Data presented by the United States Bureau of Labour Statistics indicated that 24% of the total American workforce (more than 26 million people) work remotely at least part-time. Another data from Global Workplace Analytics (Lister, 2020), a research-based consulting company, further reported how the practice of remote work has increased 173% since 2005, with almost 90% of the U.S. workforce indicating a preference for working remotely (at least on a part-time basis). Findings from a national survey on employee lateness showed that about 29% of all Americans who commute to work arrive late at least once a month (CareerBuilder, 2017). Tardiness costs U.S. businesses billions of dollars because it interferes with productivity (Mattress Clarity, 2019).

The current difficult economic climate in Ghana and other developing countries following the outbreak of COVID-19 pandemic, wars and other global dynamics, misfortunes and uncertainties have resulted in the adoption of series of austerity measures. Fuel prices are increased regularly making it difficult for workers to afford. Even employees whose organisations are providing fuel coupons and fuel allowances are complaining about the constant fuel price increases. The simple assumption is that people and for that matter employees will like to work but they will like to reduce the costs associated with travelling to their work places. These and other issues make it necessary to conduct a research in telecommuting to assess whether the adoption of this work practice will ease –off some of the burdens Ghanaian workforce are experiencing especially the costs associated with travelling to work. In Ghana, many jobs that can be placed under telecommuting are still being conducted from the traditional office building of work. This research takes it as a challenge to assess why developing countries cannot maximise the use of the various technological innovations and their applications to the workplace. Even though there are no available statistics on the number of people who telecommute and the impact of travelling long distances to work in Ghana, it is a known fact that many people travel long distances to their places of work. This causes a lot of people to experience health problems. Employees who travel to their places of work on daily basis are noted to experience lateness which causes their organisations millions of Cedis in lost production hours. The specific problem was that although many technology-based jobs can be accomplished remotely, and there is considerable time lost in commuting to work, many companies have not embraced the concept of telecommuting (Choi, 2018).

In Ghana, telecommuting became known to many people following the outbreak of the Corona virus pandemic when workers were instructed to work from home by the government. The issue

therefore is that if telecommuting as a work arrangement has been in existence for more than forty years, why is it that organisations both in the public and private sectors have not adopted it? Is it because they are not aware of the numerous benefits associated with it or it is just conservative organisational cultures that are preventing these organisations from practicing telecommuting.

Numerous studies, for example: Ansong and Boateng, 2017; Kotey, 2017; Päänttjä and Wu, 2021; Williams, 2021; Peter, 2018; Gibbs, Mengel and Siemroth, 2021; Rupietta and Beckmann, 2016; Tat, 2020; DeRossette, 2016, have been conducted in telecommuting but none of these studies focused its attention on private and public organisations. Besides, apart from Ansong and Boateng (2017) and Kotey (2017), there is still limited literature about telecommuting as a work practice in Ghana since most of the studies conducted were done outside Ghana hence the need for this research. This study will address the gap existing in the field of research on telecommuting in Ghana by widening the sample size and obtaining additional information from this area of study which will help organisational leaders in their decision making processes on the design and implementation of telecommuting. Further, this study will bring to light the fatigue people experience aside the lost productive hours before they reach their workplaces and fatigue will worsen as cities and towns become bigger with vehicular traffic congestions increasing on a daily basis. This study will therefore also bring out in-depth information which will provide the basis for organisational leaders to make substantive decision in considering telecommuting as a very good alternative work arrangement which organisations can use to reduce the difficulties of commuting to the workplace and enhance the competitiveness of their organisations.

Again, there are numerous studies on the relationship between telework and job performance, but the findings are somewhat contradictory (Kuruzovich, Paczkowski, Golden, Goodarzi, & Venkatesh, 2021). Little is yet known about some of the more fundamental consequences of work

from home (WFH), including its effects on productivity and which factors play a role in making it more or less productive than work from office (WSJ, 2020; Financial Times, 2021).

Currently, a gap exists in literature of examining telecommuting and its impact on work performance in both the private and public organisations. A recommendation from Khan, Nasrudin and Harith (2018), who conducted a research on the topic ‘the relationship between the impacts of telecommuting engagement and employee performance in the oil and gas Industry in Kuantan, Pahang’ recommended for future studies to examine the impacts of telecommuting in the private and public sectors to evaluate the effectiveness of telecommuting engagement in order to develop the knowledge based society and K-economy in Malaysia. Even though the research was conducted outside Ghana, there is the need to conduct a study as a follow-up to the recommendations made by the researchers hence the need for this research.

Moreover there is no research work on telecommuting in Ghana and even West Africa that provides a thorough knowledge in the design, implementation, benefits and challenges of the adoption of telecommuting. The study conducted by Ansong and Boateng (2017), did not cover certain factors and as a result they recommended that future research should identify factors that support and also factors that hinder the adoption of telecommuting in Ghana and the study covered only a handful of employees of Ericsson Ghana Limited (Ansong & Boateng, 2017). Thus, the sample size was too small to make any general, realistic judgement. As will be presented later, the main contribution of the current research is the in-depth presentation of the design, implementation, benefits and challenges of telecommuting as a work practice in Ghana.

The limitations mentioned provide a knowledge gap that makes this research work very relevant. This is because this study is based on assessing the major elements in telecommuting such as the design process which will emphasise on issues such as the procedures organisations put in place

in the selection of the employees who can telecommute and also the specific tasks that are suitable for telecommuting. Again, this study focuses on the benefits and challenges as well as well as initiating strategies that can be implemented by organisations to ensure a successful telecommuting work practice. Further, the number of organisations will be expanded to fifteen with a sample size of more than 300 as compared to only one organisation that was used in the study by Ansong and Boateng (2017).

The uniqueness of this study is exhibited in its application of the Dynamic Capabilities Theory (Teece, Pisano & Shuen, 1997). Dynamic capabilities are processes that enable an organisation to re-configure its strategy and resources to achieve sustainable competitive advantages and superior performance in rapidly changing environments (Bleady, Hasaballah & Ibrahim, 2018). The authors further stressed that Dynamic Capabilities Theory emerged as both an extension to and a reaction against the inability of the Resource-Based View (RBV) to interpret the development and re-development of resources and capabilities to address rapidly changing environments. Dynamic capabilities may be considered as a source of competitive advantage (Teece, Pisano & Shuen, 1997). The dynamic capabilities concept has its origins in the resource approach and the resulting deliberations on the various categories of enterprise capabilities (Helfat & Peteraf, 2009).

Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter (2007), have defined dynamic capabilities as the “capacity of an organisation to purposefully create, extend, or modify its resource base,” where the term “resource base” covers organisational assets and capabilities (p. 4). This definition has received considerable attention due to its meaningfulness, breadth, and few a priori assumptions (Easterby-Smith, Lyles, & Peteraf, 2009). Dynamic Capabilities Theory presents path-dependent processes that allow firms to adapt to rapidly changing environments by building, integrating and reconfiguring their resources and capabilities portfolio (Teece, Pisano &

Shuen, 1997). According to Eisenhardt and Martin (2000) and Easterby-Smith and Prieto (2008), dynamic capabilities may create competitive advantage through new resource configurations.

According to Teece (2007), dynamic capabilities have three main sub-components: sensing, seizing, and transforming. “Sensing” refers to the ability of members to identify, analyse, and evaluate environmental opportunities and threats. Sensing means exploring technological opportunities, closely observing and investigating new markets, and adapting previous technology as required by the member’s sensing capability (Teece, 2007). According to Teece (2017), an organisation needs its members to have the ability to sense market conditions quickly to address unmet needs that consumers have not experienced before, so that the organisation may respond quickly to changing market conditions (Teece, 2017). “Seizing” refers to the operational ability to determine the value of opportunities and to internalise them through the agile mobilisation of resources. The main purpose of this feature is to support timely resource mobilisation and investment through rapid decision-making during environmental changes (Teece, 2007). The ability to acquire and utilise resources, to solve problems and seize new opportunities is determined by the organisation’s ability to operate efficiently (Teece, 2017). An organisation’s operational competency is a special capability that cannot be imitated, because it is derived from the organisational culture, which no individual can clearly define (Teece, 2014). Therefore, organisations must establish an organisational culture that routinely internalises external knowledge in order to sustain competitive advantage (Zahra & George, 2002). To achieve this, flexible awareness and commitment are required from top executives (Aragon-Correa & Sharma, 2003; Teece, 2007).

“Transforming” means the ability to create performance by re-configuring intrinsic resources during environmental changes. This is the most important sub-component of dynamic capabilities

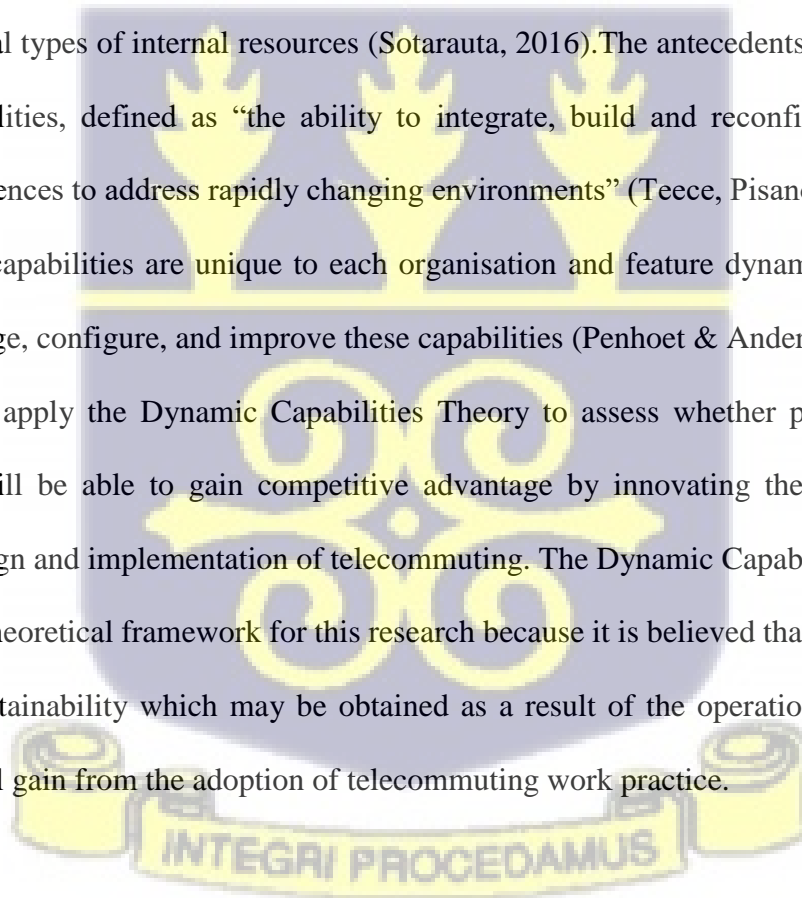
(Teece, 2007). Transforming means the renewal of resources on their own in response to environmental changes. It requires the ability to reconfigure resources intermittently, although reconfiguring existing resources is not easy (Eisenhardt & Martin, 2000). Flexible operational management, work flexibility, resource coordination and redistribution, openness of possessed knowledge, and openness of top managers are necessary features of transforming capabilities from researchers (Eisenhardt & Martin, 2000; Zollo & Winter, 2002; Zahra & George, 2002; Teece, 2007). Thus, the combination of sensing and seizing capabilities may result in launching enterprises and innovations, creating new paths and asset bases (Helfat & Peteraf, 2009; Teece, 2007).

The integration of the Dynamic Capabilities Theory and telecommuting is embedded in the ‘transforming’ aspect of the theory. Transforming is a core capability of dynamic capabilities, in that it maintains competitive advantage continuously (Teece, 2007; Eisenhardt & Martin, 2000; Zollo & Winter, 2002). In addition, through the re-configuring of resources the process of transforming can remove the risk of rigidity in an organisation’s core competences (Teece, 2017). Transforming capability can be divided into two features (Huh, 2018). The first is the readjustment and integration of resources, which is carried out on a step-by-step basis, and enables continued growth and continuous performance innovation through human resource realignment, collaboration with outsiders, and devolving more authority in decision-making. The second feature is the re-configuration of resources according to market conditions. This is an organisational management method for responding flexibly in unpredictable market conditions. When organisations adopt telecommuting, it is a reflection of transforming their traditional office-based work processes to a flexible work arrangement that allows employees to work from different

locations outside the traditional office building hence injecting flexibility into the work patterns of employees.

The need to link telecommuting to the Dynamic Capabilities Theory is based on the innovativeness attached to telecommuting as a work practice that can enable an organisation to gain competitive advantage. Since its development, telecommuting has been characterised with various levels of improvements, all with the objective of propelling the organisation to innovate, take advantage of opportunities and achieve competitive advantage. When an organisation identifies a promising opportunity and reaches a performance that is higher than that of their competitors, this works as an empiric indicator of competitive advantage (Schilke, 2014). This usually requires making good use of the several types of internal resources (Sotarauta, 2016). The antecedents to innovation are dynamic capabilities, defined as “the ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments” (Teece, Pisano, & Shuen, 1997, p. 516). These capabilities are unique to each organisation and feature dynamic flexibility; the abilities to change, configure, and improve these capabilities (Penhoet & Andersen, 2021).

This study will apply the Dynamic Capabilities Theory to assess whether private and public organisations will be able to gain competitive advantage by innovating their work practices through the design and implementation of telecommuting. The Dynamic Capabilities Theory was adopted as the theoretical framework for this research because it is believed that it will contribute to corporate sustainability which may be obtained as a result of the operational efficiency the organisation will gain from the adoption of telecommuting work practice.



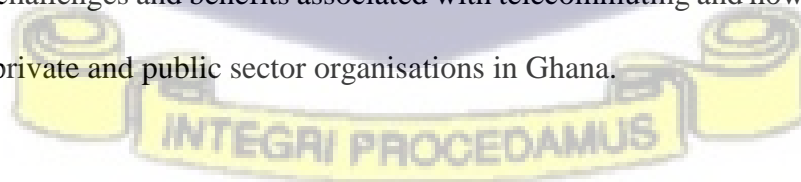
1.3 Purpose of the Study

The aim of this thesis is to explore how telecommuting impacts work performance in private and public sector organisations in Ghana. This thesis investigates telecommuting and its impact on work performance through three perspectives. First, examining the design processes involving telecommuting practice in private and public organisations. Second, it will investigate whether telecommuting impacts work performance positively or negatively. Third, this thesis will also assess whether the challenges and benefits associated with telecommuting can impact work performance. These purposes when achieved will help to provide a broader understanding of the connection between telecommuting and work performance of employees in private and public organisations in Ghana.

1.4 Research Objectives

The broad objective of this study is to examine the impact of telecommuting on work performance. Specific objectives are listed below.

- i. Assess whether telecommuting impacts work performance in private and public sector organisations in Ghana.
- ii. Assess the mediating role of design processes and practices of telecommuting on the relationship between telecommuting and work performance in Ghana.
- iii. Examine the challenges and benefits associated with telecommuting and how they impact work performance in private and public sector organisations in Ghana.



1.5 Research Questions

Motivated by the knowledge gap, problem statement and the purpose of this thesis, this thesis' research questions are listed below.

- i. To what extent does telecommuting impact work performance in private and public sector organisations in Ghana?
- ii. Do the design processes and practices of telecommuting mediate the relationship between telecommuting and work performance in Ghana?
- iii. To what extent do the challenges and benefits of telecommuting impact the relationship between telecommuting and work performance?

1.6 Research Hypotheses

H1: Telecommuting will significantly and positively affect work performance.

H2: Telecommuting design processes and practices will mediate the relationship between telecommuting and work performance.

H3: Telecommuting challenges and benefits will mediate the relationship between telecommuting and work performance.

1.8 Significance of the Study

Practice. Understanding the impact of telecommuting on work performance can assist organisational leaders in making more informed decisions particularly with regards to how their organisations will adopt telecommuting as a work practice. Insights from this study will serve as a guide to the design of telecommuting as a work practice.

Policy. This research will investigate how telecommuting impacts work performance as well as the design, implementation, benefits and challenges of telecommuting as a work practice. Therefore, this study holds implications for organisational leaders in multiple sectors such as private and public who are exploring the decision to adopt telecommuting as a formal workplace practice. Results are targeted towards enhancing organisational leaders' knowledge and to inform them on the best practices they can use to formulate sustainable policies on telecommuting.

Research. The study shall be used for further research in the future in several ways. The literature obtained can serve as a reference point for future studies. Again the developed conceptual framework shall provide a base work for future studies.

1.9 Scope of the Study

This study focused on how telecommuting impacts work performance in private and public sector organisations in Ghana, with telecommuting as the independent variable and work performance as the dependent variable. The private and public sector constitutes the largest portion of the total organisational framework in Ghana. Even though telecommuting has many components, this study was limited to assessing specific components such the design processes and challenges and its impact on work performance in selected private public and sector organisations. The geographical scope of this study included respondents in Accra, Tema, Takoradi, Tarkwa, Kumasi and Cape Coast. The study also focused on personnel at the top management/strategic, middle management and operational/supervisory levels in the selected organisations. The time scope of the study was between June 2022 and August 2022. This study did not collect data on the infrastructural base of telecommuting in the selected organisations.

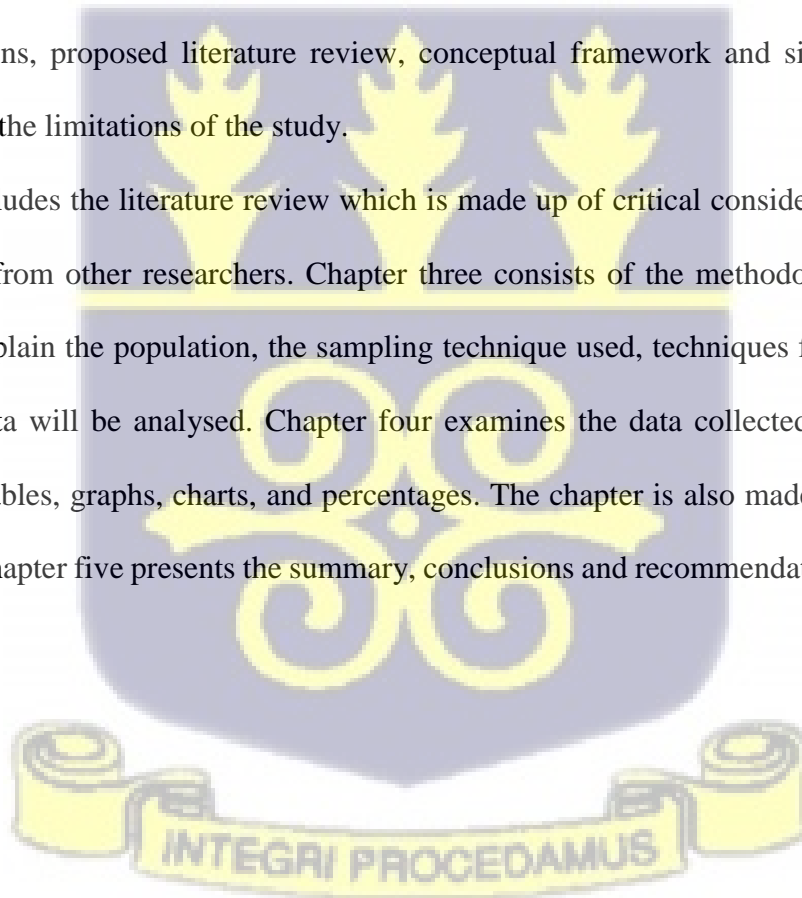
1.10 Limitations of the Study

First, this study presents a general overview of evidence existing in the literature, without explicit scrutiny of specific studies, journals or online databases. Further, the author recognises that the concern of the study embraces only published and/or peer-reviewed academic articles available and published only in the English language. Again, data will not be collected on the infrastructural base of telecommuting in the selected organisations for the study.

1.11 Organisation of the Study

This thesis contains five chapters. Chapter I includes the study's introduction which is made up of the research background, problem statement, purpose of the study, objectives of the study, research questions, proposed literature review, conceptual framework and significance of the study as well as the limitations of the study.

Chapter two includes the literature review which is made up of critical consideration and review of other works from other researchers. Chapter three consists of the methodology used for the study. It will explain the population, the sampling technique used, techniques for data collection and how the data will be analysed. Chapter four examines the data collected and the analysis represented in tables, graphs, charts, and percentages. The chapter is also made up of discussion of the results. Chapter five presents the summary, conclusions and recommendations of this study.





CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on the information relevant to this study. The literature was derived from studies related to the topic and problem statement of the study. The information presented in the literature review is organised into themes. The themes to be discussed in this section include the origin of telecommuting, types of telecommuting, design processes of telecommuting as well as the challenges of telecommuting. The relationship between telecommuting and work performance in organisations will be reviewed. The chapter will also review works on telecommuting and its relationship with the Dynamic Capability Theory.

Although teleworking has been the subject of research for some years, a commonly shared definition is not yet in place (Baruch, 2001; Parry, Young, Bevan, Veliziotis, Baruch, Beigi, Bajorek, Salter, & Tochia, 2021). Baruch (2001, p. 114) complained that, despite the already lively discussion in the literature, there was not even a shared terminology. Teleworking, (also called telecommuting, flexible working or remote working, but hereafter referred to as teleworking) is a way of working that has been enabled due to technical development (Leonardi, 2021). Telework is an alternative work arrangement in which employees perform tasks at a different location from the primary or central workplace for at least part of their workday (Gajendran & Harrison, 2007). This allows workers to access their work activities through the use of information and communications technologies (Nakrošienė, Bučiūnienė & Goštautaitė, 2019).

The International Labour Organisation (2021), report uses teleworking or telecommuting or work from home (WFH) and defines WFH as “a working arrangement in which a worker fulfils the essential responsibilities of his/her job while remaining at home, using information

communications technology”. The report focuses on the importance of WFH, especially during the pandemic, as an important way to reduce the spread of the virus. It also reveals that many employers are worried that their employees do not work as much as when they are at the office.

2.2 The Origin of Telecommuting

The concept of telecommuting was first formulated by Jack M. Nilles in 1975. At that time, Nilles was working remotely on a complex National Aeronautical and Space Agency (NASA) communication system. He told people what he was doing was “Telecommuting”, and the phrase was born. Nilles (1975), considered telecommuting as when employees in large companies were able to work away from the office, although not from home, due to the considerable growth in the information industry, the improved technological tools and changed societal views. The term telecommuting is used to refer to remote work, telework, working from home, virtual working and flexible workplace and since the concept was first developed by Jack Nilles, it has evolved and numerous ways of working virtually developed.

Various scholars refer to working virtually in different ways, ranging from virtual workplaces (Akkirman & Harris, 2004; Cascio, 2000), alternative workplaces (Apgar IV, 1998), virtual teams (Townsend, DeMarie & Hendrickson, 1998; Powell, Piccoli & Ives, 2004; Zakaria, Amelinckx & Wilemon, 2004) and teleworking (Bailey & Kurland, 2002; Garad & Ismail, 2018). Telework is not a new concept and has been implemented by companies around the world (Griggs, 2021). Telework is primarily executed in education and health, information and communication, and large firms (Pigni & Staffolani, 2019).

The research on telework dates back to the 1970s and 1980s in the transportation planning and information science fields. The term “telecommuter” originated with the work by Nilles (1975),

on the trade-off between telecommunications and transportation. While these early years focused on transportation issues, travel time or distance of commute has not been found to be a motivator or predictor of telecommuting in the United States (Bailey & Kurland, 2002), though the transportation perspective is currently being revisited by researchers in Eastern countries such as Vietnam (Akbari & Hopkins, 2018).

2.3 Types of Telecommuting

The concept of telecommuting has evolved and numerous ways of working virtually have emerged. Bailey and Kurland (2002), found that employees who were remote working only did so a few days out of a given month. Different types of telecommuting have also been identified.

Mokhtarian (1991), indicated that it would be convenient to group remote work types into home-based and non-home-based.

2.3.1 Home-based remote work

Home-based types include the methods which are discussed below. Running a home-based business as one's only job. Sometimes referred to here as a "primary home-based business". Moonlighting from home. That is, running a secondary home-based business, in addition to holding another job. A salaried employee working at home after hours. This is bringing work home after a full day at the office, to work overtime. A salaried employee working at home in lieu of in-office work. One of the "classical" forms of telecommuting. The salaried employee working at home instead of in the office usually meets the telecommuting criteria of commute reduction and remote work management. However, there are two types of gray areas: one relating to commute reduction and the other to remote work management. The first potential exception occurs when the alternative to "working at home" is "not working at all", rather than "working in a conventional office". This may sometimes be the case for mobility-limited segments of the

population such as the person with a disability, the single parent or the new mother. In these situations, commute travel is reduced.

Second, some classes of salaried workers do not have supervisors in the usual sense of the word: University professors, top executives of firms or public agencies, the President of the United States, and so on. Whether or not one refers to work at home by these kinds of people as telecommuting, their ability to work at home is unlikely to influence employers to allow it for their less-privileged types of employees.

2.3.2 Non-home-based remote work

Working from a centre closer to home than the primary office. This is the other "classical" form of telecommuting. The salaried employee working at a satellite or local centre nearer to home than the primary office also fulfils the two telecommuting criteria. These two categories - salaried employees working at home or at a centre near home are again considered the "classical" forms of telecommuting.

2.3.2.1 Field work. Making sales or service calls, or collecting data, at one or a variety of locations other than the primary office. Field and sales work may or may not involve a reduced commute, depending on whether the trip from/to home is directly to/from a field site or the central office. In many, if not most situations, the field worker is still required to report to a central site to be dispatched, to complete paperwork, to make phone calls, or simply for one's presence to be recorded before and/or after the workday.

2.3.2.2 Working while traveling. Possibly using cellular phones, portable computers, fax machines, voice mail and/or other computing/communications technology. In addition to the classification by Mokhtarian (1991), Pacific Bell (1992), also provided a three category

classification: Work at home, Satellite office and Neighborhood work centre. These three classifications as indicated by the company are explained further.

2.3.2.3 Work at home. This is the most popular form of telecommuting (by telecommuters). The employee designates work space at home to conduct business functions. This type of telecommuting is more appealing to women who have young children because it will offer them the opportunity to balance their professional life with family responsibilities.

2.3.2.4 Satellite office. This configuration enables employees from different functional units of an organisation (e.g., accounting, human resources, and data processing) to work together sharing office technology. The primary consideration in configuring a satellite office is locating the office in an area where high concentrations of employees live. The employees share a common interest of living in the same general vicinity as opposed to having similar job functions.

2.3.2.5 Neighborhood work centre. This type of arrangement is an enhancement of the satellite office idea and improves upon it by creating office space for employees from multiple organisations at one location to facilitate the sharing of technology for participants. Further, the employees are expected to be residents in the same locality where the neighbourhood work centre is located.

A follow-up to the classification of telecommuting by Mokhtarian (1991), was made by Kurland and Baily (1999), by defining four varying approaches to telecommuting including the home office, the satellite office, the neighbourhood work centre and mobile working.

2.3.2.6 The Home office. This arrangement enables employees to execute their assigned duties in their residences in personally created offices at their residences. When an employee uses this arrangement of telecommuting, it is vital that all the needed conditions are met in terms of access to the company's database(s), IT-security, necessary technology and having an ergonomic

working atmosphere. In some nations, warranting an ergonomic atmosphere for work to take place is legally compulsory as indicated by the countries 'rules and regulations regarding workplace environments' (Broughton, 2007).

2.3.2.7 The Satellite office. This is a smaller office in relation to the organisation's branch office or head office and may not have all the required office equipment, fixtures and fittings as may be available at a main branch or head office. However, there could be an issue of satellite offices being adopted by larger organisations in large metropolitan areas in order to ensure that it will be utilised for smaller businesses and organisations. Satellite offices are mostly located in the middle of communities or in shopping centres or malls. Satellite offices can also be located closer to the residences of employees.

In comparison to the home office, the satellite office is likely to accommodate more employees and the size of the satellite office varies based on the requirements and size of the organisation as well as the number of employees who are expected to make use of the facility (Lindén & Oljemark, 2018).

2.3.2.8 The Neighbourhood work centre (NWC). This is similar to the satellite office but with minimal facilities as the NWC can accommodate more than only one company's employees (Kurland & Bailey, 1999). While the NWC provides similar status of work arrangement and work flexibility as well as employee relationship and social interaction for workers as the satellite office, it lacks the ability to enable the manager effectively supervise their subordinates. (Kent & Williams, 1990).

2.3.2.9 Mobile working. This is known as "working on the go", and it is a work arrangement that enables a person to perform assigned duties primarily at any location apart from the traditional office space such as the shopping mall, airport, shared office, clients' office (Kurland & Bailey,

1999). In contrast to the home office where workers are sent home and specifically work from home, mobile working arrangement enables employees to work for a longer period of time away from home (Lindén & Oljemark, 2018).

Other scholars provide an alternative classification of telecommuting made up of three groups namely: home-based work or homeworking, group-based teleworking including satellite-office and neighbourhood office centres and mobile telework or otherwise called nomadic (Taskin & Devos, 2005; Wilson & Greenhill, 2004). Some argue that there are more types of telework such as independent telework and networking or flexible teleworking systems (Nunes, 2005; Taskin & Devos, 2005). It should be noted that there are additional categories of telecommuting which are based on different variables.

Various categories of telecommuting can be listed considering these variables. In a study of thousands of teleworkers in 10 European countries, Japan and the USA, six main categories of teleworking stand out (European Commission, 2000). Rosenfield and Alves (2011), systematised the following types. Work from home identified by the term small office/home office (SOHO). This is where the employee performs assigned duties from his/her residence. Work from satellite offices is where workers perform their assigned duties in scattered small units of a central company. Work from telecentres is where the assigned duties are performed from a facility located closer to the residence of the employee that offers work positions or several telematic organisations or services to remote clients. Mobile work is where work is conducted outside the home or main office and it includes business or field trips and work at the client's premises. Work from remote or offshore companies enables the employee to work in call-centres or tele-services through which organisations fit satellite offices or subcontract telecommunication companies from different parts of the world which is assumed to have minimal operational expenses as well as

minimal labour costs. Informal work or mixed telework is an arrangement with the employer to work a few hours outside the company. These categories of telecommuting are similar in terms of workplace flexibility and often, the time invested in the work, replacing the worker's commute to the contracting headquarters through remote information and communication tools (Rocha & Amador, 2018).

The definitions proposed for the categories of telecommuting are at times blurred and do not always outline exactly what types of teleworkers are actually accounted for (Tremblay & Thomsin, 2012). For this reason the following five main types of telecommuting are encountered in the world of work (Morgan, 2004; Hislop & Axtell, 2009).

Home-based telework. This arrangement allows the worker to conduct his/her assigned duties from home. Home-based telework (HBT) is a relatively delicate concept with mixed literature (Nguyen & Armoogum, 2021). Home-based teleworking cannot be used to accelerate rural development or diversification strategies, unless the subject of specific policy action at the minimum, it would be important to ensure that improved telecommunications infrastructure is not limited to urban areas, preventing people who live in rural areas from working from home.

Telecentres. These are local facilities where people who intend to reduce the burden and cost of travelling to a central location to work can use to perform their work. A telecentre is a public facility that provides people with access to computers, the Internet and other information and communication technologies that enable them to gather, create, learn and communicate information for social and economic development. A telecentre is also known as a rural information technology centre where it is a hub-technological in rural areas for locals utilising technology (Lee, 2010). Short (2001), indicated that a telecentre provides some ICT equipment such as computers, Internet, printers, and digital cameras that can be used to perform varying tasks.

In addition, a telecentre is a non-profit public place where the public can access free computers and other digital technologies equipped with software and connected to the Internet which can be used to perform different work assignments. Again, telecentres are accessible centres that enable technology and connectivity to be within the physical reach of community members by conveniently locating them within the community, as well as providing affordable computer and Internet access at low or no cost to the user (Prado & Janbek, 2013). According to Tizala (2011), telecentre is a strategy to improve the quality of life of the poor who need to be concerned about whether they benefit or access the appropriate provisions provided.

Telecottages. Tremblay and Thomsin (2012), refer to Telecottages as a place where employees are converged to serve different employers. These are locally-based facilities that offer the teleworking community the opportunity for personal interaction, skills development, and high-performance information and communication technologies (Morgan, 2004; Hislop & Axtell, 2009). Again, Telecottages can be described as "a community access point equipped with advanced information technology" (Fabulya, 2006; p. 3.).

Ferenc (2004), explained that a Telecottage is a facility equipped with information and communication tools of appropriate quantity and quality and employees of appropriate numbers and qualifications, as well as being a tool for the local community development – which is able to operate as a community venue. One of the main aims of establishing Telecottages is to have a place for community access, so that those who have no appropriate computer and Internet connection can find a place where these things are provided (Gáspár, 2003).

According to Bihari, (1999, p. 86) “the Telecottages is multifunctional, open information and telecommunication service provider of small communities.” While Bihari (1999), focused on Telecottages as community information provider, Ferenc (2004), adopted a more work related

dimension to Telecottages by stating that “In my opinion the most important duty of Telecottages is to provide a background to the development of local workforces with the help of its information technology tools and educated workforce”. This implies that providing local residents with office and IT services and, in addition, enhancing opportunities for developing their knowledge and qualification through courses and activities. Further, Telecottages can be used to enhance the provision of IT infrastructure in rural settlements by providing community access (Ferenc, 2004). The approach adopted by researchers on Telecottages should not be a matter of contention. The most important issue should be the contribution it makes as stated in a Parliamentary Office of Science and Technology (1993), report that Telecottages have the potential to yield numerous opportunities to rural communities through the generation of local training and employment opportunities and can also act as a focus for helping disabled workers participate more fully.

Mobile telework. With this arrangement, the employee is not resided at a stationary place but moves to different places to maximise the delivery of services or capabilities. The employee does this all with the objective of achieving work flexibility and increasing productivity and enhancing customer satisfaction.

Functional relocation. With this arrangement, organisational activities are focused and conveyed from a different location.

To conclude, it can be said that telecommuting is not an identical and static arrangement, but rather a variety and a consequent range as has been indicated by researchers (Wilks & Billberry, 2007). Further, it should be noted that these categorisation of telecommuting modes may only be applicable to the local situation in Ghana because people who telecommute normally do that from their personal residences.

2.4 Design Process for Telecommuting

According to the University of Washington (2021) publication, the suitability for telecommuting will be determined by the person who is supposed to participate in the telecommuting arrangement, the job to be performed, the willingness of the employee to participate in telecommuting as well as the willingness of team members and supervisors to support telecommuting arrangement. As to the question of who can telework and how much, is provided by Matos (2015) in a statement that ‘the suitability for telecommuting will be dependent on the specific duty to be performed and whether that duty can be performed offsite and the procedures for selection should be very fair and transparent, objective and free from bias’. The author’s assertion is supported by the United States Office of Personnel Management (2021) report that, “overall, the eligibility of a given position for telework should be grounded in a determination whether the position’s duties and responsibilities may be performed at an alternative worksite without diminution of employee performance or agency operations and that process should be as transparent as possible”.

The decision to telecommute will be the choice of management and such a decision should be made with the highest level of carefulness in terms of financial prudence, employee choice and not based on a single factor such as reducing operational expenses. The decision to be made should be objective and based on enhancing corporate productivity and providing work flexibility, employee satisfaction and commitment. Teleworking may be very prudent for those category of employees who work in jobs that are classified as knowledge-oriented segments (Bouziri, Smith, Descatha, Dab & Jean, 2020; Espinoza & Reznikova, 2020), whose jobs do not require the direct interaction with customers and also whose jobs do not require physical support from other employees and may not need the use of devices, tools and equipment that are located permanently in the office building. Those work activities that involve physical production with machines

located in a manufacturing facility or workshop may not have the opportunity to participate in telecommuting arrangements.

2.4.1 Characteristics of positions that do not lend themselves to telework

Work activities that need the assistance of certain employees, stationary work documents or particular work environment and machinery to facilitate effective performance. Work activities that require constant inter-personal interaction and which was not performed well using telecommuting during the COVID-19 quarantine period. Work activities that involve regular face-to-face meetings and physical presentations. Work activities that will cause the telecommuting arrangement to burden the employer with additional expenditure, for instance equipment duplication. Work activities that will make the telecommuter's absence affect other colleagues in a negative manner.

2.4.2 Characteristics of positions that do lend themselves to telework

Work activities that can be performed out of the employee's traditional office premises. Telecommuting does not impact work quality and organisational activities. Telecommuting does not increase the organisation's expenditure. Telecommuting does not adversely affect group operations in the organisation.

A relatively recent success factors for telecommuting was provided by Ye (2012).The author provided six guidelines which he believed could enhance the successful implementation of telecommuting. The six success factors are eligibility – basis for choosing participants, technological infrastructure support, telecommuting worker training and help desk support, remote worker management and performance evaluations, telecommuting rules and policies, telecommuter agreement and contract.

2.4.2.1 Eligibility. Teleworking is not universally applicable. Teleworking involves conducting operations from a location that is outside the traditional office building without working colleagues. What should be understood is, the fact that a worker has an outstanding performance in the office location may not mean that he/she will be able to transfer such performance when engaged in teleworking. This is because when teleworking, other factors such as individual and job-oriented are likely to affect the individual's performance. According to the author, certain personal factors as professionalism, dependability, resourcefulness and communication should be considered in determining a person's eligibility for telecommuting.

2.4.2.2 Technological infrastructure support. A holistic teleworking arrangement involves a technological infrastructure which is perfectly designed and integrated into the organisation's local area network (LAN) and wide area network (WAN) infrastructure. The objective is to establish an optimum assistance atmosphere. The author indicated that interconnected architecture, hardware management and value-added applications should be considered as they are determining factors for a successful telecommuting implementation.

Although what the author indicated was true, the development of Zoom, Microsoft Teams and Google Meet have resulted in telecommuters having easier and more reliable access to their organisations' workspace electronically.

2.4.2.3 Training. A successful implementation of teleworking arrangement is dependent on how the participants are equipped with additional knowledge, skills and competences. The subject of providing participants with additional knowledge, skills and competences is double-edged. Firstly participants should be trained on the utilisation of the technological devices that are required for telecommuting. Secondly, IT experts should also be equipped with additional knowledge, skills and competences to provide the required expert assistance when the need arises.

2.4.2.4 Telecommuter management and performance evaluation. Handling office location workers can be challenging, but it is more difficult when handling them as telecommuters. Teleworking arrangements have many problems due to the absence of a supervisor. Organisations that intend to adopt telecommuting arrangement must first evaluate the existing work procedures and practices to be able to identify their limitations and implement corrective measures before the adoption. The author emphasised that handlers of teleworking arrangement should enhance their core knowledge and competences to have the ability to choose jobs that are eligible for telecommuting and formulate the procedures that can facilitate the successful adoption of telecommuting with emphasis on excellent work performance and effective communication.

2.4.2.5 Rules and policies for telecommuting. The participants in a telecommuting arrangement should be provided with the procedures and guidelines relating to the arrangement when they are about to be enrolled in it. Such procedures and guidelines will provide them with the required awareness that will enable them to work effectively in the accomplishment of their assigned duties.

2.4.2.6 Telecommuter agreement and contract. Adding to the procedures and guidelines stated earlier, participants in a telecommuting arrangement should be made to sign a Telecommuting Agreement and make sure that they have read and understood them before they commence their participation in the telecommuting arrangement.

The South Carolina Department of Administration (2020), provides more recent guidelines for effective implementation of telecommuting. The guidelines include an organisation-wide teleworking policy with a manager to manage it, pinpoint the exact duties that are suitable for teleworking, ensure that managers and subordinates who will participate in the teleworking arrangement are made to sign the Teleworking Application to help in identifying suitability, ensure

a teleworking agreement between the organisation and the selected workers before they are allowed to telework.

It is generally believed that teleworkers must have certain inherent characteristics to enable them perform their assigned duties perfectly as teleworkers. Further, superiors who handle teleworkers are advised to conduct individual assessment for their subordinates before they are permitted to participate in the teleworking arrangement. The appropriate person for teleworking arrangement is supposed to be reliable, an expert, capable, self-sufficient, team player, a perfect communicator and above all must be able to operate the devices that are used for teleworking.

2.5 Benefits of Telecommuting

2.5.1 Benefits of Telecommuting for the Employer

Lister and Harnish (2019), conducted a study analysing telework in the United States of America (U.S.A.). They concluded that most employees in the U.S.A. prefer working from a distance due to the benefits of working away from the office, fewer conflicts, more efficiency, and a more fulfilling life as well as more savings from the money they would have otherwise spent on commuting. The authors emphasised that for all of these benefits to be real, teleworking should be done correctly, in a combined effort of both partners (employer and employee). Training on this type of work might be a good starting point. Choudhury, Foroughi and Larson (2020), analysed the efficiency generated by WFA compared to WFH. The results in terms of productivity favour WFA, which grants more flexibility to employees.

Thorstensson (2020), argues that many factors influence teleworker productivity. Thus, even if most studies show a positive impact, the extent of the effect depends on factors such as the technology and the equipment available for the personnel who are working from home and the

employee attitudes towards this type of work arrangement. The author also highlights the fact that productivity is also dependent on the context. For example, some teleworkers can have lower productivity in times of crisis, such as during the pandemic, due to the imposed self-isolation.

Increased productivity. Productivity depends significantly on personal motivation and the home environment. Research shows that employees who telecommute are 20% to 25% more productive than their office counterparts (Wrike, n.d.). It is impressive that most workers, amid a global pandemic with added stress, non-ideal work conditions, and some having their children at home, were still able to be just as productive or increase their productivity (Maurer, 2020).

Financial benefits. The decision many companies make to have at least a portion of their employees continue to work remotely decreases the need for the amount of office space pre-pandemic. The decision of what to do with the extra space can be difficult. Should it "be redesigned to build corporate culture, engage employees, enhance employee collaboration, or facilitate innovation," or do they utilise the space as a showcase for customers (Faulds & Raju, 2021: p 30). By decreasing the real estate footprint, a business will save about 20% per employee cost (Faulds & Raju, 2021). Research estimates that telecommuting half the time can save employers about \$11,000 per year per employee working remotely (Hyken, 2020)

2.5.2 Benefits of Telecommuting for the Employee

Work/Life Balance. Many parents, primarily mothers of young children, prefer telecommuting (Arntz, Yahmed & Berlingieri, 2020). If employers permit employees to schedule their working hours to when it works best in their schedule or when they are most productive, this eliminates the traditional 9 am-5 pm work hours that do not cater for all employee's needs (Dvorak, 2021).

Cost Savings. The ability to work from home provides employees significant cost savings to live further from their employer, such as suburbs versus metropolitan areas and decreased travel and associated costs such as gas, transport, and vehicle expenses (Faulds & Raju, 2020). In a simulated mid-sized city where every worker teleworks at least one day a week, transportation costs decreased 20% (Merrefield, 2020). For individuals who work in a tier-1 city, the cost of transportation can total \$6,000 per year or more (Faulds & Raju, 2020). Other potential cost savings associated with decreased commute include "reduced child care expenses, dry cleaning expenses, and eating out" (Faulds & Raju, 2020: p 33).

Flexibility. Flexibility within a workday can significantly benefit those who have health conditions, care for children or relatives, attend frequent medical appointments, and need therapeutic treatments (Schur, Ameri & Kruse, 2020). Flexible work arrangements, such as those that allow employees to determine the hours they work rather than the standard 9 am to 5 pm, allow employees to arrange their work schedule to when they are most productive. It increases self-discipline and productivity, less boredom, and reduced procrastination (Wang, Liu, Qian & Parker, 2020).

Reduced inter-personal conflict. Virtanen (2020) citing Johnson (2019), suggested that remote work tends to lessen conflicts among employees. The author indicated that once employees get along with the colleagues in distance work, it makes them more effective and boosts a positive attitude towards their task and overall motivation. This implies that restricted conversation and the scope of conflict go hand in hand. Since remote work is more likely to limit formal or informal discussions, it can be assumed that it also narrows the chance of disagreement between the workers.

Broader opportunities. According to Messaoud and Gupta (2021), remote work also broadens the options for both employers and employees. For example, the workers can apply for job opportunities in different cities or regions without moving from their current location. Similarly, businesses can take advantage of a diversified and extended workforce and choose a suitable candidate for the position (Blumberga & Pylinskaya, 2019). Consequently, both parties can benefit from the broader alternatives of getting proper matches according to their profiles, values, mission, and other personal aspects. This principally implies that employees can look for a wide range of careers (Felstead & Henseke, 2017).

Overall job satisfaction. Employees who telecommute have more autonomy and cost savings due to less commute, and increased flexibility in their work and personal lives, creating a better work-life balance (Dvorak, 2021).

2.6 Challenges in Adopting Telecommuting

Despite all of the benefits, telework has been banned by some important companies in recent years (Arthur, 2021; McCulloch, 2019; Assay, 2019), making this decision using the argument that collaborative work is critical, thus ignoring the new realities and attracting criticism from the people affected by these decisions. Furthermore, the COVID-19 pandemic made 21 crucial companies reconsider their work arrangements, thus allowing their employees to work remotely in the long term (Hadden, 2020).

While telecommuting experience is generally positive, there is a tendency to underestimate the positive influences and overestimate the negative experience of telecommuting prior to adoption (Maruyama & Tietze, 2012).

Increased work pressure. Telecommuting increases work pressure and work-life conflicts as indicated in a study conducted on a sample of 2960 participants from a large government agency in Sweden (Bjärntoft, Hallman, Mathiassen, Larsson & Jahncke, 2020). Telecommuting is found to have negative direct outcomes for return on labour with no significant effects on job satisfaction or staff turnover in a quantitative study involving 4,204 employees in Australia (Kotey & Sharma, 2019).

Lack of managerial support underpinned by concerns over performance of telecommuters due to prevalence of home-based distractions continues to dampen telecommuting adoption (Scholefield & Peel, 2009). High role conflict candidates are indifferent to telecommuting while candidates with low role conflict are more attracted to organisations offering telecommuting (Rau & Hyland, 2002).

Absence from organisational culture. Teleworkers miss the opportunity of being actively involved with the organisational culture (Messaoud & Gupta, 2021). A supportive organisational culture drives the motivation of its employees by making the work enjoyable and purposeful. When employees connect their identities with the organisation's values and mission, they find motivation within the work itself (McGregor & Doshi, 2020). The lack of embeddedness with the corporate culture results in inadequate identification with the organisational values and purpose followed by a lack of engagement and motivation (Messaoud & Gupta, 2021).

Absence of common working place and informal communication. Although there are numerous communication tools, the importance of interpersonal communication in problem-solving, creativity, and collaboration is incomparable (Howard-Grenville, 2020). Studies have found informal conversation and face-to-face communication keep the workgroups motivated, and on the contrary, lack of personal contact negatively affects motivation (Röcker, 2012).

2.7 Theoretical Framework-Dynamic Capability Theory

The theory underpinning this study is the Dynamic Capability Theory. The theory emphasises that in a dynamic and varying business space, organisations must possess high levels of flexibility and adaptability to be able to handle emerging challenges they are confronted with (Teece, 1997). The Dynamic Capability Theory offers path-dependent processes that enable organisations to instantly adjust to fast changing environments by implementing, integrating and re-configuring their resources and capabilities portfolio (Teece, Pisano & Shuen, 1997). The underlying belief of Dynamic Capabilities Theory is that the main competences of the firm must be utilised to change short-term competitive positions that can be used to build longer-term competitive advantage. Teece's idea of dynamic capabilities essentially indicates that what matters for business is corporate agility: the capacity to (1) sense and shape opportunities and threats, (2) seize opportunities, and (3) maintain competitiveness through enhancing, combining, protecting, and when necessary, re-configuring the business enterprise's intangible and tangible assets. Barreto (2010), emphasised that Dynamic Capabilities include an organisation's ability to methodically provide solutions by sensing opportunities and making timely market-oriented decisions. Eisenhardt and Martin (2000), indicated that Dynamic Capabilities consists of product development, strategic decision making and alliancing.

Dynamic Capabilities Theory was created in the seminal article "Dynamic Capabilities and Strategic Management" by Teece, Pisano and Shuen (1997). The authors conceptualised Dynamic Capabilities as those that identify and take advantage of opportunities and reshape the internal assets for continuous development in order to achieve sustainable competitive advantage. Wang and Ahmed (2007), referred to Dynamic Capabilities as an organisation's behaviour constantly

oriented to integrate, re-configure, renew and recreate its resources and capacities, and to update and reconstruct essential capacities in response to the varying business atmosphere with sole objective to maintain competitive advantage.

The link between Dynamic Capabilities and telecommuting is established in the drive towards sustained competitive advantage. According to Karia and Asaari (2016), telecommuting is regarded as an organisation's strategic drive towards innovation for the accomplishment of sustained competitive advantage by adding value to all benefits of profit (economy), people (information society), or planet (environment). Organisations are likely to gain maximum benefits by perceiving telecommuting as a work arrangement that can enhance its ability to gain competitive advantage, especially with human capital rather than viewing it as a measure for reducing operational expenses (Offstein, Morwick & Koskinen, 2010).

The basic platform that enables the operationalisation of telecommuting is technology which reflects an innovation capability of a firm to achieve sustainable competitive advantage (Karia & Asaari, 2016), hence a strategic process that enables an organisation to redesign its resources to respond to the dynamic business environment to maintain a competitive advantage and adjusting to the changes (Teece et al., 1997). Further, telecommuting enables managers of human resources to have the opportunity to gain access to highly talented people globally (Offstein, Morwick & Koskinen, 2010) and when the organisation has superior talent base it will be able to use those talents to perform better than its competitors. Adopting telecommuting is not a new concept (Burrell, Johnson, Shufutinsky & Ramjit, 2021). There is proof indicating that telecommuting arrangement is implemented by organisations when there is the need for specific capability and subject matter expertise to be integrated into a team (Burrell, 2020). Eisenhardt and Martin (2000), emphasised that dynamic capabilities are the facilitating drivers that enable the development,

evolution and amalgamation of resources into new sources of competitive advantage. A dynamic capability perspective is emphasised to be an important platform when evaluating firms that operate in dynamic environments since it takes into consideration the internal and external organisational capabilities that facilitate processes of change (e.g., Eisenhardt & Martin, 2000; Mousavi & Bossink, 2017; Teece et al., 1997; Teece, 2007).

It should however be noted that the Dynamic Capabilities Theory (DC) is criticised in terms of its concept and the challenges encountered in identifying its associated benefits (Zahra, Sapienza & Davidson, 2006), the challenges encountered in trying to understand the concept of DC and the non-existence of models that can help in the measurement of the identified capabilities and their impact on the productivity of the organisation affect the credibility of the theory (Zott, 2003).

Another criticism against the DC Theory is its repetitiveness (Zollo & Winter, 2002) and its ineffectiveness in the provision of thorough responses with reference to how the concept operates (Schreyögg & Kliesch-Eberl, 2007). The DC theory is further criticised for the non-possession of clarity on what actually comprises its underlying principles (Ambrosini & Bowman, 2009).

According to Barreto (2010, p. 274) “the most significant causality associated with DCs is the promotion of competitive advantage”. It should be noted that various scholars have varying opinions with reference to how the DC Theory impacts organisational output. In earlier publications, authors assumed a direct relationship between DCs and sustainable competitive advantage, whereas in more recent papers, researchers have indicated that DCs have a direct impact on performance (Gremme & Wohlgemuth, 2017). They claim that DCs have an indirect impact on competitive advantage (Rindova & Kotha, 2001; Zott, 2003; Blyler & Coff, 2003; Weerawardena, Mort, Liesch, & Knight, 2007; Ambrosini & Bowman, 2009; Schilke, 2013). A range of authors believe that DCs can, under certain circumstances, indirectly, but ultimately lead

to sustainable competitive advantage (e.g. Wheeler, 2002; Blyler & Coff, 2003; Zott, 2003). Other researchers argue that DCs can indirectly cause temporary competitive advantage only (Eisenhardt & Martin, 2000; Schilke, 2013). Again some authors believe that DCs and their direct impact on a firm's resource base simply boost efficiency, but do not necessarily lead to any sort of competitive edge (Easterby-Smith & Prieto, 2008; Pavlou & El Sawy, 2011; Weerawardena, Mort, Liesch & Knight, 2007).

The justification for the adoption of the dynamic capability theory as the theoretical framework for this study is embedded in the fact that the constructs of dynamic capabilities are separated into different elements. These are sensing, seizing and transforming. Teece (2007) indicated that sensing (identification and assessment of an opportunity), seizing (mobilisation of resources to address an opportunity and to capture value) and transforming (continued renewal “reconfiguring the business firm's intangible and tangible assets”). These separate elements are also integrated into a single dimension all with the purpose of enhancing the competitiveness of the organisation. Barreto (2010, p. 271) defines a dynamic capability as a “firm's potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base”. Thus, dynamic capabilities are processes that enable an organisation to reconfigure its strategy and resources to achieve sustainable competitive advantages and superior performance in rapidly changing environments (Bleady, Ali & Ibrahim, 2018).

There is no doubt that environments are actually changing and these changes have also affected the way work is done in organisations. Telecommuting is changing the way work is conducted. Telecommuting is enhancing existing and acquired organisational technologies and integrating them with the human resources in the organisation to gain corporate competitiveness.

Combining the contracts of telecommuting and dynamic capabilities it is argued that organisations will be able to use their human resources who have the knowledge and expertise in technological applications to help them sense, seize and transform the opportunities in the environment towards the achievement of corporate competitiveness. Put together, the idea behind telecommuting is to use technological applications to innovate the way work is conducted in organisations and the idea behind dynamic capabilities is the combination of the contracts to gain corporate competitiveness.

2.8 Telecommuting and Work Performance

Viswesvaran and Ones (2000), defined work performance as “scalable actions, behaviours and outcomes that employees engage in or introduce that are linked to and contribute to organisational goals”. A widely endorsed definition of work performance as indicated by Koopmans, Bernaards, Hildebrandt, Schaufeli, de Vet and van der Beek (2011), is that of Campbell (1990), who said work performance is “behaviours or actions that are relevant to the goals of the organisation.” The assumptions associated with this assertion are that: (1) work performance must be emphasised with reference to deeds and not outcomes (2) work performance consists of those deeds important to the accomplishment of the organisation’s aims and (3) work performance is multi-dimensional (Koopmans et al., 2011).

Several research works have established a direct relationship between telecommuting and performance (Bhattacharya & Mittal, 2020; Messenger & Addati, 2013; Sánchez, Pérez, de Luis Carnicer & Jiménez, 2007; Harpaz, 2007; Arling, 2004). Fujii (2020), emphasised that telecommuting has the potential to enhance employee output causing him/her to be motivated. Bloom (2014), conducted a research for an organisation and concluded that telecommuters in a call centre achieved “13.5% more calls” compared to their colleagues at the main office location.

Numerous research works have evidenced telecommuting and perceptions of its effects (Bick, Blandin, & Mertens 2020; Brynjolfsson, Horton, Ozimek, Rock, Sharma & Tuye, 2020; Von Gaudecker, Holler, Janys, Siflinger, & Zimpelmann, 2020; Gottlieb, Grobovsek, Poschke & Saltiel, 2021; Hensvik, Le Barbanchon & Rathelot, 2020).

With reference to the link among telecommuting and work output, extensive literature from both supporters and opponents have been provided. Those who wrote in support, for example (Bloom, 2014; Allen, Golden & Shockley, 2015), found a link among telecommuting and job output. Further, it has been established that telecommuting surges productivity because there is the likelihood that employees who telecommute have the opportunity to avoid distractions from colleagues (Thulin, Vilhelmson & Johansson, 2019).

Numerous researchers have opined that telecommuters may not be very productive compared to employees in the main office building. However, several research works have provided evidence that telecommuters have high productivity levels because they can perform their assigned duties any time they desire without distractions from office colleagues (Nakrosiene et al., 2019). In the same vein, it is believed that telecommuting is becoming more acceptable to workers who want to achieve work –life- balance (WLB), which is the major cause for the popularity of telecommuting (Ko & Kim, 2018; Thulin et al., 2019). There is confirmation from the study performed by Bloom (2014, p.169) at C-Trip that proved telecommuting policy resulted in a 13% surge in worker output at a call centre.

Vega, Anderson and Kaplan (2015), established that telecommuters believe, they have the ability to accomplish increased work output because they have the opportunity to perform their work without any interruptions from their office colleagues. Specifically, with reference to telecommuters believing that they can surge their work productivity levels is as a result of no

interruptions from colleagues, serene residential atmosphere and the likelihood of being able to delineate domestic responsibilities to facilitate increased productivity (Nakrošienė et al., 2019). Contrary to the belief that telecommuters can surge their productivity levels, Jackson and Fransman (2018), emphasised that telecommuting does not automatically surge employee productivity because working from home can be adversely influenced by family distractions, professional seclusion and lack of co-worker support.

Generally, the direct link amid work output and teleworking is described based on varying factors (Peñas, 2021). First, certain researchers have indicated the possibility of telecommuters spending additional work hours compared to their colleagues in the traditional office building because they do not have to move from their residences to the workplace hence saving that commuting hours and transferring it to work performance to compensate for the granted opportunity (Gajendran & Harrison, 2007; Kelliher & Anderson, 2010). Second, telecommuting is characterised by minimal distractions (Bailey & Kurland, 2002), as well as additional freedom and independence which can lead to increased output (Vega, Anderson & Kaplan, 2015).

However, other studies identified that telework does not necessarily improve productivity or job satisfaction because of family disruptions and social isolation (Jackson & Fransman, 2018). Although working from home has been projected as an alternative with enhanced flexibility for employees, allowing a better WLB to be achieved, a connected risk may be the privacy capitalisation by professional life, thus leading to conflicts between the two spheres of individuals' lives (Aguilera, Lethiais, Rallet & Proulhac, 2016; Hilbrecht, Shaw, Johnson & Andrey, 2013). The flexibility gained from these work practices can increase the stress level of individuals, because they fulfil their professional and personal roles in the same space (Crosbie & Moore 2004; Powell & Craig, 2015). Those effects were translated into decreased productivity and lower job

satisfaction, under the influence of family proximity or time spent on other unpaid activities (Eddleston & Mulki, 2015; Saltmarsh & Randell-Moon, 2015).

2.9 Empirical Review of Telecommuting and Work Performance

The link amongst teleworking and work performance as well as job satisfaction has been conducted by different researchers globally.

The purpose of this section is to present the research findings of these researchers.

Khan, Nasrudin and Harith (2018), carried out a study on the relationship between the impact of teleworking engagement and employee performance. The target group of the researchers was employees in the oil and gas industry in Kuantan, Pahang in Malaysia. The main purpose of the study was to determine the most important effect of teleworking engagement that results in worker output. To facilitate the effective conduct of the study, the researchers adopted a correlational research and cross-sectional survey research design to explore the link between the variables. Upon the completion of the research, it was established that, all of the teleworking impacts that comprised job autonomy, work-family balance, work productivity and level of occupational stress have important link with worker output. The researchers in their recommendation indicated that subsequent researches should examine the impact of telecommuting in the private and public sectors to assess how effectively teleworking arrangement can facilitate the creation of knowledge based society. The research by Khan, Nasrudin and Harith (2018), manifests in this current study's foremost hypothesis statement which emphasised that there is a positive relationship between telecommuting and work performance in private and public organisations.

Kim, Mullins and Yoon (2021), also conducted a study on supervision of telework: a key to organisational performance in South Korea. The purpose of the study was to evaluate the function

of supervisors in handling and motivating telecommuters towards improving organisational productivity. The study used the data from the 2011 U.S. MSPB Telework Study which was “the most recent, comprehensive data set exclusively about telework at the federal level,” which was administered by MSPB in 2009. The main findings established that supervision, which includes results-based management and trust-building efforts improves performance of organisations that have telework arrangements. The limitations associated with the study were that quantitative survey data was used. However the researchers suggested that it would be helpful to collect qualitative data to capture the particularities of exactly why employees choose to use telework.

Another empirical research which was conducted to ascertain the impact of telecommuting on work performance was carried out by Abilash and Siju (2021). The study was conducted in the educational sector in Oman. The topic was telecommuting: an empirical study on job performance, job satisfaction and employees commitment during pandemic circumstances. The motive which the researchers had in conducting the research was to examine the relationship between telecommuting and its influence on job performance, employee commitment, and job satisfaction. Data was gathered by distributing questionnaires to various participants working from home. Convenience sampling was chosen focusing on 20 participants as a sample from each region of the country. The findings of the study indicated that telecommuting can promote up-to-date routine work and official meetings during the current situations. The study was limited geographically and contextually. Geographically, the study was conducted in only Oman which may not provide a vivid reflection of the impact of telecommuting on the work performance and satisfaction of employees. Secondly, the study was conducted in the educational sector of that country implying that the results would be limited to those participants in that sector.

Shi, Moudon, Lee, Shen and Ban (2020), also undertook a study in United States of America (USA), on the topic, factors influencing teleworking productivity – a natural experiment during the COVID-19 pandemic. The purpose of the study was to learn about personal factors associated with “successfully” WFH. The researchers used questionnaire with convenience sampling, with a large population of adults older than 18, living in the region’s four counties and obtained 2147 responses. Of the 2147 survey respondents, 38% reported being less productive since shifting to WFH; 37.6% reported having no change; and 23.8% reported being more productive than prior to teleworking. The study was limited geographically because it was conducted in a specific region of the country.

Susilo (2020), also did a research on the topic revealing the effect of Work-From-Home on job performance during the COVID-19 crisis: empirical evidence from Indonesia. The purpose was to determine the effect of work-from-home on job performance in that country. The methodology for the study involved the use of questionnaires which were emailed to approximately 2720 employees and there were 330 respondents. The output revealed that working from home, employees experienced greater enjoyment, satisfaction and motivation, thus enhancing job performance. The findings as indicated buttresses the statements in hypotheses I and 3 of this current study. The study was limited in scope since it was conducted in Indonesia. Again the researchers emphasised that the data collected was analysed without using control variables such as age and culture.

Liu, Liao and Peng (2021), also conducted a study in China on the topic ‘how and when telework improves job performance during COVID-19: job crafting as mediator and performance goal orientation as moderator. The purpose of the study was to clarify the relationship between telework and employees’ job performance through a moderated mediation model. The researchers engaged 1309 participants who were mainly employees who used telework during COVID-19, and they

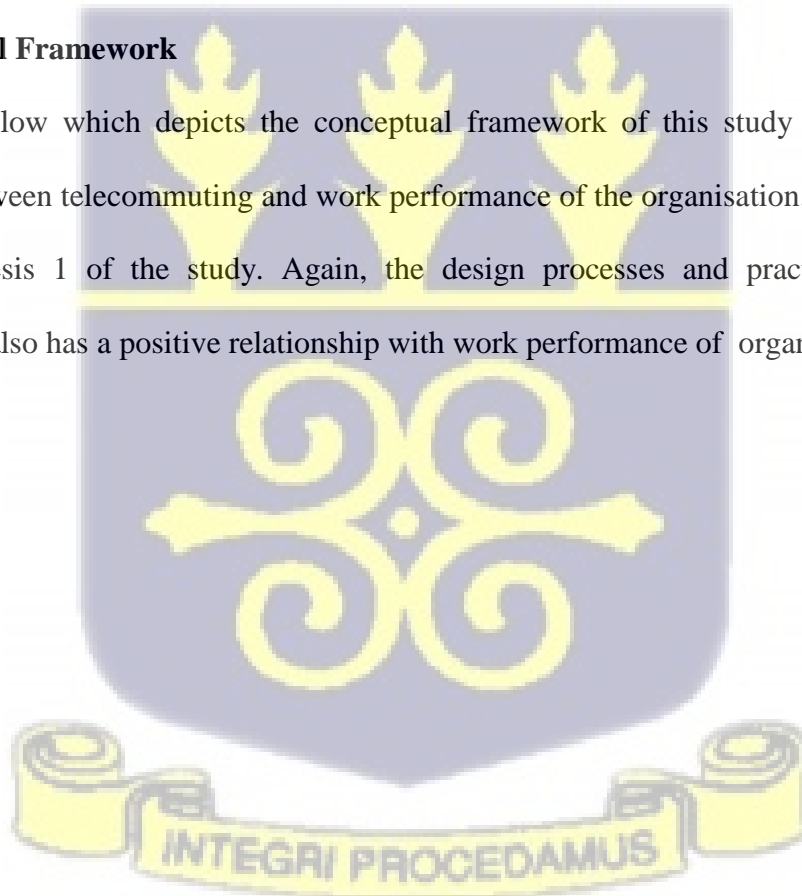
were mostly in positions such as product design and scheme planning. Structural Equation Model was used to test the hypotheses. Results from the research indicated that telework positively influenced job performance via job crafting. To some extent, this finding reflects hypothesis 2 of the current study which states that “the design processes of telecommuting practice influence the performance of employees and organisations.” The study was limited geographically as it was conducted in China. The study was conducted during the period of COVID-19, subjecting it to a contextual limitation.

Brunelle and Fortin (2021), did a research on the topic “distance makes the heart grow fonder: an examination of teleworkers’ and office workers’ job satisfaction through the lens of Self-Determination Theory”. The purpose of the research was to understand the dynamics underlying the impact of teleworking on employees’ job satisfaction. The study was conducted in an organisation with a formal teleworking programme; 448 respondents (211 teleworkers and 237 office workers) completed an online questionnaire. The findings from the research indicated that teleworking was a better way of meeting workers’ psychological needs for autonomy, competence, and relatedness. The nature of the study means that the results cannot be generalised. The study was conducted with a sample comprising employees from only one Canadian IT consulting firm. Karácsony (2021), did a research in Slovakia. The topic was ‘impact of teleworking satisfaction among Slovakian employees in the era of COVID-19’. The study examined whether Slovakian workers were satisfied with teleworking. A questionnaire survey was conducted among Slovakian workers. The snowball method was chosen as the method of sample selection. A significant relationship between teleworking satisfaction and salary satisfaction, supervisory support, and job autonomy were found from the study. The study suffered from geographic gap since it focused only on employees in Slovakia.

Schall (2019), performed a research in the USA on “the relationship between remote work and job satisfaction: the mediating roles of autonomy, work-family conflict, and telecommuting intensity. The purpose of the study was to examine the relationship between remote work and job satisfaction levels of employees at the workplace. An online survey with 185 participating employees was employed. The major implication of the findings was that increasing remote work at the workplace may be an efficient way to increase employees’ job satisfaction levels. The researcher recommended that future research on remote work should consider examining productivity as a possible outcome of remote work or examining other potential mediating workplace variables.

2.10 Conceptual Framework

The diagram below which depicts the conceptual framework of this study shows a positive relationship between telecommuting and work performance of the organisation. This relationship reflects hypothesis 1 of the study. Again, the design processes and practices involved in telecommuting also has a positive relationship with work performance of organisations.



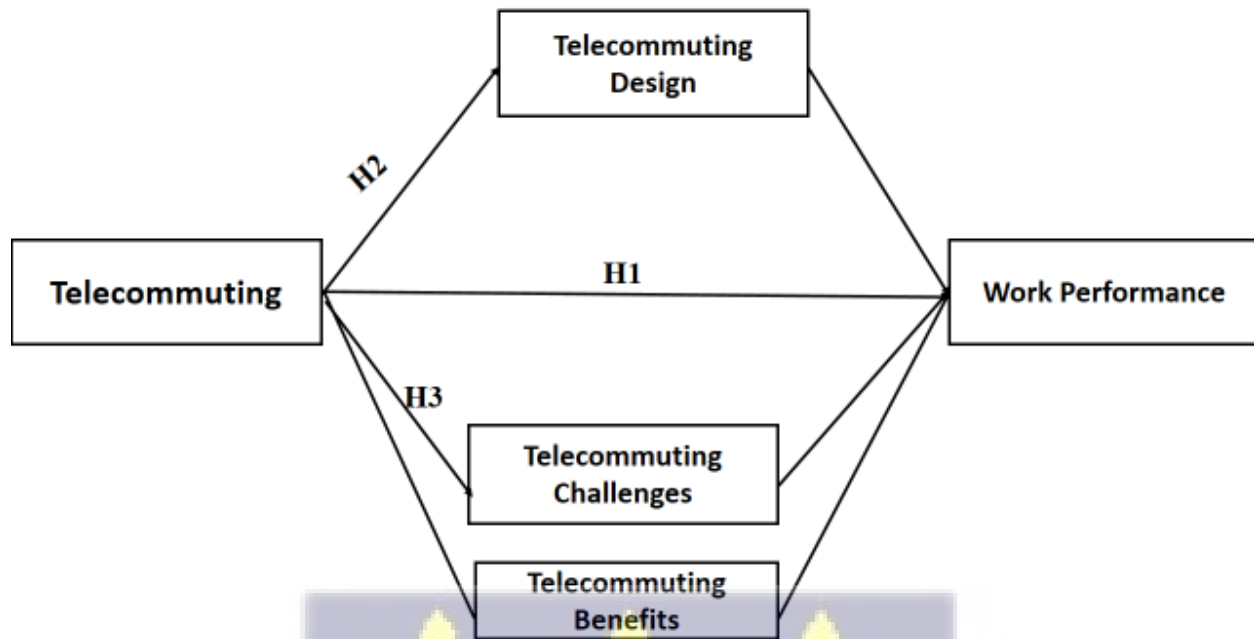


Figure 2.1: Conceptual Framework Designed by the Author

2.12 Summary

This chapter focused on the literature review and included the origin of telecommuting. The types of telecommuting and the design process for telecommuting were discussed. The relationship between telecommuting and work performance was also discussed. The Dynamic Capability Theory and its relationship with telecommuting was also discussed.

Chapter three will provide further details on the methodology used in this study. It will include the research design, sample and setting, instrumentation, data collection procedure, and data analysis.

The watermark is a large, semi-transparent crest of the University of Ghana. It features a shield with three golden flames at the top, a central golden emblem with a cross and four scrolls, and a golden banner at the bottom with the Latin motto 'INTEGRI PROCEDAMUS'.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter begins with an explanation of the philosophical assumptions leading to the research approach and the processes and techniques used in the study's design. Further, the chapter presents an elaborate explanation of the population and the demographic details of the respondents. It also provides an outline of the instrument for data collection. The methods adopted in the administration of the research instrument, data collection procedure, and data analysis are all examined in this chapter. An explanation of the ethical consideration regarding the study is also discussed in the chapter.

3.2 Research Philosophy

A research is based on some underlying philosophical assumptions about what constitutes valid research and which research method(s) is/are appropriate for the development of knowledge in a

given study (Antwi & Hamza, 2015). A researcher is expected to locate his/her research paradigm within a piece of research (Ugwu, Ekere & Onoh, 2021). Hart (1998), states the classification of research design issues from the definition of the ontological and epistemological framework of the research.

Philosophy is the rational inquiry aimed at knowledge acquisition in order to understand reality (Payne, 2015). A philosophical approach is best explained using the research onion with layers of ideologies influencing the layers within (Saunders, Lewis & Thornhill, 2009). ‘Research philosophy’ is an over-arching term relating to the development of knowledge and the nature of that knowledge’ (Saunders et al., 2009). When understood and embraced, this ‘research philosophy’ can be used to suggest possible means of tackling research problems, encouraging scholars to move beyond simply reiterating established approaches and ideas (Greetham, 2006; Zyphur & Pierides, 2019).

The fundamental question here is which component do we start with as the first stage in the research process? According to Grix (2004), research is best done by “setting out clearly the relationship between what a researcher thinks can be researched (ontological assumptions) linking it to what we can know about (epistemological assumption) and how to go about it (methodological approach), you can begin to comprehend the impact your ontological position can have on what and how you decide to study (p.68).

3.2.1 Ontology

Oxford’s online dictionary defines ontology as the branch of metaphysics dealing with the nature of being (Oxford, 2020). Ontology is concerned with the very nature or essence of the social phenomenon we are investigating (Scotland, 2012). Ontology, according to Lincoln and Guba (2013, p. 39) deals with the questions, “What is there that can be known?”, or, “What is the nature

of reality?” Ontology is so essential to a paradigm because it helps to provide an understanding of the things that constitute the reality, while the reality is what is there to study (Scott & Usher, 2004). Ontology is thus about how an individual perceives reality and whether this reality is external to an individual or is it the product of an individual’s sensory perceptions or is a problematic question with no conclusive evidence (Tat, 2020).

In social science, there are two main ontological positions one can apply: objectivism and constructionism (Bryman & Bell, 2011, p. 36). Objectivism suggests that social phenomenon existence and influence are beyond the influence of social actors, thus meaning that social entities are independent from social actors (Saunders, Lewis & Thornhill, 2009, p. 110). Constructionism on the other hand is an ontological position which implies that social phenomena not only occur as a result of social interaction, but they are constantly being revised (Bryman & Bell, 2011, p. 37).

From the ontological perspective, this study applies the objectivism approach. The reason for the adoption of the objectivism approach is that this study is a purely quantitative study. Quantitative researchers attempt to operate under the assumption of objectivity (Antwi & Hamza, 2015). Antwi and Hamza (2015) again emphasised that quantitative researchers assume that there is a reality to be observed and that rational observers who look at the same phenomenon will basically agree on its existence and its characteristics and try to remain as neutral or value-free as they can, and they attempt to avoid human bias whenever possible. As a result, it is necessary to assess whether telecommuting actually leads to increased employee productivity and job satisfaction. This study uses standardised questionnaire for data collection and once again as indicated by Antwi and Hamza (2015), quantitative researchers attempt to study the phenomena that are of interest to them

“from a distance” by using standardised questionnaires and other quantitative measuring tools to measure carefully what is observed.

3.2.2 Epistemology

The epistemology of a research paradigm refers to how we come to know something, how we know the truth or reality (Krauss, 2005; Nguyen, 2019). Oxford’s online dictionary defines epistemology as the theory of knowledge. Epistemology refers to what can be regarded as knowledge and what can be viewed as acceptable knowledge in a particular field of study (Bryman, 2008, p. 29; Saunders, Lewis & Thornhill, 2009, p. 112-113). Therefore, research epistemology is driven by a context-cognisant desire to understand how knowledge is created, which helps researchers identify the type of ‘proof’ required to ratify it (Eriksson & Kovalainen, 2015). According to Kamal (2019), epistemology has been explained as the process by which the investigator comes to know the truth and reality or, put another way, how do we know what we know? Saunders, Lewis and Thornhill (2009, p. 113-115), indicated that there are three main philosophies within the branch of epistemology, namely positivism, realism, and interpretivism. The positivism approach to research views the phenomenon as valid knowledge when it can be measured and observed (Collis & Hussey, 2003). Realism is another philosophical position, similar to positivism since it also suggests methods of natural science, and it advocates that researchers should focus on external reality (Bryman, 2008). Saunders, Lewis and Thornhill (2009), explain that according to realism, reality is to be defined by our senses, thus, meaning that the objective reality can be interpreted in different ways. Lastly, there is interpretivism, which argues that the social world is too complex to be theorised by laws according to scientific methods (Bryman, 2011). Interpretivism advocates that there are differences between humans as social

actors, which imply that it is up to the social researcher to capture the subjective meaning of a social act (Bryman, 2008).

From the epistemological perspective, this study adopts the Positivist approach. Positivist researchers use different methods of data collection, such as test, structured interviews and close ended questionnaires (Hussain, Elyas & Nasseef, 2013). They usually analyse the data statistically (Bryman, 2008; Creswell, 2003). In short, positivism embraces any approach which applies scientific method to human affairs (Grix, 2010). This framework maintains that reliable knowledge is based on direct observation or manipulation of natural phenomena through empirical, often experimental, means (Lincoln & Guba, 2000, 2005; Neuman, 2003). Telecommuting is a phenomenon that must be investigated to assess its relationship with employee and organisational performance as well as employee job satisfaction.

The philosophical underpinnings of a researcher such as the ontological and epistemological stance should be clearly defined prior to starting a research (Singh, 2015). A researcher should possess knowledge of the various types of philosophical positions as they lead to the choice of research methodologies (Greener, 2008). It was argued that the knowledge of diverse social research perspectives in university curriculums aided students in improving appreciation of diverse and alternative perspectives and methodologies (Bastalich, 2016).

Indeed, there are some rules of thumb for any research endeavour. Research should link to and build on existing knowledge, use an organised process of enquiry, and engage in theory development (Cohen, Manion & Morrison, 2007).

3.2.3 Methodology

According to Ugwu, Ekere and Onoh (2021), citing Keeves (1997), methodology is the broad term used to refer to the research approaches, designs, methods and procedures used in an investigation

that is well planned to find out something. From this definition, it becomes clear that data gathering, participants, instruments used, and data analysis are all parts of the broad field of research methodology. Methodology has been defined as “the method used in conducting the investigation” (Antwi & Hamza, 2015, p. 218). Methodology has also been described as, “how should we study the world” (Kawulich, 2015, p. 1). There are basically two types of research approaches, namely; quantitative approach and qualitative approach. However, a third approach known as mixed methods approach has been added (Creswell, 2003, 2014). Thus, what is essential is the selection of appropriate approach for a given research or inquiry (Makombe, 2017). Each research approach has unique characteristics in terms of its research designs and methods. Whereas the research design is the general way the researcher seeks to offer solution to a problem raised in order to meet the research objective (Melnikovas, 2018, p. 39), research methods refer to the way or how data is collected, analysed and interpreted (Makombe, 2017).

From the methodological perspective, this study adopts the quantitative approach for its data collection and analysis to align with the ontological and epistemological perspectives of research philosophies as emphasised by Kamal (2019), that the methodological aspect of a research must agree with the ontological and epistemological stances of the research. The Structural Equation Model (SEM) will be the major analytical tool for analysing the data for this study. Structural Equation Modelling (SEM), as a concept, is a combination of statistical techniques such as Exploratory Factor Analysis and Multiple Regressions. SEM enables the analysis of latent variables and their relationships, offering the opportunity to analyse the dependencies of psychological constructs without measurement errors (Nachtigal, Kroehne, Funke & Steyer, 2003). SEM also allows for multigroup analyses to determine whether constructs and paths are equivalent for different subgroups (Onder, 2016).

3.3 Research Design

Research design refers to the procedures and plans that are necessary to fulfil the objectives and answer the research questions posed by the study (Blumberg, Cooper & Schindler 2011; Saunders, Lewis & Thornhill, 2016).

The research design serves as the framework for the study being conducted (Trochim, 2006). The method of this study is a non-experimental, quantitative correlational research. Quantitative and correlational research assess the extent to which two or more variables are related (Creswell, 2005; Shadish, 2002). Quantitative research is a research strategy that focuses on quantifying the collection and analysis of data (Bryman, 2012).

A study using quantitative methods lends itself to a statistical procedure examining the relationships and differences among variables to form a conclusion (Groeneveld, Tummers, Bronkhorst, Ashikali & Van-Thiel, 2015; Venkatesh, Brown & Bala, 2013). Quantitative research focuses on gathering numerical data and generalising it across groups of people or to explain a particular phenomenon (Babbie, 2010).

The reason for using quantitative research is that it views social reality as objective, thereby applies objectivism ontology (Kumar, 2005), and the results of quantitative research can be predictive, explanatory and confirmatory (Williams, 2007). Kapondera (2021), citing Research Methodology (2018) and USC Libraries (2018), indicated that quantitative research gathers data that is numerical using structured instruments such as questionnaires or structured interviews. Kapondera (2021), further stated that quantitative research follows the principles of the natural sciences, particularly positivism. Some of the preoccupations of quantitative research include: measurement of the phenomenon hence concerned with reliability and validity; causality thereby examining its

causes and not description of how things are; predicting phenomenon and generalising the findings of research beyond the context in which the research was done hence rely on representative sample (Leedy, 1993; Ivankova & Creswell, 2006).

An advantage of quantitative research is that the findings can be compared directly, easily and statistically (Streefkerk, 2019b; Bhandari, 2020b). The strength of quantitative research is the opportunities that it provides researchers to interact and gather data directly from their research participants to understand a phenomenon from their perspectives (Gay, Mills & Airasian, 2009). The required information for this study is collected through questionnaire.

The justification for the use of quantitative method for this research is that quantitative and correlational research assess the extent to which two or more variables are related (Creswell, 2005; Shadish, 2002). Further, Streefkerk (2019) and Bhandari (2020), have indicated that quantitative research approach has findings that can be compared directly, easily and statistically. Miller (2020), emphasised that quantitative research has the ability to study a larger sample size for any hypothesis and it is easier to reach an accurate generalised conclusion. The author further stressed that researchers collect information for the quantitative research process in real-time scenarios so that statistical analysis can occur almost immediately. Another justification for the use of quantitative research is that the identity of the respondent is not known and this assertion is supported by Miller (2020), when he indicated that as long as researchers can verify that individuals fit in the demographic profile of their study group, there is no need to provide personal information. He further explained that, the anonymous nature of quantitative research makes it useful for data collection because people are more likely to share an honest perspective when there are guarantees that their feedback won't come back to haunt them.

Questionnaire, which is one of the tools for quantitative research was used for data collection and according to Sanders et al., (2016), questionnaire is one of the most widely used tools for conducting a survey. Questionnaires remain the single most common means of conducting surveys and are indeed probably one of, if not the most commonly-used research tool in the social sciences (Fife-Schaw, 2006). The use of questionnaire provides the information to be presented in a numeric way. Questionnaire method also has several limitations, for example lackadaisical attitude of respondents, non-attendance and lack of cooperation. The correlational design aimed to explain the connection between various variables or constructs in the study's population (Shadish et al., 2002).

3.4 Population of Study

In a research study, the population is a group from which a sample is drawn to which the researcher intends to generalise the results of the research (McMillan & Schumacher, 2010). Kumekpor (2002), indicated that a population or universe of investigation may be considered as the total number of units of the phenomena to be investigated that exist in the area of investigation, which are all possible observations of the same kind. The population for this study consists of 15 selected organisations comprising financial institutions, manufacturing companies, regulatory bodies, mining companies and public organisations. The reason for selecting the population of the study is that these organisations have the financial and non-financial resources to implement telecommuting.

3.4.1 Sample

A sample is a segment of a group of people selected for research which must be a representative of the entire population of interest (Rahi, 2017). The sample size has a great influence on the

outcome of findings and for the generalisation of study findings. The sample size determination formula by Miller and Brewer (2003), was adopted in ascertaining the sample size for this study.

The formula is given as:

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

Where n = sample size, N = population size, and α = error term.

Thus, $\frac{2675}{1+2675(0.05^2)} = 348$ respondents

The formula was employed to determine the appropriate number of respondents from various institutions selected for this study. Using the formula, the estimated total sample size was 348 and thus, per the sampling ratio, a total of 450 questionnaires were distributed by the researcher. However, a total of 350 questionnaires were retrieved. After the retrieval of the questionnaires and preliminary screening, a total of 337 responses were used for the analysis.

3.5 Sampling Techniques and Data Collection

For this study, the sampling procedures are convenience, purposive and snowball. Convenience sampling is a nonprobability random strategy with a readily available population, but volunteers may be unlike the target population (Fink, 2003). Participants were recruited through both convenience sampling and snowball sampling by starting with one contact within a population of teleworkers. Convenience sampling is a non-probability sampling method in which the selection of subjects is based on their availability, accessibility, proximity and suitability for providing data required for a study (Bhardwaj, 2019; Shorten & Moorley, 2014). As indicated respondents were chosen based on their availability and readiness to participate in the research. Again there was no need for any follow-up information meaning that information gathered at the time of the data

collection would be enough for the researcher. This is emphasised by (Bhardwaj, 2019). By indicating that convenient sampling is preferred chiefly when a researcher does not need additional inputs from subjects for principal research. Thus, data obtained by the researcher at the ‘convenient’ time of data collection is enough to make inferences about the responses provided by the subjects.

The snowball sampling technique was also adopted by asking participants to nominate others as there was no way the researcher could personally identify and get in touch with all the specific participants in the study.

The researcher accessed the participants through their representatives on a one-on-one interaction with the representatives who regularly represent their respective organisations in a series of programmes.

In total, 450 questionnaires were distributed to employees of the selected organisations. The participants were selected based on their experience as telecommuters or have telecommuted previously. The provisional distribution and retrieval of questionnaires is exhibited in Table 3.1.

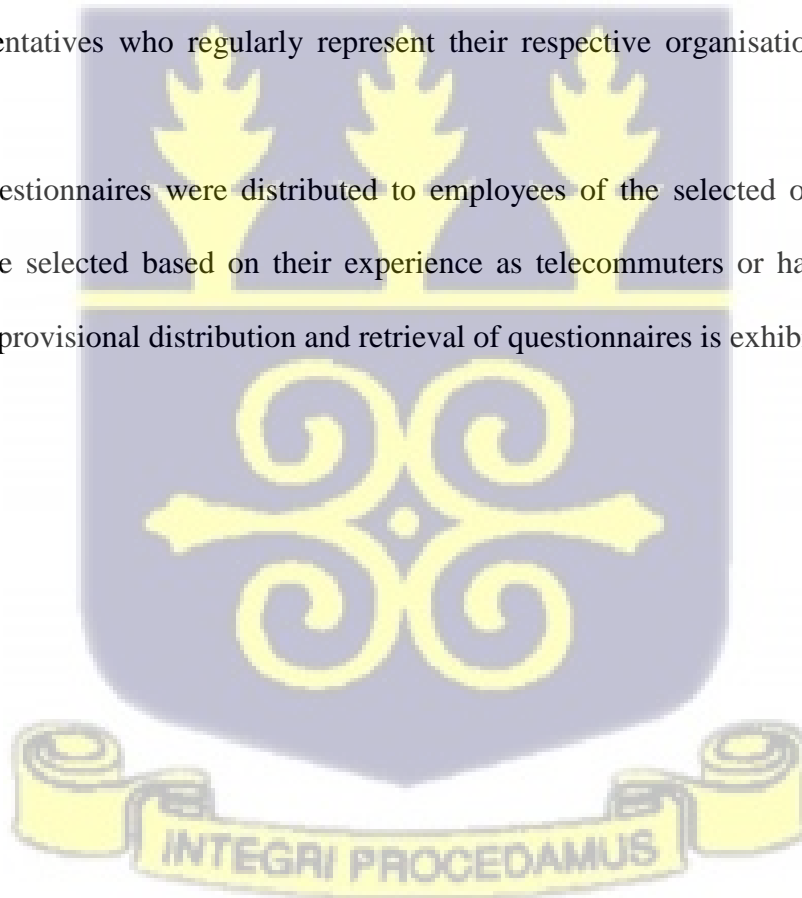


Table 3. 1: Distribution of Questionnaires

Name of Organisation	Number of Questionnaires Distributed
Nestle Ghana Limited	14
GCB Bank PLC	41
Societe Generale Ghana	30
Stanbic Bank Ghana	26
Bank of Ghana	20
Ghana Ports and Harbours Authority	29
Ghana Cocoa Board	20
Forestry Commission	36
Ghana Employers Association	10
Public Utilities and Regulatory Commission	15
Ghana Chamber of Mines	53
AnglogoldAshanti-Tarkwa Mines	01
Goldfields Ghana-Tarkwa	12
Ghana Civil Aviation Authority	20
Fair Wages and Salaries Commission	10

3.6 Description of Respondents

Demographic information was collected to be able to control for salient factors when testing the proposed relationships. Participants' demographic variables extracted included gender, age, education level, location, sector and teleworking experience.

3.7 Scope of Study

The research is conducted using employees working at the various levels such as top management, middle management as well as supervisory and operational levels in the selected organisations. The organisations selected for the study in the private sector included Nestle Ghana Limited, GCB Bank PLC, Societe Generale Ghana, Stanbic Bank, AngloGoldAshanti-Tarkwa Mines and Goldfields Ghana.

The public sector organisations included Bank of Ghana, Ghana Civil Aviation Authority, Ghana Ports and Harbours Authority, Ghana Cocoa Board and Forestry Commission. The regulatory bodies included Ghana Employers Association, Ghana Chamber of Mines, Public Utilities and Regulatory Commission as well as Fair Wages and Salaries Commission. Participants were included if they were between 18 and 60 years of age and had teleworking experience.

3.8 Research Instrument

To achieve the objectives of this research, 337 questionnaires were distributed among the selected employees of the mentioned organisations. The questions were the same for all the participants. Questions were close-ended and based on a 5-Point Likert Scale. In response, all the questionnaires were filled correctly and returned. The response rate was estimated to be 100%. The questionnaire was designed on Likert 5-Point Rating Scale (5=Strongly Agree, 4= Agree, 3=Neutral, 2=Disagree and 1=Strongly Disagree). To test the impact of the variables, the data was analysed through the Statistical Package for Social Science (SPSS). Telecommuting and its relationship with work performance was measured using the measurement scale developed by Grant, Wallace & Spurgeon (2019), five items were measured. The benefits associated with telecommuting were

measured using the scale of Raišiene, Rapuano, Varkulevičiute and Stachová (2020) and six items were measured. For the challenges of telecommuting, the measurement scale developed by Golden, Veiga and Dino (2008) and later used by Bentley, Teo, McLeod, Tan, Bosua and Gloet, (2016), was applied and eight items were measured. For telecommuting and job satisfaction the measurement scale used was the Michigan Organisational Assessment Questionnaire, a widely used scale in a variety of research fields with a reliability range of 0.77 to .87 (Golden, 2006). In addition, job satisfaction was measured by using an adapted version of Pond and Geyer’s global satisfaction scale, four items were measured.

Table 3.2: Reliability of Study Variables with the use of Cronbach’s Alpha Values

Variables	Original Value	Items Measured	Current Value	Valid
Work Performance	0.90	05	0.80	25
Telecommuting	0.82	06	0.77	25
Challenges of Telecommuting	0.85	08	0.70	25
Job Satisfaction	0.87	04	0.85	25
Telecommuting Design	-	08	-	25

Source: Field Survey (2022)

3.9 Reliability and Validity of Data Collected

In quantitative research, reliability and validity of the process and instruments are imperative for minimising errors that might arise from measurement problems in the study (Creswell, 2009).

Reliability refers to the accuracy and test-retest ability of a measurement instrument, meaning that a measure is replicable when administering it multiple times (Lochmiller & Lester, 2017).

Reliability was assessed using the Cronbach Alpha. To test reliability of the data, the researcher performed Cronbach's Alpha calculations; a reliability co-efficient of 0.70 or higher was considered satisfactory for this effort (Vogt, 2007). One threat to the construct validity was mono-method bias, which refers to using only a single operationalised variable (McMillian &

Schumacher, 2010). Validity comprised discriminant validity and convergent validity. The internal consistency of the data was tested by running Cronbach's Alpha Black (1999) using SPSS to generate the co-efficient alpha.

3.9.1 Piloting and Pre-Testing of Study Tool

Even though the items in the questionnaires were adapted from earlier research works by Lewis (2012) and Peñas (2021) and were tested for validity, the researcher of the current study tested the questionnaires on twenty – five (25) respondents who were not part of the sample to assess their understanding of items in the questionnaire and also to authenticate the validity and reliability of the data collection instruments before the main field work started. In checking for the reliability results for the pilot questionnaires, five main constructs were tested. The constructs tested were work performance, telecommuting, challenges of telecommuting, job satisfaction and telecommuting design.

For work performance, five items were measured and a Cronbach alpha value of 0.80 was obtained. For telecommuting, six items were measured and a Cronbach alpha value of 0.77 was obtained. Again for the challenges of telecommuting eight items were measured and a Cronbach alpha value of 0.70 was obtained. For job satisfaction, four items were measured and a Cronbach alpha value of 0.85 was obtained. Lastly telecommuting design, even though there were eight items in the construct, there was no previous basis for comparison and as a result was not tested.

For effective clarification in the pilot testing, a dedicated telephone number was made available to respondents to call for any clarification on the items included in the questionnaire. All these measures were implemented to ensure high reliability and validation of the research

instruments. There were no values in the columns for the original and current columns for telecommuting design because no previous research materials were found by the researcher.

3.10 Data Analysis

For logical completeness and consistency of responses, the researcher implemented frequent data editing process to identify and rectify all mistakes and also correct all data gaps. After the completion of the editing process, the data was analysed quantitatively using Structural Equation Model (SEM). This was to enable the researcher draw substantive conclusions. The technique for data analysis was the frequency distribution and percentages, which was used to determine the proportion of respondents choosing the various responses.

3.11 Ethical Considerations

The ethical issues focused on the research questions and were based on the respondents' right to be informed, the need for confidentiality, the need for honesty in collecting data, and lastly the need for objectivity. In addition, there was a significant focus on confidentiality which was a critical outcome to be able to prevent any harm due to the disclosure of issues or relationships associated with the objective focus area. The first one was to be able to focus on the benefits of participation in the survey as well as being able to place participants in a safe position.

There was also a focus on anonymity to protect the identity of the respondents. This is because when studies are not anonymised properly, then it risks incomplete or inaccurate responses from the participants (Phillips, Borry & Shabani, 2017) and since respondents' identification were not collected there was little risk that participants' answers could be connected to them in any way.

Respondents were assured that the information gathered would be used for the purposes stated. Further, the respondents were informed that data collected would be securely stored in a place where only authorised personnel could have access and that the data would be shredded after it had served its purpose. Participants might benefit from this study to the extent that the findings would provide information that could lead to strategies for employers to enhance job satisfaction of employees who work from home.

3.12 Limitations of the Study

The limitations of this study include sample size and timing of the study. The sample size for this study included only a small number of individuals from the selected organisations. Therefore, the results may not be generalisable to the population of the private and public sector workers as a whole. In addition, the small sample size may make it difficult to determine the causal relationship between independent and dependent variables as the results can be an error or particular to the sample group. The last limitation involved my personal biases as an experienced telecommuter. As a telecommuter for the past twenty years, I have experienced the challenges and managed them to make this alternative work arrangement a positive experience.

3.13 Summary

This chapter described the research philosophy, research design and the data collection and analysis. The chapter also provided an elaboration on the population for the study, sampling techniques and data collection, description of respondents' characteristics and the scope of the study as well as research instruments and generation of scale items. The chapter also focused on

data analysis, reliability and validity of data collected and ethical considerations for the study as well as the limitations of the study.





CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents results of the study. First, the chapter presents the demographic characteristics of the respondents. Second, it presents the preliminary analysis including normality test and Exploratory Factor Analysis (EFA), the measurement analysis phase of the Structural Equation Modelling (Confirmatory Factor Analysis). The structural analysis phase of the Structural Equation Modelling is also presented. The discussions of the findings are also presented.

4.2 Demographic Characteristics of the Respondents

This section presents the demographic characteristics of the respondents which include: gender, age, academic qualification, organisation, position, years of experience, telecommuting hours and time spent to reach the work place. The results are presented in the tables 4.1 below.

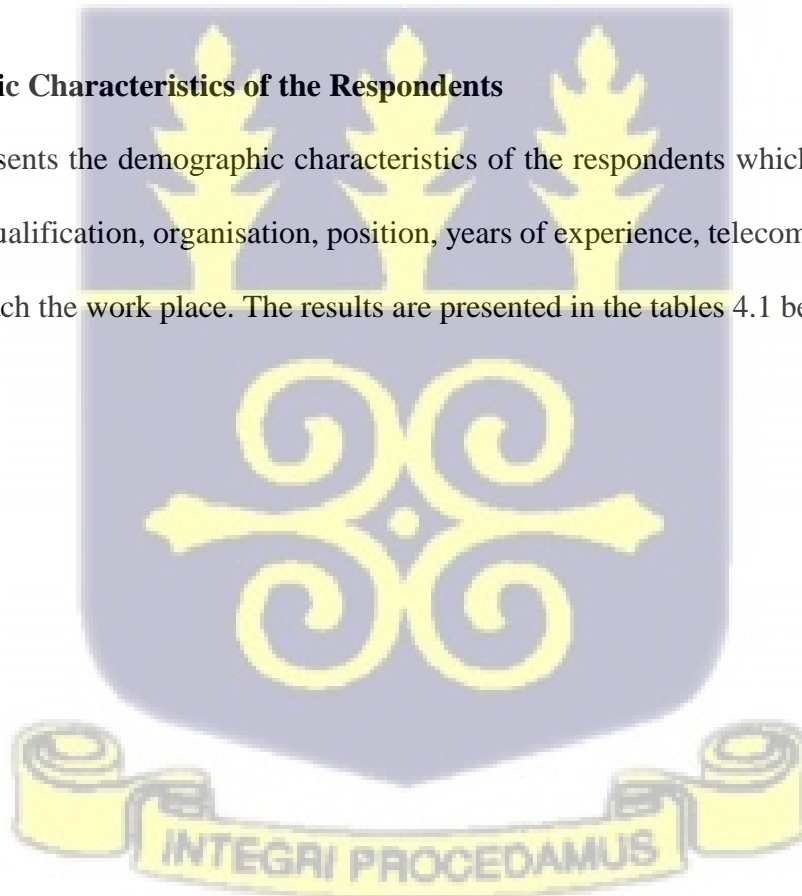


Table 4.1(a): The Demographic Details of the Respondents

Profile	Variable	Frequency	Percentage (%)
Gender			
	Male	181	53.7
	Female	156	46.3
	Total	337	100.0
Age (years)			
	Below 20	6	1.8
	21-30	141	41.8
	31-40	104	30.9
	41 and above	86	25.5
	Total	337	100.0
Education			
	Secondary/Technical	25	7.4
	Diploma	35	10.4
	First Degree	216	64.1
	Masters	58	17.2
	Other	3	0.9
	Total	337	100.0
Type of organisation			
	Private	168	49.9
	Public	169	50.1
	Total	337	100.0
Industry			
	Financial	92	27.3
	Manufacturing	39	11.6
	Mining and Natural Resources	80	23.7
	Professional	35	10.4
	Regulatory	36	10.7
	Educational	20	5.9
	Transportation	27	8.0
	Other	8	2.4
	Total	337	100.0
Position of the Respondents			
	Top Management/Strategic	21	6.2
	Middle Management	150	44.5
	Supervisory/Operational	138	40.9
	Other	28	8.3
	Total	337	100.0

Table 4.1(b): The Demographic Details of the Respondents

Profile	Variable	Frequency	Percentage (%)
Work Experience			
	1 – 5	167	49.6
	6 – 10	78	23.1
	11 -15	55	16.3
	16 -20	37	11.0
	Total	337	100.0
Telecommuting Hours			
	8 hours	178	52.8
	16 hours	53	15.7
	24 hours	60	17.8
	40 hours	46	13.6
	Total	337	100.0
Commuting Time to Workplace			
	30 minutes	88	26.1
	1 hour	106	31.5
	1 hour and 30 minutes	86	25.5
	2 hours	57	16.9
	Total	337	100.0

Sample Size (N): 337 Source: Field Survey (2022)

As shown in Tables 4.1(a), with regards to Gender, the results indicated that majority of the respondents were males (53.7%) and females constituted 46.3%. The results further showed that majority of the respondents were 21- 40 years old (72.7%). Hence it can be concluded that majority of the respondents were young people. These are people who are mostly having young children and who will desire to have more time to cater for their children hence making them readily accept telecommuting as a work practice.

The academic qualification of the respondents suggested that those with first degree were the majority constituting 64.1%. This is followed by those with Master’s degree representing 17.2%. Again, 35 respondents representing 10.4% had diploma. Also, 25 respondents representing 7.4%

had secondary/technical certificates. Moreover, those who indicated that they had other qualifications represented 0.9%.

With regards to the type of organisation, the results indicated that almost the same number of respondents work in private and public sector organisations (49.9% and 50.1 %) respectively.

In terms of industry, the results indicated that 92 respondents representing 27.3% work in the financial industry. Also, 39 respondents representing 11.6% work in the manufacturing industry. Again, 80 respondents representing 23.7% work in the mining and natural resources industry. 35 respondents representing 10.4% work as professionals. The results further showed that 36 respondents representing 10.7% work in the regulatory sector. Also, 20 respondents representing 5.9% work in the educational sector. In addition, 27 respondents representing 8.0% work in the transport sector. Again, the results indicated that 8 respondents representing 2.4% work in other sectors such as telecommunications.

Concerning the position of the respondents, the results showed that majority of the respondents hold middle management and supervisory/operational positions (85.4%). The results also indicated that 21 respondents representing 6.2% hold top management/strategic positions whilst 28 respondents representing 8.3% hold other positions. The results from the data showed that most of the respondents were in middle management positions. These are people who have influence in organisational decisions and as a result can convince top management to accept and implement telecommuting as a work practice. The results on respondents working experience as indicated in Table 4.1 (b) showed 167 respondents representing 49.6% have had 1 -5 years working experience. The results further suggested that 78 respondents representing 23.1% have had 6 – 10 years working experience. The results again indicated that 55 respondents representing 16.3% have had

11–15 years working experience. In addition, the results showed that 37 respondents representing 11.0% have had 16 – 20 years working experience.

In terms of telecommuting hours, which is also found in Table 4.1(b), the results indicated that majority of the respondents work for only 8 hours a week or 32 hours a month from home (52.8). The results also showed that 53 respondents representing 15.7% work 16 hours or 64 hours a month from home. Again, the results suggested that 60 respondents representing 17.8% work 24 hours a week or 96 hours a month from home. In addition, 46 respondents representing 13.6% work 40 hours a week or 160 hours or more a month from home. The conclusion to be drawn from this data is that only 46 respondents representing 13.6% of the respondents are actually telecommuting fully. The implication is that telecommuting is not a popular work arrangement in Ghana despite the numerous benefits attached to it. With regards to the time spent by respondents to commute to the workplace, the results showed that 106 respondents which is the majority of the respondents (31.5%) spend 1 hour to commute from home to the workplace. The results also indicated that 88 respondents representing 26.1% spend 30 minutes to commute from home to the workplace. Again, the results suggested that 86 respondents representing 25.5% spend 1 hour and 30 minutes to commute from home to the work place. Again, the results showed that 57 respondents representing 16.9% spend 2 hours to commute from home to work. The results from Table 4.1(b) further indicated that majority of the respondents spent one hour or more to commute to work. The implication is that spending more than one hour travelling to the workplace will affect employees' productivity and more importantly their health. This is because their sleeping hours will be affected which can negatively affect their health.

4.3 Missing Values and Outlier Analysis

The data was examined to find out whether there were missing values. The results indicated that there were missing values. According to Kaiser (2014), there is indication of missing values when data is missing at random. Conducting analysis with missing values in a data could affect the results of the study. Even though there are various ways of dealing with missing values such as deletion method whereby the researcher deletes subjects which have missing values, replacing the missing data values, the Expected Maximisation (EM) method was employed to estimate missing values in the data. According to Gold and Bentler (2000), Expected Maximisation (EM) is preferred over others because it can estimate missing values irrespective of issues like size, proportion of the data missing and distributional characteristics of the data.

The data was also examined to check the presence of outliers. According to Beaumont and Rivest (2009), the presence of outliers could affect the normality of the data and with the statistical tools such as Structural Equation Modelling (SEM), the data must be normally distributed. Stem and Leave were used to examine the presence of outliers in the data and the results indicated that there were few outliers which were deleted.

4.4 Test of Normality

Normality is important for a researcher to determine whether to use parametric test or non-parametric test. There are many ways of examining normality of data such as the use of scatter plots, kernel density plots, skewness and kurtosis etc. However, skewness and kurtosis were used to test for the normality of the data. The values considered in the normal range as expressed for skewness and kurtosis are between ± 1 and ± 3 (Kalwar, Shaikh & Khan, 2021). The results

indicated that the skewness and kurtosis of all the variables were within the range of ± 1 and ± 3 which suggest that the data is normal. The result is shown in Table 4.10 below.

Table 4. 2: Skewness and Kurtosis of the Study Variables”

Variable	Mean	Std. Dev.	Min	Max	Skew	Kurtosis
Work Performance	3.83	.681	1.40	5.00	-.271	.196
Telecommuting	4.025	.701	2.00	5.00	-.309	-.536
Telecommuting Design	3.15	.741	1.00	5.00	.057	-.051
Telecommuting Challenges	3.84	.727	1.25	5.00	-.543	.267

Source: *Field Survey (2022)*

4.5 Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was performed for extraction of the underlying variables. It was also performed to establish the relationship between the dependent variables and independent variables. Further, it was conducted to enable the researcher study a set of variables and discover subsets of variables that are relatively independent from one another. The Kaiser-Meyer-Olkin (KMO) Sampling Adequacy test, Bartlett’s test of Sphericity (p-value) and Cumulative Variance Explained (CVE) were some of the measures examined to ensure that the items were good in measuring their respective variables. The results of the study indicated that the measures in EFA were consistent with established standards. This suggests that it is appropriate to use factor analysis on the data set. Specifically, the results showed that KMO was 0.85 which is higher than the established standard of 0.6. The Bartlett’s test of Sphericity (p-value) was significant $\chi^2 (.630) = 4081.268, p < .001$. In addition, the Cumulative Variance Explained (CVE) was also applied. The CVE is the total of variance for each principal component number. The CVE indicated a sufficient level of 50.825 which is greater than the threshold of 50%. The results of EFA also indicated that the items loaded well with their various dimensions which means that the loadings were above 0.50 threshold level.

Table: 4.3: Exploratory Factor Analysis of the Study Variables

	Component				
	1	2	3	4	5
TAWP 2: When teleworking/telecommuting I can concentrate better on my work tasks.	.870				
TAWP 3: My overall job productivity has increased by my ability to telework /remotely from home.	.763				
TAWP 1: Telecommuting/teleworking makes me more effective to deliver against my key objectives and deliverables.	.736				
TEL 1: Telecommuting/telework means higher level of productivity from teleworkers.	.681				
TAWP 5: My work performance is easily measured by my organisation when telecommuting.	.642				
TEL 2: Telecommuting/telework enhances my organisation's competitive position.	.523				
COT 7: When teleworking, I feel left out on activities and meetings that could enhance my career.		.800			
COT 8: Office tension emanates from managing teleworkers together with non-teleworkers.		.744			
COT 3: When teleworking, I feel isolated.		.691			
COT 6: I Sometimes interrupt my work to meet home requirements.		.690			
COT 5: Constant access to work through teleworking is very tiring.		.551			
TD 5: I receive sufficient training from the organisation to develop my core skills.			.766		
TD 1: When telecommuting/teleworking, I am equipped with adequate tools and technologies to perform my tasks.			.737		
TD 6: My organisation's leaders are knowledgeable about how telecommuting works.			.735		
TD 2: Help is available from the organisation when I have a problem.			.724		
TEL 4: Telecommuting reduces interpersonal conflict.				.767	
TEL5: Telecommuting enhances employee Work/Life Balance.				.736	
TEL 3: Telecommuting is cost-saving and has financial benefits for my organisation.				.682	
TEL6: Teleworking reduce daily travelling expenses to work.				.651	
TD 8: Teleworkers need technological literacy.				.523	
TD 7: Telecommuters are selected based on their relations with managers.					.779
TD 3: My organisation created a dedicated work space at home for me.					.666
Eigenvalues	6.0	3.2	2.2	1.8	1.4
% of variance explained	52.3	.472	40.9	32.9	21.4

Extraction Method: Principal Component Analysis Rotation Method: Oblimin with Kaiser Normalisation

4. 6 Measurement Model Assessment

The Confirmatory Factor Analysis (CFA) was conducted and this was to help identify and keep the items that highly correlated with their variables. The items which loaded 0.50 or greater were retained whilst those below the threshold were deleted. In all, items of four constructs were examined which included: work performance, telecommuting, telecommuting design and challenges of telecommuting. The items which failed to load well with the constructs were removed. In the measurement model, work performance is represented by worperf, telecommuting is represented by telecomm, telecommuting design is represented by teledes and challenges of telecommuting is represented by chaltele. In all, 16 items which failed to load well with their constructs were deleted. The final measurement model is presented in figure 4.1 below.

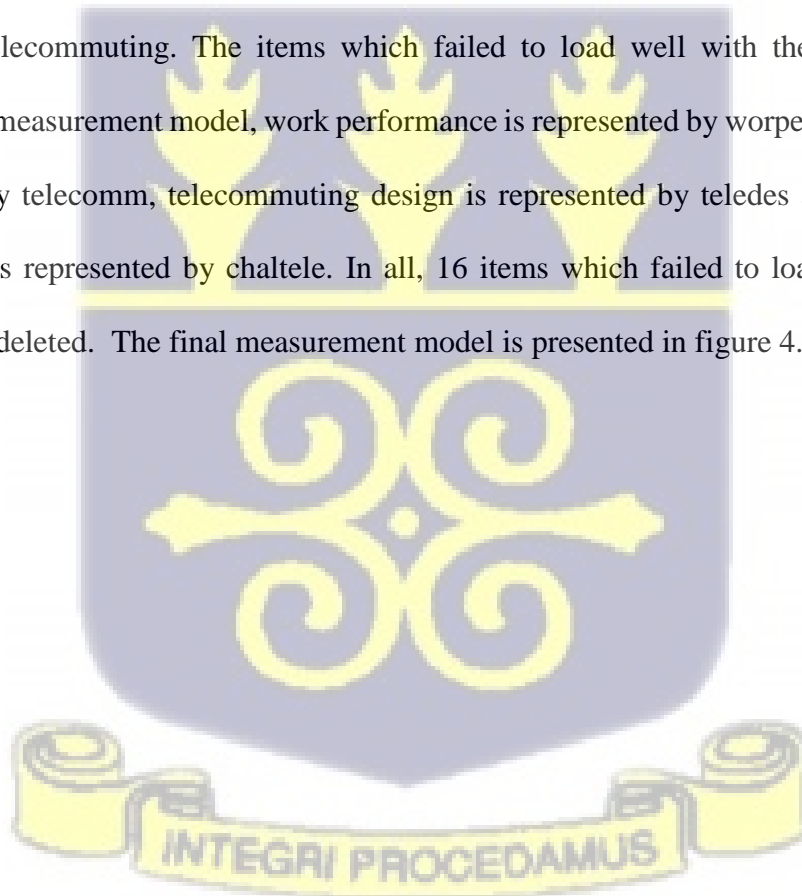
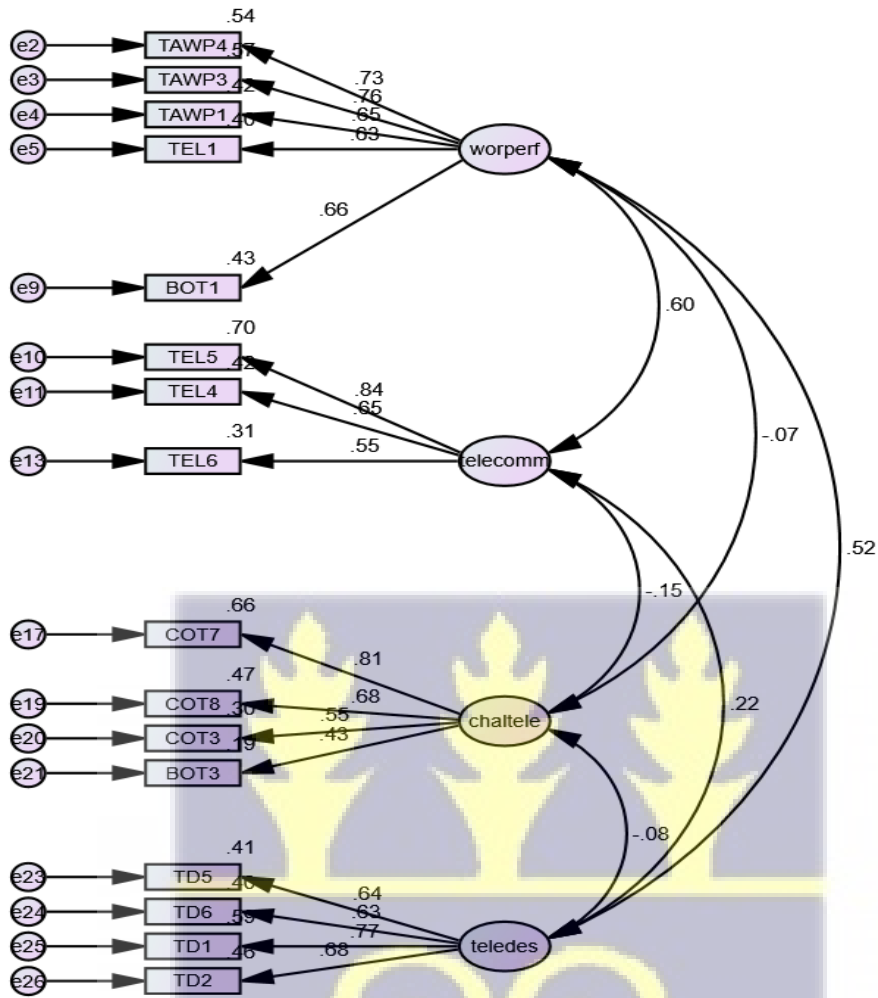


Figure 4.1: The Final Measurement Model



NB: Work Performance = worperf, Telecommuting = Telecomm, Challenges of Telecommuting = Chaltele, Telecommuting Design = teledes.

4.6.1 Fit Indices Measures

Validation of the measurement model was examined using various fit indices. Indices such as Chi-square (CMIN/df (χ^2/df), Goodness-of-fit (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker–Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA). The results indicated that they fall within the thresholds proposed by scholars such as Schreiber, Nora, Stage, Barlow and King (2006) and Hu and Bentler (1999). The results of the measurement model is represented in Table 4.12 below.

Table 4.4: Model Fit Measures and their Interpretations of the Measurement Model

Measure	Estimate	Threshold	Interpretation
CMIN/df (χ^2/df)	1.739	<3.000	Excellent
GFI	0.952	≥ 0.95	Excellent
CFI	0.972	≥ 0.90	Excellent
IFI	0.973	≥ 0.90	Excellent
TLI	0.954	≥ 0.90	Excellent
RMSEA	0.047	<0.08	Excellent

Sample Size (N): 337 Source: Field Survey (2022)

4.7 Factor Loadings

The Confirmatory Factor Analysis (CFA) results indicated that the items of the final measurement model loaded above the 0.05 threshold. The indicators for telecommuting and work performance were significant with values between 0.552 and 0.846. The indicators for telecommuting and the challenges of telecommuting were significant with values between 0.546 and 0.818. The indicators for telecommuting and telecommuting design were significant with values between 0.641 and 0.766. All these results indicated that the estimates of the variables were above 0.50 which further confirms the appropriateness of the data set. The results are shown in Table 4.13 below.

Table 4. 5: Factor Loadings for (CFA) Measurement Model

Work Performance (AVE=0.670, CVE=51.155, KMO=0.796, CR=0.815)		
Item	Estimate	t-value
TAWP 4: When teleworking/telecommuting, I can concentrate better on my work tasks.	0.732***	12.251
TAWP 3: My overall job productivity has increased by my ability to telework/ remotely work from home.	0.755***	12.386
TAWP 2: Telecommuting/teleworking makes me more effective to deliver against my key objectives and deliverables.	0.646***	10.756
TAWP 1: Telecommuting/telework means higher level of productivity for teleworkers.	0.629***	10.902
Telecommuting (AVE=0.576, CVE=56.896, KMO=0.783, CR=0.726)		
Item	Estimate	t-value
TEL 5: Telecommuting enhances employee Work/Life Balance.	0.838***	14.774
TEL 4: Telecommuting reduces interpersonal conflict.	0.648***	9.514
TEL 6: Telecommuting reduces my daily travelling expenses to work.	0.552***	8.515
Challenges of Telecommuting (AVE=0.503, CVE=57.239, KMO=0.820, CR=0.720)		
Item	Estimate	t-value
COT 7: When teleworking I feel left out on activities and meetings that could enhance my career.	0.813***	14.620
COT 8: Office tension emanate from managing teleworkers together with non-teleworkers.	0.685***	9.134
COT 3: When teleworking I feel isolated.	0.546***	8.105
BOT 3: Telecommuting is cost-saving and has financial benefits for my organisation.	0.661***	6.655
Telecommuting Design (AVE=0.566, CVE=53.877, KMO=0.728, CR=0.770)		
Item	Estimate	t-value
TD 5: I receive sufficient training from the organisation to develop my core skills.	0.641***	9.940
TD 6: My organisation's leaders are knowledgeable about how telecommuting works.	0.634***	9.098
TD 1: When telecommuting/teleworking, I am equipped with adequate tools and technologies to perform my tasks.	0.766***	10.152
TD 2: Help is available from the organisation when I have a problem.	0.680***	9.550

Source: *Field Survey (2022)*

In the tables 4.5 the relationship between telecommuting and work performance was indicated as Work Performance = TAWP. The Challenges of Telecommuting was indicated as = COT. Telecommuting design was indicated as = TD. The benefits of Telecommuting was indicated as = BOT.

4.8 Reliability and Validity Analysis

In the CFA analysis, reliability and validity tests were performed on the variables under study. Reliability of the variables were performed using Cronbach Alpha and Composite Reliability. The Cronbach's Alpha results of the variables under study were all above the 0.70 threshold proposed by Nunally (1978). To confirm the Cronbach's Alpha results of the variables, composite reliability was conducted in the CFA analysis and the results showed that the reliability of all the variables were above the 0.07 threshold. To ensure the validity of the constructs used for the current study, convergent and discriminant validity were evaluated. Specifically, the convergent validity was measured by the Average Variance Extracted (AVE). According to Fornell and Lacker (1981), to establish validity, the measures of the AVE must exceed 0.50. This is to ensure that on the average, the measures share at least half of their variation with the latent variable. The results showed that the AVE criterion for all the constructs were met. In other words, the constructs with the AVE of 0.50 and above were considered valid. Discriminant validity was also examined by ensuring that the square roots of the AVE of each latent variable is greater than the correlations with all the other latent variables as proposed by Fornell and Lacker (1981). The results indicated that there was sufficient discriminant validity for the study constructs. The results of the convergent validity and the discriminant validity are presented in Table 4.14 and 4.15 respectively.

Table 4. 6: Reliability Co-efficient of the Main Constructs

Constructs	No. of Items	Cronbach Alpha	CR	AVE
Work Performance	5	.842	0.815	0.670
Telecommuting	6	.805	0.726	0.576
Challenges of Telecommuting	6	.805	0.720	0.503
Telecommunication Design	6	.716	0.770	0.566

Source: Field Survey (2022)

Table 4.7: Fornell and Lacker Procedure for Discriminant Validity

Variables	1	2	3	4
Work Performance	0.685			
Telecommuting	0.598	0.690		
Challenges of Telecommuting	-0.075	-0.145	0.635	
Telecommuting Design	0.516	0.223	-0.085	0.682

Source: Field Survey (2018)

NB: Elements with bold faces are the square root of AVE and the rest of the elements represent the squared correlation estimation between construct items.”

4.9 Correlational Analysis

Table 4.16 shows the correlation matrix representing the linear relationship that exist among the variables under study. The results showed that Telecommuting positively correlated with Work Performance ($r = .418, p < 0.01$). The results further showed that Telecommuting Design positively correlated with Work Performance ($r = .393, p < 0.01$). However, the results indicated that Challenges of Telecommuting failed to correlate with Work Performance ($r = .007, p > 0.05$). With regards to the control variables, the results showed that the type of organisation positively/negatively correlated with work performance ($r = -.167, p < 0.01$). Also, hours of commuting to work place positively correlated with work performance ($r = .132, p < 0.01$). However, the results showed that the other control variables (gender, age, academic qualification, industry, position, years of working experience and telecommuting hours) did not correlate with work performance

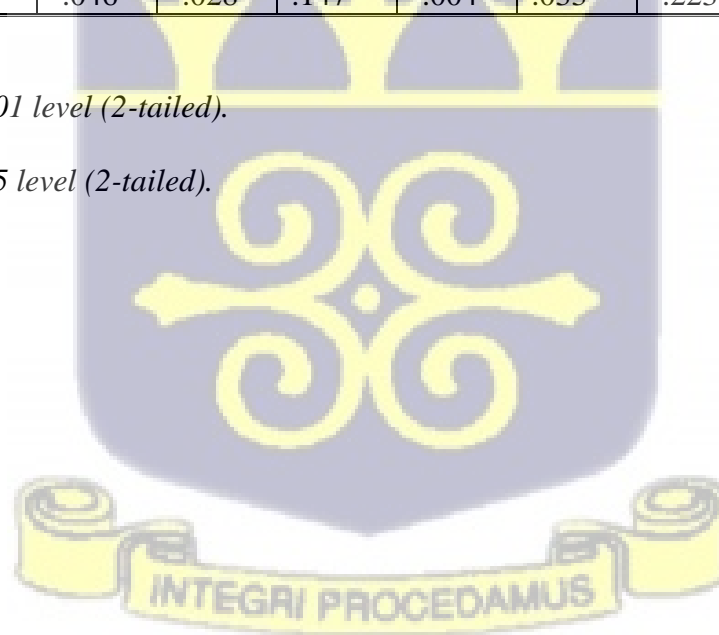
Table 4.8: Pearson's Correlation Matrix of the Study's Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Work Perf	1												
2. Telecom	.412**	1											
3. Chall of Tele	.007	-.062	1										
4. Telec Des	.393**	.184**	-.034	1									
5. Gender	-.029	-.075	-.003	.057	1								
6. Age	-.009	.037	-.060	.088	-.071	1							
7. Acad Quali	-.092	-.035	.046	.104	.021	.231**	1						
8. Organisation	-.167**	-.075	.062	-.162**	.092	.025	.149**	1					
9. Industry	-.034	-.059	.112*	-.010	-.043	-.063	.052	.255**	1				
10. Position	-.044	-.063	-.114*	-.027	.032	-.186**	-.032	.083	.162**	1			
11 Experience	-.030	-.018	.015	.068	-.008	.571**	.087	.000	-.143**	-.261**	1		
12. Telec Hrs	.011	-.084	-.182**	.082	-.058	.265**	.063	-.133*	-.112*	-.089	.268**	1	
13. Comm Hrs	.132*	.107*	-.056	-.046	-.028	.147**	-.004	.033	-.223**	-.178**	.166**	.142**	1

Source: Field Survey (2022)

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

**. Correlation is significant at the 0.05 level (2-tailed).*



4.10 The Structural Equation Model

To determine that the data is fit for further analysis, the fit indices such as Chi-square (CMIN/df (χ^2/df), Goodness-of-fit (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker–Lewis Index (TLI) and Root Mean Square Error of Approximation (RMSEA) were applied. The results indicated that all the indices met their various thresholds. Table 4.17 and figure 4.2 presents the fit indices and the structural model respectively.

Table 4.9: Model Fit Measures and their Interpretations of the Measurement Model

Measure	Estimate	Threshold	Interpretation
CMIN/df (χ^2/df)	1.090	<3.000	Excellent
GFI	0.997	≥ 0.95	Excellent
CFI	0.997	≥ 0.90	Excellent
IFI	0.997	≥ 0.90	Excellent
TLI	0.991	≥ 0.90	Excellent
RMSEA	0.016	<0.08	Excellent

Sample Size (N): 245 Source: Field Survey (2022)

Figure 4.2: The Structural Model of the Study Variables

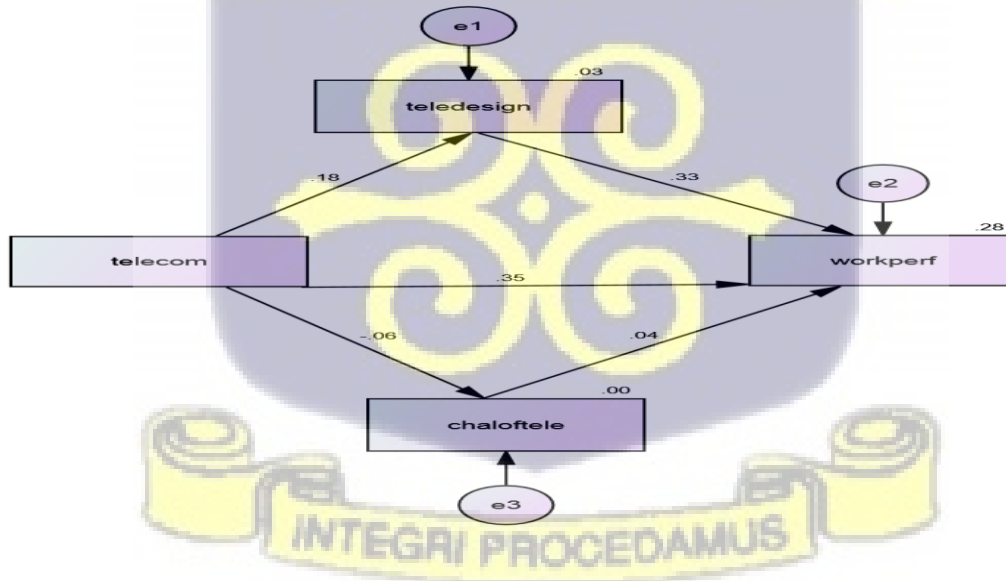


Table 4.10: Hypothetical Relationships

	Hypothetical Relationships	Estimate	t-value	Findings	Bootstrap C.I
H1	Telecommuting -----> telecommuting design	.184***	3.436	Supported	
H2	Telecommuting design -----> work performance	.329***	6.950	Supported	
H3	telecommuting -----> work performance	.352***	7.444	Supported	
H4	telecommuting -----> challenges of telecommuting	-.062		Not Supported	
H5	Challenges of telecommuting -----> work performance	.033		Not Supported	
H6	telecommuting -----> work performance	.414***		Supported	
H7	telecommuting -----> telecommuting design -----> work performance	.061***		Partial Mediation and Supported	LLCI(.029) – ULCI (.104)
H8	telecommuting -----> challenges of telecommuting -----> work performance	-.002		No mediation and not supported	LLCI(-.015) –ULCI (.002)

*** Significant at .01% ** Significant at 1% * Significant at 5%

NB: telecom = Telecommuting, teledesign = Telecommuting Design, chaloftele = Challenges of Telecommuting, workperf = Work Performance.

From Table 4.18, the results showed the hypothetical relationships between the study variables. The results indicated that a significant positive relationship exist between Telecommuting and Telecommuting Design ($\beta = 0.184, p < 0.001$). The results also showed that a significant positive relationship exist between Telecommuting Design and Work Performance ($\beta = 0.329, p < 0.001$). The results further showed that a significant positive relationship exist between Telecommuting and Work Performance ($\beta = 0.352, p < 0.001$). However, the results showed no significant relationship between Telecommuting and Challenges of Telecommuting ($\beta = -0.062, p > 0.05$). Similarly, the results showed no significant relationship between Challenges of Telecommuting and Work Performance ($\beta = 0.033, p > 0.05$)

4.11 Mediation Analysis

Mediation analysis was performed using the Cause-Effect Model approach proposed by Baron and Kenny (1986). Baron and Kenny (1986), proposed that several conditions should be met when testing a mediating effect through a three-separate regression estimate: regressing the mediator on the independent variable (Model 1); regressing the dependent variable on the independent variable (Model 2); and, regressing the dependent variable on both the independent variable and on the mediator (Model 3). The four conditions of mediation under this method are: The predictor variable must significantly predict the mediator in Model 1; the predictor variable must significantly predict the outcome variable in Model 2; the mediator must significantly predict the outcome variable in Model 3, and the predictor variable must predict the outcome variable less strongly in Model 3 than in Model 1 (i.e partial mediation). But full mediation occurs when the predictor variable is insignificant in the third model (Model 3).

Hypothesis 7 stated that “Telecommuting Design will mediate the relationship between Telecommuting and Work Performance”. Consistent with Baron and Kenny (1986) three-step procedure for mediation analysis, the results indicated that a significant positive relationship exist between Telecommuting (independent variable) and Telecommuting Design (mediator) ($\beta = 0.184, p < 0.001$). The results further indicated a significant positive relationship between Telecommuting Design (mediator) and Work Performance (dependent variable) ($\beta = 0.329, p < 0.001$). The results further showed that a significant positive relationship exist between Telecommuting (independent variable) and Work Performance (dependent variable) ($\beta = 0.352, p < 0.001$). Therefore, based on Baron and Kenny (1986) conditions for mediation analysis, it can be concluded that Telecommuting Design mediates the relationship between Telecommuting and

Work Performance. The results were confirmed by bootstrapping results which is presented in Table 4.18.

Hypothesis 8 stated that “Challenges of Telecommuting will mediate the relationship between Telecommuting and Work Performance”. The results indicated that there is no significant relationship between Telecommuting (independent variable) and Challenges of Telecommuting (mediator) ($\beta = -0.062, p > 0.05$). The results again showed that no significant relationship exist between Challenges of Telecommuting (mediator) and Work Performance (dependent variable) ($\beta = 0.033, p > 0.05$). However, the results showed that a significant positive relationship exist between Telecommuting (independent variable) and Work Performance (dependent variable) ($\beta = 0.414, p < 0.001$). Based on Baron and Kenny (1986) conditions for mediation analysis, it can be concluded that Challenges of Telecommuting did not mediate the relationship between Telecommuting and Work Performance. The results were confirmed by bootstrapping results which is presented in Table 4.18.

4.12 Discussions

The discussions of the findings of the quantitative data analysis for the impact of telecommuting on work performance in private and public sector organisation in Ghana is presented in this section of the chapter.

A survey was used to gather responses from 337 telecommuters in Ghana to assess the impact of telecommuting on work performance in private and public sector organisations in Ghana. The section discusses the findings that are consistent with existing literature and those that are not consistent with existing literature. The discussions are based on the main themes of this study which are outlined and discussed below:

Relationship between the adoption of telecommuting and work performance.

Measures to facilitate successful design and implementation of telecommuting.

Challenges associated with the adoption of telecommuting.

4.12.1 Relationship between the adoption of telecommuting and work performance

H1 supported using SEM.

Hypothesis (H1). There is a significant positive relationship between telecommuting and work performance.

The findings from this research confirmed the assertion that there is a positive relationship between telecommuting and work performance. This is consistent with what other researchers have established. The literature tends to conclude a positive relationship between the implementation of telework arrangements and work performance indicating that there is a direct connection between teleworking and performance (Bhattacharya & Mittal, 2020; Messenger & Addati, 2013; Sánchez, Pérez, de Luis Carnicer & Jiménez, 2007; Harpaz, 2007; Arling, 2004). Dutcher (2012) and Neufeld and Fang (2005), established that teleworking is a very significant content for the achievement of high levels of output in workers. Khan, Nasrudin and Harith (2018), did a research on the link between the effects of telecommuting engagement and employee performance. Upon the completion of the study, it was revealed that all of the telecommuting impacts which consists of job autonomy, work-family balance, work productivity and level of occupational stress have a significant relationship with employee performance. This study confirms that telecommuting has positive relationship with work performance. Further, according to Thulin, Vilhelmson and Johansson, (2019), with reference to the link between telecommuting and work performance, research works have established that telecommuting enhances output because the employee, by

telecommuting protects himself/herself from all the interruptions that may be encountered from working colleagues in the physical office building. Consequently, it can be concluded that telecommuting as a work practice positively impacts work performance.

It should however be noted that other researchers have opinions that telecommuting negatively affects work performance. For example a research conducted by Bjärntoft, Hallman, Mathiassen, Larsson and Jahncke (2020), indicated that telecommuting increases work pressure and work-life conflicts in a study conducted on a sample of 2960 participants from a large government agency in Sweden. Blount (2015), reported that in a study of workers at IBM, the results around productivity were ambiguous. The research showed that employees working in a virtual office, as opposed to a traditional office, was a significant predictor of poorer job performance using multivariate analysis. The author further indicated that in 2013, the Yahoo Chief Executive Officer rescinded all work from home arrangements and mandated that all employees should work in the office. All these outcomes are inconsistent with the findings of this study and other research works that showed that telecommuting has positive relationship with work performance.

4.12.2 Measures to facilitate successful design and implementation of telecommuting

Measures to facilitate the successful adoption of telecommuting in the future for organisations.

Hypothesis (H2) supported using SEM.

The processes and activities involved in designing telecommuting and how telecommuting is designed impact work performance. In designing telecommuting, it is the duty of the manager-in-charge of the organisation's work processes and work design to develop policies and procedures to ensure that employees selected for the telecommuting work arrangement are duly eligible and not based on the manager's personal preferences. The reason is that managers in charge of work

processes should understand that there is the need to choose employees who will be able to establish a strategic fit between telecommuting and dynamic capabilities theory. It is believed that such strategic fitness will facilitate the achievement of corporate competitiveness. The idea here is that the employees should be able to harness the components of the dynamic capabilities theory (sensing, seizing and transforming) and establish a fit with telecommuting work arrangement and drive the organisation towards corporate competitiveness. As indicated in the results of the findings, the design process for telecommuting can impact work performance. This means that if the right design process is not adopted, then there is the tendency for organisations not to benefit from implementing telecommuting. While literature on telecommuting design and its impact on work performance were not available during the period of conducting this research, there was literature which indicated that how telecommuting is implemented impacts its success. Lautsch, Kossek and Eaton (2009), claimed that it is how telework is implemented that determines whether it will have a positive impact on performance. To some extent, the evidence from this study and the claim made by the authors are similar.

4.12.3 Challenges associated with the adoption of telecommuting

Hypothesis (H3) not supported using SEM.

The results from this current study showed no significant relationship between the challenges of telecommuting and work performance. This outcome is not consistent with previous research works. All researches conducted have indicated that the challenges of telecommuting negatively affects work performance. For example, Scholefield and Peel (2009), emphasised that lack of managerial support underpinned by concerns over performance of telecommuters due to prevalence of home-based distractions continues to dampen telecommuting adoption.

Disadvantages of telecommuting practice negatively influence telecommuting outcomes i.e the presence of other family members at home, the availability of a designated working area at home and other distractions such as house chores (Solís, 2016; Scholefield & Peel, 2009). The feeling of social isolation by employees as a result of telecommuting has been identified as a major disadvantage of telecommuting adoption. According to Athanasiadou and Theriou (2021), citing Illegems and Verbeke (2004), Taskin and Devos (2005), Whittle and Mueller (2009), argued that telework and the ‘despatialisation’ relative to its practice may negatively impact social and professional interaction, thereby leading to a sense of social isolation. The problem of social isolation was found not to be a challenge to telecommuting adoption in this current research nullifying the claims made by earlier researchers.

Again, according to Tat (2020), the lack of adoption for telecommuting was argued to be the reduction of productivity. The author, citing Ahmadi, Helms and Ross (2000), explained what could go wrong by stating that only self-disciplined, motivated individuals should be considered. Personality must also play a role, those who have a strong need for socialisation may feel isolated and become depressed when telecommuting. In addition, not all jobs are well suited for telecommuting. It is important to have both the right person and the right job. Telecommuting is not a substitute for child day care. It is a concern that many telecommuters are parents of young children. The idea that one can be productive at home while keeping charge of a young child is a false assumption in most cases. Unless the employee is doing most of her work at night or at other times while the child is napping, it is difficult to maintain a level of professionalism at home, phone calls can be a disaster and constant distractions are likely to decrease productivity, (p.88). Once again, these claims are challenges that negatively affect the adoption of telecommuting but this current study proved that the challenges of telecommuting have no impact on its adoption.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter outlines the summary of the findings from this study. The chapter also highlights the conclusion of the study. Further, the chapter presents the limitations of the study and recommendations for practice and for future research.

5.2 Summary of Findings

The organisation of work and how it is conducted has witnessed dramatic changes over the past forty years as a result of the advancement in technology and its application to work, which has influenced the development and proliferation of telecommuting. This study sought to find out the impact of telecommuting on work performance and the mediating effect of telecommuting design, benefits and challenges in private and public sector organisations in Ghana.

In view of this, questionnaires were distributed to 337 respondents to obtain their responses on the impact of telecommuting on work performance through the Structural Equation Modelling (SEM). The foremost objectives of the study was to assess whether telecommuting impacts work performance in private and public organisations in Ghana. The second objective was to assess the design processes of telecommuting practice and ascertain how the design practices influence both employee and organisational performance in Ghana.

The analysis of data from the survey questionnaires revealed that there is a direct positive relationship between telecommuting and work performance. It also revealed that there is a positive relationship between telecommuting design and work performance. The study also indicated that there is minimal adoption of telecommuting as a work practice in both private and public sector

organisations in Ghana. Further explanations to these revelations are provided in the subsequent sections.

5.2.1 Telecommuting and Work Performance

The study revealed that there is a significant positive relationship between telecommuting and work performance in the organisations studied. The standard tool for measuring work performance was the measurement scale developed by Grant, Wallace and Spurgeon (2019). Employee performance was measured according to items such as his/her effectiveness to deliver against objectives and achieve established targets. The level of increased productivity as a result of the employee's ability to telecommute was also used as the basis for measuring performance. Other bases for measuring employee performance were the employee's ability to concentrate on work schedules when telecommuting and the ability to measure work performance. The results indicated that telecommuting positively correlated with work performance. Thus, this is a confirmation of the study's principal objective to assess whether telecommuting impacts work performance in private and public organisations in Ghana. This outcome is consistent with previous literature such as (Bhattacharya & Mittal, 2020; Messenger & Addati, 2013; Sánchez, Pérez, de Luis Carnicer & Jiménez, 2007; Arling, 2004), which indicate a positive relationship between telecommuting and work performance. This means that the perception that telecommuting as a work practice may make it difficult to measure employee performance is non-existent because this study and other previous studies have nullified those perceptions.

5.2.2 Telecommuting Design Process and Work Performance

In conformance to the study's objective of assessing whether the design processes of telecommuting practices influence both employee and organisational performance in Ghana, the results revealed that telecommuting design positively correlated with work performance. This

objective is a novelty to the research in telecommuting since previous researches excluded the design process in telecommuting.

5.2.3 Hours of Commuting to Workplace and Work Performance

The results from the study indicated that hours of commuting to employee work place positively correlated with work performance. In total, the results indicated that 72.9 per cent of the respondents spend between one and two hours to commute to their workplaces. This suggests that the productivity level of the employees would be negatively affected while at the same time there would be negative health consequences on employees as a result of lack of rest and sleeping hours. This suggests that it will be necessary for organisations to positively embrace and implement telecommuting work arrangement and benefit from its associated advantages such as enhanced work/life balance for employees, reduced inter-personal conflict among employees, overall job satisfaction for employees and enhanced job flexibility for employees as well as reduced operational expenses from space and other overhead expenses for employers.

Again, the implementation of telecommuting will cushion employees against financial difficulties emerging from persistent increase in fuel prices. The results showed that the other control variables (gender, age, academic qualifications, industry, position, years of working experience and telecommuting hours) did not correlate with work performance.

5.2.4 Expansive Adoption of Telecommuting

Telecommuting as a work practice has not been adopted widely in Ghana and even in the developed countries where the practice has been known for the past forty years. The results from the current study indicated that majority of the respondents constituting 52.8 per cent spend only eight hours for telecommuting. This is very inadequate implying that they spend a single day out of the five working days to telecommute. The minimal hours for telecommuting is confirmed by

the findings from the earlier research by Kossek and Lautsch (2017), which confirmed the assumption that teleworking was not a popular work arrangement before the pandemic.

5.3 Contribution to Knowledge

The contributions of the current study to knowledge are in three folds which are discussed below. First, the findings of this research indicated that the challenges of telecommuting have no effect on the implementation of telecommuting in organisations and work performance of those who telecommute. This can serve as a guide for organisations that intend to implement telecommuting but have doubts that telecommuting as a work practice has associated challenges which can affect its acceptance and operations.

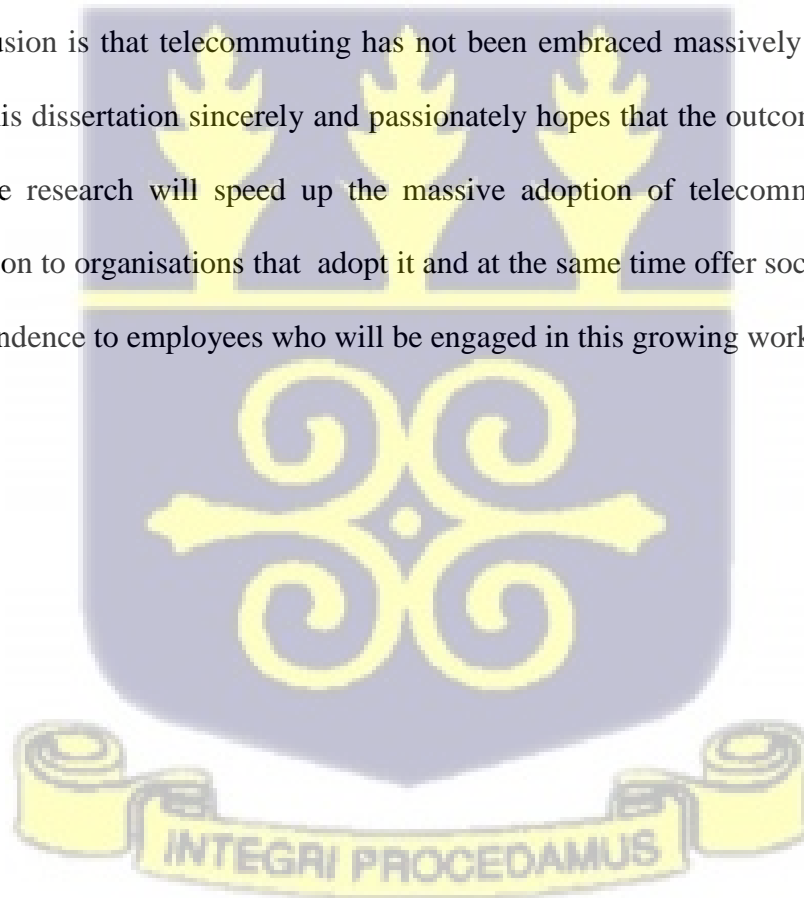
Secondly, the results of this research also indicated that there is no feeling of professional isolation for employees who telecommute. This is a drift away from previous researches which have indicated that employees who telecommute have feelings of isolation from the office and colleagues. This outcome can also provide assurance to managers of organisations who are sceptical in the implementation of telecommuting of the fear of isolation which can cause employees to feel lonely and depressed.

Finally, the design processes involved in telecommuting should also be taken into consideration when organisations make decisions on implementing telecommuting. The results from the current research indicated that there is a strong positive correlation between telecommuting design and work performance. What can be said here is that organisations should pay attention to those that they select to participate in telecommuting on the basis of professional eligibility, personality characteristics as well as the nature of the job and not based on the personal relationships between managers and employees.

5.4 Conclusion

This study contributes to literature that identifies telecommuting as an emerging work practice that has the potential to change the traditional work arrangement that requires people to commute to their workplaces on daily basis. Conducting a quantitative study to assess the causal impact of an independent variable on a dependent outcome (that is telecommuting and work performance) of the present study highlights the positive relationship between telecommuting and work performance. It is worth noting that the current study used survey data to conduct the analysis. This gives rise to a series of doubts regarding the soundness of the results (Tori, Goduto, Manfredini & Melzi, 2021).

The final conclusion is that telecommuting has not been embraced massively by organisations. The author of this dissertation sincerely and passionately hopes that the outcomes of the current study and future research will speed up the massive adoption of telecommuting to provide financial liberation to organisations that adopt it and at the same time offer social, economic and financial independence to employees who will be engaged in this growing work arrangement



5.5 Limitations

The main limitation associated with the current study was the sample size and data collection relative to the entire workforce in Ghana. The sample size was 337 which meets the threshold requirement for the Structural Equation Model (SEM) but it can be emphasised that such sample size cannot be used to make a generalised conclusion about how telecommuting impacts work performance.

Another limitation was that the items in the questionnaire were generalised without providing gender specific questions to ascertain telecommuting preferences for males and females. This limitation deprived this study of making a substantive conclusion on which of the genders preferred telecommuting most. Finally, the results obtained indicated that some of the respondents just ticked the answers which caused some minimal degree of errors in the survey.

It should however be noted that despite the limitations identified with this current study, the findings from this study were convincing, credible and accurate.

5.6 Recommendations for Practice

The first recommendation for practice is the suggestion for the mass adoption of telecommuting by organisations in Ghana. This is based on results of the findings indicating that telecommuting positively correlated with work performance. This is because telecommuting is associated with cost-savings for organisations and employees. Some organisations provide transportation services for their employees and as fuel prices keep on increasing uncontrollably, such organisations will experience increased operational expenses. The implementation of telecommuting will drastically reduce such operational costs. Further, when employees are offered the opportunity to work from home, they will avoid the problem of bearing the consequences of escalating transport fares as a

result of continuous increase in fuel prices. Teleworking is a practice that should continue to be adopted because it results to decreased operational expenses, such as printing, cleaning, and office space costs. The suggestion is that organisations in both the private and public sectors should implement telecommuting in a gradual process to avoid the problem of employee resistance because of the change element involved in the process. Further, even though telecommuting is revered as an organisational practice which can reduce operational costs and gain competitive advantage, organisations should implement the practice on the condition that they will gain advantage from the implementation of this work arrangement. Again, as more studies are being conducted into telecommuting, organisational leaders may be tempted to institute this work arrangement as a result of the numerous advantages associated with it. There is however the need for these organisational leaders to consider the corporate culture and dynamics existing in their organisational settings before the implementation of telecommuting. The reason is that certain organisational cultures and dynamics are so conservative that superiors prefer to physically see their subordinates before they will be convinced that these subordinates are working. Organisational leaders who support the implementation of telecommuting should also be mindful of some extreme conservatives who might conceal their scepticism that telecommuters are less productive. This word of caution has become necessary in order to help organisational leaders to avoid any form of resistance from their fellow superiors who are rather ardent supporters of the traditional daily presence in the office building of any unplanned implementation of telecommuting. Organisational leaders who intend to implement telecommuting are also to identify the specific jobs which are clearly suitable for telecommuting and from which the organisation can adequately leverage the full benefits associated with this work arrangement.

The second recommendation is to develop strategies that can be used to guide organisations in the design and adoption of telecommuting. The research findings indicated that telecommuting design positively correlated with work performance. This means the design process should be formulated by consulting the targeted employees. Such strategies will help organisations adopt a uniform direction in the implementation of telecommuting to facilitate increased employee productivity and accountability. Effective accountability practices can facilitate worker satisfaction, improve employee efficiency, and increase productivity.

The third recommendation for practice relates to the results of the findings that indicated the control variables (such as gender, age, academic qualification, industry, position, years of working experience and telecommuting hours) did not correlate with work performance. In view of this findings, it is recommended that organisations that intend to implement telecommuting should include all employees without any doubt about constraints to performance due to the control variables. Further, since most of the respondents (72.7%) were in the age bracket of the youth, organisations should sensitise them on the benefits of telecommuting to enhance their level of acceptance.

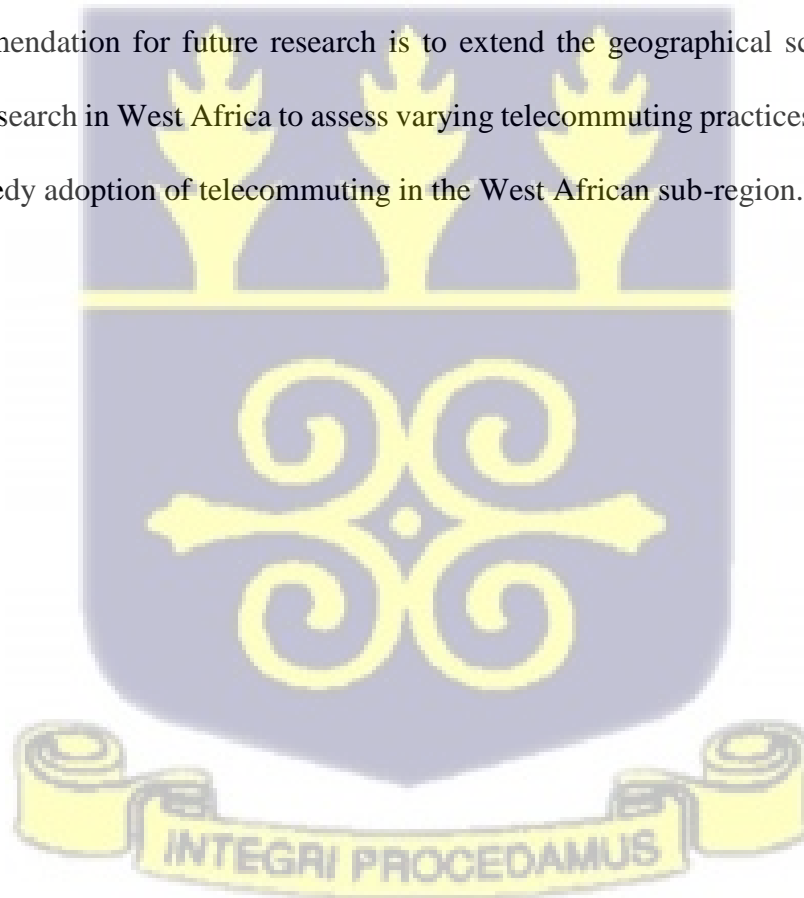
The emergence of new forms of work arrangement as a result of advancement in technology, the increasing expenditure in travelling to the workplace due to increasing fuel prices and employees' desire for work flexibility are some of the factors that make telecommuting a preferable option for working in Ghana in the years to come. It is therefore the desire of the author of this dissertation that organisations (both in the public and private sectors) develop and implement policies and procedures to ensure the effective implementation of telecommuting.

5.7 Recommendations for Research

Future research should emphasise on the impact of demographic variables on work performance in terms of telecommuting. This will facilitate the assessment of how specific variables such as age and gender influence the acceptance of telecommuting.

The second recommendation is for future researchers to conduct mixed method studies, allowing for quantitative and qualitative data collection. A strength of conducting studies guided by a mixed-method methodology is that it helps mitigate the limitations of using either a qualitative or quantitative approach (Creswell & Creswell, 2017). It is believed that a study conducted using a mixed-method methodology facilitates the acquisition of in-depth assessment of a problem.

Another recommendation for future research is to extend the geographical scope to conduct a cross-country research in West Africa to assess varying telecommuting practices in the region and assist in the speedy adoption of telecommuting in the West African sub-region.





REFERENCES

Abdel-Hadi, S., Bakker, A.B., & Häusser, J.A. (2021). The role of leisure crafting for emotional exhaustion in telework during the COVID-19 pandemic. *Anxiety, Stress and Coping*, 34, 530– 544.

Abilash, K. M., & Siju, N. M. (2021). Telecommuting: An empirical study on job performance, job satisfaction and employees commitment during pandemic circumstances. *Shanlax International Journal of Management*, 8(3), 1-10. <http://dx.doi.org/10.34293>.

Agdalen, L., & Lehtisalo, S. (2019). Telework and job satisfaction: A case study from the employees' perspective. [Doctoral dissertation, Stockholm Business School, Stockholm University].

Agho, A.O., Mueller, C.W., & Price, J.L. (1993). Determinants of employee job satisfaction: An empirical test of a causal model. *Human Relations*. 46(8):1007-1027.
doi:10.1177/001872679304600806.

Aguilera, A., Lethiais, V., Rallet, A. & Proulhac, L. (2016), "Home-based telework in France: characteristics, barriers and perspectives", *Transportation Research Part A: Policy and Practice*, 92(1), pp. 1-11.

Ahmad, T., & Mustabsar, A. (2015), “Flexibility or ethical dilemma: An overview of the work from home policies in modern organisations around the world”, *Human Resource Management International Digest*, 24(7), 12-15.

Ahmadi, M., Helms, M., & Ross, T. (2000). Technological developments: Shaping the telecommuting work environment of the future. *Facilities*, 18(12), 83-89. doi: 10.1108/02632770010312204.

Akbari, M., & Hopkins, J. L. (2018). An investigation into anywhere working as a system for accelerating the transition of Ho Chi Minh City into a more liveable city. *Journal of Cleaner Production*, 20(9), 665-679. <https://doi.org/10.1016/j.jclepro.2018.10.262>.

Akkirman, A. D., & Harris, D.L. (2005). Organisational communication satisfaction in the virtual workplace, *Journal of Management Development*, 24(5), 397- 409.

Alipour, J.V., Fadinger, H., & Schymik, J. (2021). My home is my castle: The benefits of working from home during a pandemic crisis. *Journal of Public Economics*, (19)6, 1-11. <https://doi.org/10.1016/j.jpubeco.2021.104373>.

Allen, K. K. (2021). Job satisfaction of remote technology employees seeking work/life balance at a growing Silicon Valley Firm, [Doctoral dissertation,, Vanderbilt University].

Allen, T.D., Golden,T.D., & Shockley,K.M. (2015). How effective is telecommuting?

Assessing the status of our scientific findings; *Psychological Science in the Public Interest*, 16(2) 40–68.

Altieri, G., Della-Ratta, F., & Oteri, C. (2005). How to measure eWork in social surveys. In M. Ramioul, U. Huws, & A. Bollen (Eds.), *Measuring the Information Society* (pp. 191–211). HIVA.

Alvi, M.H. (2016). *A Manual for Selecting Sampling Techniques in Research*. mohsinhassanalvi@hotmail.com.

Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in Strategic Management? *International Journal of Management Reviews*, (11)1, 29-49.

Ansong, E., & Boateng, R. (2017). Organisational adoption of telecommuting: Evidence from a developing country, wileyonlinelibrary.com/journal/isd2.

Antwi, S.K., & Hamza, K. (2015). Qualitative and quantitative research paradigms in business research: A philosophical reflection. *European Journal of Business and Management* 7(3), 217-226.

Apgar IV, M. (1998). The alternative workplace: Changing where and how people work. *Harvard Business Review*, May-June, pp.121-136.

Arling, P. (2004). The impact of telework on performance: A social network approach. *In Proceedings of the 10th Americas Conference on Information Systems*, New York, NY, USA.

Aragon-Correa. J. A., & Sharma, S. (2003). A Contingent Resource-Based View of proactive environmental strategy. *The Academy of Management Review*. 28(1): 71.

Armour, P., Carman, K. G., Mullen, K. J., & Nataraj, S. (2020). The COVID-19 pandemic and the changing nature of work: Lose your job, show up to work, or telecommute? RAND Corporation. https://www.rand.org/pubs/research_reports/RRA308-4.html.

Arntz, M., Yahmed, S., & Berlingieri, F. (2020). Working from home and COVID-19: The chances and risks for gender gaps. *Intereconomics*, 55(6), 381–386.

Arthur, C. (2021, May 7). Yahoo chief bans working from home. *The Guardian*, Available online: <https://www.theguardian.com/technology/2013/feb/25/yahoo-chief-bans-working-home>

Asay, M. (2019). Why companies that ban remote work hurt only themselves. *TechRepublic*: San Francisco, CA, USA,. Available online: <https://www.techrepublic.com/article/>

Athanasiadou, C., & Theriou, G. (2021). Telework: Systematic literature review and future research agenda. *Heliyon* 7, e08165.

Azarbouyeh, A., & Naini, S. G. J. (2014). A study on the effect of teleworking on quality of work life. *Management Science Letters*. 4, 1063–1068. doi: 10.5267/j. msl.2014.5.027.

Azeem, S. M. (2010). Job satisfaction and organisational commitment among employees in the Sultanate of Oman. *Psychology*, 1, 295-299.

Babbie, E. (2005). *The Basics of social research*. 3rd ed, Belmont: Thomson Wadsworth,

Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. *Journal of Organisational Behaviour*, 23, 383- 400. doi: 10.1002/job.144.

Baker, E., Gayle, C.A., & John, C. (2007), ‘Satisfaction and perceived productivity when professionals work from home’, *Research and Practice in Human Resource Management*, 15(1), 37–62.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. USA.

Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future.

Journal of Management, 36(1), 256-280. <https://doi.org/10.1177/0149206309350776>.

Baruch, Y. (2001). The status of research on teleworking and an agenda for future research.

International Journal of Management Reviews, 3(2), 113-129.

Baruch, Y. (2000). Teleworking: Benefits and pitfalls as perceived by professionals and managers. *New Technology, Work and Employment* 15(1): 34-49.

Bastalich, W. (2016). Social philosophy curriculum in social science and humanities structured doctoral programmes. *International Journal for Researcher Development*, 7(1), 15-29. doi:10.1108/ijrd-02-2015-0004.

Bentley, T. A., Teo, S. T. T., McLeod, L., Tan, F., Bosua, R., & Gloet, M. (2016). The role of organisational support in teleworker wellbeing: A socio-technical systems approach. *Applied Ergonomics*, 52, 207-215. doi:10.1016/j.apergo.2015.07.019.

Beaumont, J. F., & Rivest, L. P. (2009). Dealing with outliers in survey data. *Handbook of Statistics* 29, 247- 279.

Bhandari, P. (2020). An introduction to quantitative research. Scriber. Available at <https://www.scribbr.com/methodology/quantitative-research>.

Bhattacharya, S., & Mittal, P. (2020). The impact of individual needs on employee performance while teleworking. *Australasia Accounting, Business and Finance Journal*. 14, 65–85.

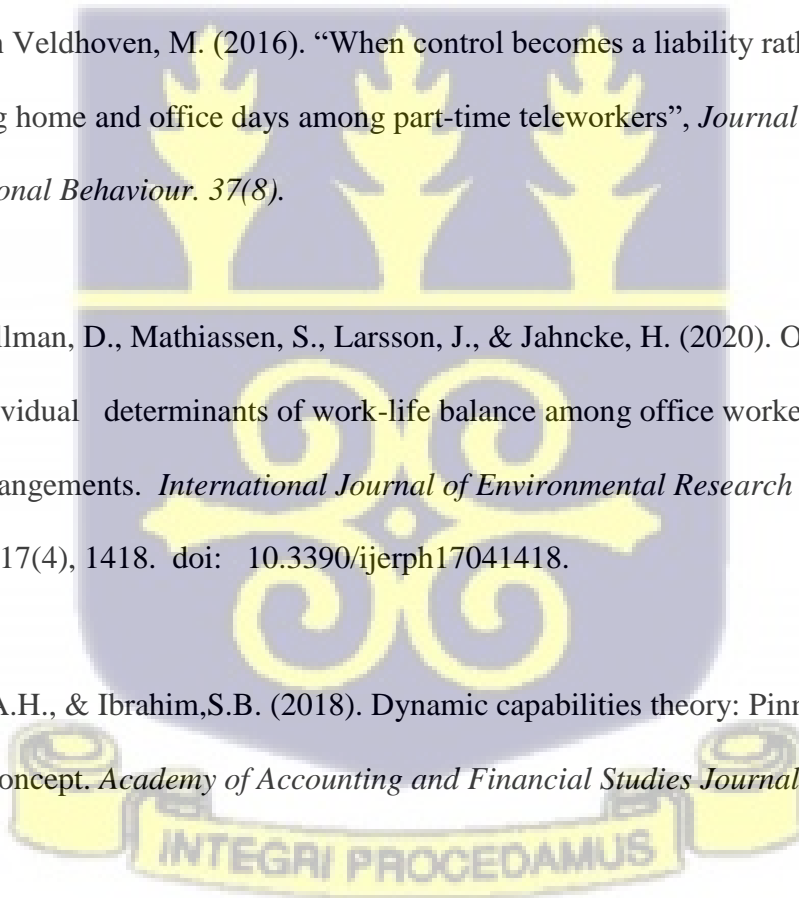
Bick, A., Blandin, A., & Mertens, K. (2020). “Work from home after the COVID-19 outbreak, CEPR Discussion Paper No. DP15000.

Bihari, G., & Jokay, C. (1999). Telecottages in Hungary: The experience and the opportunities. *Hungarian Telecottage Association*. Available at: www.telehaz.hu.

Biron, M., & van Veldhoven, M. (2016). “When control becomes a liability rather than asset: Comparing home and office days among part-time teleworkers”, *Journal of Organizational Behaviour*. 37(8).

Bjärntoft, S., Hallman, D., Mathiassen, S., Larsson, J., & Jahncke, H. (2020). Occupational and individual determinants of work-life balance among office workers with flexible work arrangements. *International Journal of Environmental Research and Public Health*, 17(4), 1418. doi: 10.3390/ijerph17041418.

Bleady, A. Ali, A.H., & Ibrahim, S.B. (2018). Dynamic capabilities theory: Pinning down a shifting concept. *Academy of Accounting and Financial Studies Journal* 22(2).



Bloom, N., Liang, J., Roberts, J., & Ying, Z.J. (2015), “Does working from home work? Evidence from a Chinese experiment”, *The Quarterly Journal of Economics*, 130 (1) 165-218.

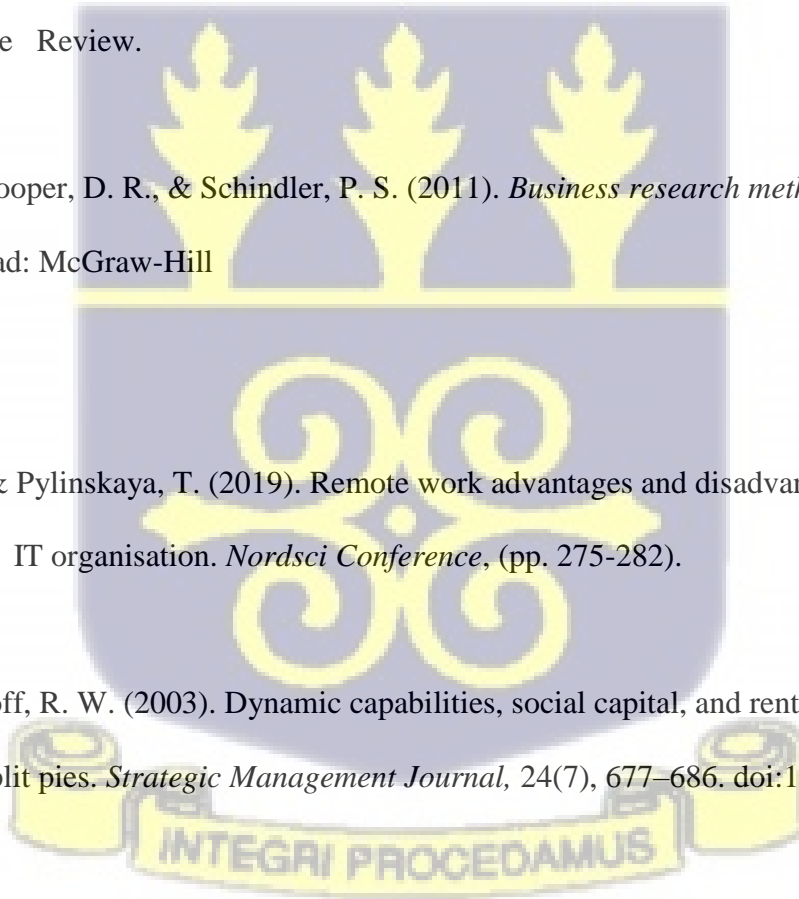
Bloom, N. (2014). To raise productivity, let more employees work from home. *Harvard Business Review*, April 2014. Available online: <https://hbr.org/2014/01/to-raise-productivity-let-more-employees-work-from-home> (accessed on 3 May 2021). -90.

Blount, Y. (2015). Pondering the fault lines of anywhere working (telework, telecommuting): A Literature Review.

Blumberg, B., Cooper, D. R., & Schindler, P. S. (2011). *Business research methods*. Maidenhead: McGraw-Hill

Blumberga, S., & Pylinskaya, T. (2019). Remote work advantages and disadvantages on the example in IT organisation. *Nordsci Conference*, (pp. 275-282).

Blyler, M., & Coff, R. W. (2003). Dynamic capabilities, social capital, and rent appropriation: Ties that split pies. *Strategic Management Journal*, 24(7), 677–686. doi:10.1002/smj.327.



Broughton, A., (2007). Place of work and working conditions , s.l.: European Foundation for the Improvement of Living and Working Conditions.

Bouziri, H., Smith, D. R. M., Descatha, A., Dab, W., & Jean, K. (2020). Working from home in the time of COVID-19: How to best preserve occupational health? *Occupational & Environmental Medicine* 77(7), 509-510.

Brunelle, E., & Fortin, J. (2021). Distance makes the heart grow fonder: An examination of teleworkers' and office workers' job satisfaction through the lens of Self-Determination Theory. *SAGE Open* January-March 2021: 1–1.

Burrell, D.N. (2020). Understanding the talent management intricacies of remote cyber security teams in COVID-19 induced telework organisational ecosystems. *Land Forces Academy Review*, 25(3), 232-244.

Burrell, D.N., Johnson, T., Shufutinsky, A., & Ramjit, D. (2021). Organisational dynamics of the rise of telework as an adaptive response to a global pandemic. *Land Forces Academy Review* 26 (3) 103.

Bryman, A., & Bell, E. (2011). *Business research methods* (3rd ed.). Oxford: Oxford University Press.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford: Oxford University Press.

Bryman, A. (2008). *Social research methods*. New York: Oxford University Press.

Brynjolfsson, E. J. J., Horton, A., Ozimek, D., Rock, G., Sharma, H., & TuYe, Y. (2020).

“COVID-19 and remote work: An early look at US data,” Tech. rep., *National Bureau of Economic Research*.

Bhardwaj, P. (2019). Types of sampling in research. *Journal of the Practice of Cardiovascular Sciences*. 5(3): 157-163.

Campbell, J.P. (1990). *Modelling the performance prediction problem in industrial and organisational psychology*. In: Dunnette MD, Hough LM, eds. *Handbook of Industrial and Organisational Psychology*. Palo Alto, CA: Consulting Psychologists Press; 1990:687– 732.

Cascio, W.F. (2000). Managing a virtual workplace, *Academy of Management Executive*, 14(3) 81.

Catană, S.A., Toma, S.G., Imbrisca, C., & Burcea, M. (2022). Teleworking impact on wellbeing and productivity: A cluster analysis of the Romanian , Lucian-Ionel Cioca, *Frontiers in Psychology*.

Choudhury, P.R., Foroughi, C., & Larson, B. (2020). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal*, 42, 1–29.

Choi, S. (2018). Managing flexible work arrangements in government: Testing the effects of institutional and managerial support. *Public Personnel Management*, 47(1), 26–50.
<https://doi-org.ezp.waldenulibrary.org/10.1177/0091026017738540>.

Cohen, L., Manion L., & Morrison, K. (2007). *Research methods in education*. London: Routledge.

Collins, B., Garin, A., Jackson, E., Koustas, D., & Payne, M. (2019). Is gig work replacing traditional employment? Evidence from two decades of tax returns.
<https://www.irs.gov/pub/irs-soi/19rpgigworkreplacingtraditionalemployment.pdf>.

Collis, J., & Hussey, R. (2009). *Business research: A practical guide for undergraduate and postgraduate students*. Palgrave Macmillan, Basingstoke.

Cooper, C. D., & Kurland, N. B. (2002). Telecommuting, professional isolation, and employee development in public and private organisations. *Journal of Organisational Behaviour*, 23(4), 511-532.

Corzo, C. (2019). *Telecommuting positively impacts job performance, study finds*.
<https://phys.org/news/2019-02-telecommuting-positively-impactsjob.html>.

Crespi-Vallbona, M., & Mascarilla-Miró, O. (2018). Job satisfaction: The case of information technology (IT).

Creswell, J. W., & Creswell, D. J. (2017). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage. <https://books.google.com/books?id=335ZDwAAQBAJ&dq>.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approach* (4th edition.). Sage Publications.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th edition). London: Sage publications.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). London: Sage Publications.

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.

Crosbie, T., & Moore, J. (2004). "Work–life balance and working from home". *Social Policy & Society* 3(3): 223–233 DOI:10.1017/S1474746404001733.

Derossette, Z.G. (2016). Variation in job performance among telecommuters. . [Doctoral dissertation, San Francisco State University].

Dutcher, E. (2012). The effects of telecommuting on productivity: An experimental examination of the role of dull and creative tasks. *Journal of Economic Behaviour & Organisation* 84, 355-363.

Dvorak, J. (2021). The impact on organisation behaviour in a telecommuting world and the potential impacts on the business. , [Doctoral dissertation, Minnesota State University Moorhead].

Easterby-Smith, M., Lyles, M. A., & Peteraf, M. A. (2009). Dynamic capabilities: Current debates and future directions. *British Journal of Management*, 20(7), S1–S8.
doi:10.1111/j.1467- 8551.2008.00609.

Easterby-Smith, M., & Prieto, I. M. (2008). Dynamic capabilities and knowledge management: An integrative role for learning? *British Journal of Management*, 19(3), 235–249.
doi:10.1111/j.1467-8551.2007.00543.x.

Eddleston, K. A., & Mulki, J. (2015). “Toward understanding remote workers’ management of work–family boundaries: The complexity of workplace embeddedness”. *Group and Organisation Management* 42(3): 346–387. <https://doi.org/10.1177/1059601115619548>.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10–11), 1105– 1121. doi:10.1002/1097-0266(200010/11)21:10/113.0.co;2-e.

Engström, A., & Norman, G. (2021). Dynamic capabilities facilitating sustainability oriented innovation - Insights from a single case study of a Swedish greenhouse farming firm. [Doctoral dissertation, Uppsala University].

Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. SAGE Publications. Available from: doi: 10.1016/j.lisr.2009.09.001.

Espinoza, R., & Reznikova, L. (2020). Who can log in? The importance of skills for the feasibility of teleworking arrangements across OECD countries. *OECD Social, Employment and Migration Working Papers*, no. 242, OECD Publishing, Paris.

Fainshmidt, S., Pezeshkan, A., Frazier, M., Nair, A., & Markowski, E. (2016). Dynamic capabilities and organisational performance: A Meta-analytic evaluation and extension. *Journal of Management Studies*.53: 1348–1380. 10.1111/joms.12213
[CrossRef] [Google Scholar].

Faulds, D., & Raju, P.S. (2021). The work-from-home trend: An interview with Brian Kropp.

Business Horizons.64(1), 29-35.

Felstead, A., & Henseke, G. (2017). Assessing the growth of remote working and its consequences for effort, well-being and work-life balance. *New Technology Work and Employment*, 32(1). doi:10.1111/ntwe.12097.

Ferenc, H. (2004). Evaluating the impact and efficiency of Telecottages: The Hungarian case study. IRSA Congress, WG6: Using a global medium to strengthen place-based networking? Appropriation of the internet in rural areas. Presentation summary.

Fife-Schaw, C. (2006). *Questionnaire design in Breakwell, G. M. et al. Research methods in Psychology* (3rd ed.). London: Sage.

Financial Times (2021). Making a good job of remote work.www.financialtimes.com.

Fink, A. (2003). *How to manage, analyse, and interpret survey data*. Sage Publications.

Fornell, C., & Lacker, D.F. (1981). Evaluating Structural Equation Models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1), 39-50.

Fried, J., & Hansson, D. H. (2013). *Remote: Office not required*. Crown.

Fujii, K. (2020). Workplace motivation: Addressing telework as a mechanism for maintaining employee productivity. [Bachelor's Thesis, Portland State University].

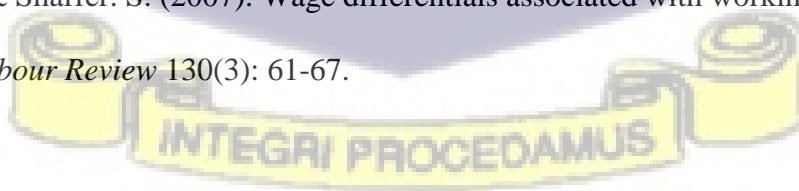
Fulk, J., & DeSanctis, G. (1995). Electronic communication and changing organisational forms. *Organisation Science*, 6(4), 337-349.

Gajendran, R., & Harrison, D. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology* 92(6), 1524–1541. doi: 10.1037/0021-9010.92.6.152.

Gálvez, A., Tirado, F., & Martínez, M. J. (2020). Work–life balance, organisations and social sustainability: Analysing female telework in Spain. *Sustainability* (Switzerland), 12(9), 1–21. <https://doi.org/10.3390/SU12093567>.

Garad, A.M., & Ismail, M.M. (2018). New perspective of telecommunication: A conceptualised framework for teleworking, *The Social Sciences*, 13, pp.891-897.

Gariety, B., S., & Shaffer. S. (2007). Wage differentials associated with working at home. *Monthly Labour Review* 130(3): 61-67.



Gáspár, M., Eckert B., & Szabó, G. (2003). e-Magyarország Pontok. A kisközösségek információs társadalma. (E-Hungary points. Information society of small communities.) *Informatikai és Hírközlési Minisztérium, Budapest*, 41.

Gay, L., Mills, G., & Airasian, P. (2006). *Educational research: Competences for analysis and applications*. New Jersey: Pearson Education, Inc.

Gibbs, M., Mengel, F., & Siemroth, C. (2021). Work from home & productivity: Evidence from personnel & analytics data on IT professionals, 6 May, Becker Friedman Institute for Economics Working Paper No. 2021-56, University of Chicago.

Global Workplace Analytics (2015). Advantages of agile work strategies for companies. Available at: <https://globalworkplaceanalytics.com/resources/costs-benefits>.

Gold, M. S., & Bentler, P. M. (2000). Treatments of missing data: A Monte Carlo comparison of RBHDI, iterative stochastic regression imputation, and expectation-maximization. *Structural Equation Modelling*, 7(3), 319-355.

Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The impact of professional isolation on teleworker job performance and turnover intentions: Does time spent teleworking, interacting face-to-face, or having access to communication-enhance technology matter? *Journal of Applied Psychology*, 93(6), 1412-1421. <https://doi.org/10.1037/a0012722>

Golden, T. D., Veiga, J. F., & Simsek, Z. (2006). Telecommuting's differential impact on work-family conflict: Is there no place like home? *Journal of Applied Psychology*, 91(6), 1340-1350. <https://doi.org/10.1037/0021-9010.91>.

Golden, T. D., & Veiga, J. (2005). The impact of extent of telecommuting on job satisfaction: Resolving inconsistent findings. *Journal of Management*, 31, 301–318.

Gordon, G. E., & Kelly, M.M. (1986). *Telecommuting: How to make it work for you and your company*. Prentice-Hall, Inc.

Gordon, G. (1996). Clinton calls for 'family friendly' work arrangements, *Telecommuting Review*, 13(8), p. 16.

Gostin, O. L., Friedman, E. A., & Wetter, S. (2020). Responding to COVID-19: How to navigate a public health emergency legally and ethically. *Hastings Centre Report*, 50(2), 1–5. <https://doi.org/10.1002/hast.1090>.

Gottlieb, C., Grobovsek, J., & Poschke, M. (2020). Working from home across countries. *COVID Economist*, 8, 71–91.

Grant, C. A., Wallace, L. M., & Spurgeon, P. C. (2019). 'Construction and initial validation of the E-Work Life Scale to measure remote e-working', *Employee Relations*, 41(1), 16–33. doi:10.1108/ER-09-2017- 0229.

Grant, C. A., Wallace, L. M., & Spurgeon, P. C. (2013). An exploration of the psychological factors affecting remote e-worker's job effectiveness, well-being and work-life balance. *Employee Relations*, 35, 527–546. 10.1108/ER-08-2012-0059.

Greener, S. (2008). *Business research methods*. London: Ventus Publishing.

Greetham, B. (2006). *Philosophy*. New York: Palgrave Foundations.

Gremme, K.M., & Wohlgenuth, V. (2010). Dynamic capabilities: A systematic literature review of theory and practice. *European Journal of Management Issues*. Special issue: 25 (1), 30-35.

Griggs, K. (2021). Assessing the impact of mandatory telework on job satisfaction during the COVID-19 Pandemic. [Doctoral dissertation, California State University, Northridge].

Grix J. (2010). *The foundations of research*. London: Palgrave Macmillan,.

Groen, B. A., van Triest, S. P., Coers, M., & Wtenweerde, N. (2018). Managing flexible work arrangements: Teleworking and output controls. *European Management Journal*, 36(6), 727-735. <https://doi.org/10.1016/j.emj.2018.01.007>.

Groeneveld, S., Tummers, L., Bronkhorst, B., Ashikali, T., & Van-Thiel, S. (2015).

Quantitative methods in public administration: Their use and development through time.

International Public Management Journal, 18(8), 61-86.

Gurgun, J.B. (2018). Telecentre-An approach using ICT for rural community development in

Nepal, Case note on ICT for Development, Retrieved from :

<http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan037092.pdf>

Guimaraes, T., & Dallow, P. (1999), 'Empirically testing the benefits, problems, and success

factors for telecommuting programmes,' *European Journal of Information Systems*,

8(1) 40-54.

Gurtner, S., Reinhardt, R., & Soyeze, K. (2014). Designing mobile business applications for

different age groups. *Technological Forecasting and Social Change*, 88, 177–188.

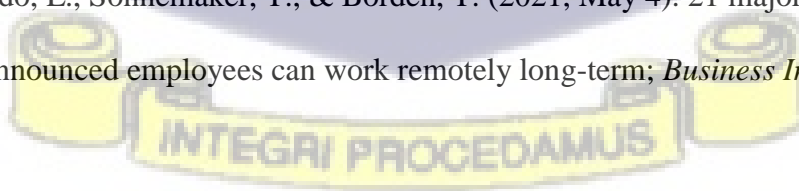
Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a

theory. *Organisational Behaviour and Human Performance*, 16, 250–279.

Hadden, J., Casado, L., Sonnemaker, T., & Borden, T. (2021, May 4). 21 major companies

that have announced employees can work remotely long-term; *Business Insider*: New

York, NY,



Harpaz, I. (2002). Advantages and disadvantages of telecommuting for the individual, organisation and society. *Work Study* 2002, 51, 74–80.

Hart, C. (1998). *Doing a Literature Review: Releasing the social science research imagination*. London: SAGE Publications Ltd.

Hartstrom, G., Griffith, A., & Neff, J. (2007). Trends in Telework outreach and training, community service centre 1209 University of Oregon Eugene, OR 97403-1209 Email: cpw@uoregon.edu <http://darkwing.uoregon.edu/~cpw>.

Helfat, C., & Peteraf, M. (2009). Understanding dynamic capabilities: Progress along a developmental path. *Strategic Organisation*, 7(1), 91–102. DOI: 10.1177/1476127008100133.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., & Winter, S. G. (2007). *Dynamic capabilities: Understanding strategic change in organisations*. Malden, MA: Blackwell.

Hensvik, L. T., Barbanchon, L., & Rathelot, R. (2020). “Which jobs are done from home? Evidence from the American Time Use Survey,” CEPR Discussion Paper No. DP14611.

Hilbrecht, M., Shaw, S. M., Johnson, L. C., & Andrey, J. (2013). “Remixing work, family, and leisure: teleworkers’ experiences of everyday life”. *New Technology, Work and Employment* 28(2): 130–144.

Hislop, D., & Axtell, C. (2009). To infinity and beyond? Workspace and the multi-location worker. *N. Technol. Work. Employ.* 24, 60–75. doi: 10.1111/j.1468-005X.2008.00218.x.

Hopkins, J. L., & McKay, J. (2019). Investigating ‘anywhere working’ as a mechanism for alleviating traffic congestion in smart cities. *Technological Forecasting and Social Change*, 142, 258–272. <https://doi.org/10.1016/j.techfore.2018.07.032>.

Howard-Grenville, J. (2020). How to sustain your organisation’s culture when everyone is remote. retrieved from MIT Slogan: <https://sloanreview.mit.edu/article/how->

Hu, L.T., & Bentler, P.M. (1999). “Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives”. *Structural Equation Modelling*, 6 (1), 1-55.

Huh, M.G. (2018). Enhancing the competitiveness of Korean firms: Dynamic capabilities perspective, *Korea Business Review*. 22(2). 155-175.

Hussain, M.A., Elyas T, T., & Nasseef, T.O. (2013). Research paradigms: A slippery slope for fresh researchers. *Life Science Journal*, 10 (4).

Hyken, S. (2021). The impact of the remote workforce. *Forbes*.

Illegems, V., & Verbeke, A., (2004). Telework: What does it mean for management? *Long. Range Plan.* 37 (4), 319–334.

International Labour Organisation (2021). Healthy and safe telework technical brief — Geneva, www.ilo.org.

International Labour Organisation (2020). An employers' guide on working from home in response to the outbreak of COVID-19. Available online: www.ilo.org/wcmsp5/groups/public/---ed_dialogue.

Ipsen, C., van Veldhoven, M., Kirchner, K., & Hansen, J. P. (2021). Six key advantages and disadvantages of working from home in Europe during COVID-19. *International Journal for Environmental Research and Public Health* 18, 18-26. doi: 10.3390/ijerph18041826.

Ivankova, N.V., Creswell, J.W., & Stick, S.L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18 (1) 3-20.

Jackson, L. T. B., & Fransman, E. I. (2018). Flexiwork, financial well-being, work–life balance and their effects on subjective experiences of productivity and job satisfaction of females in an institution of higher learning. *South African Journal of Economic and Management Sciences*, 21(1), 1–13. <https://doi.org/10.4102/sajems.v21i1.1487>.

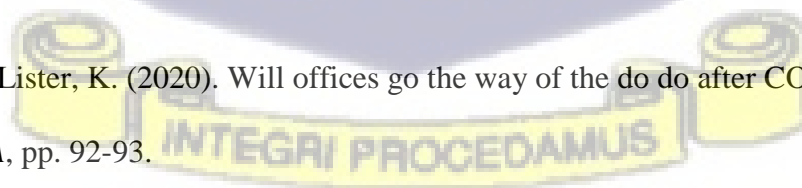
Johnson, B., & Onwuegbuzie, J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.

Kamal, S. S. L. B. A. (2019). Research paradigm and the philosophical foundations of a qualitative study people, *International Journal of Social Sciences*, 4(3), 1386-1394.

Kaiser, J. (2014). Dealing with missing values in data. *Journal of Systems Integration*, Volume 5(1):42-51.

Kalwar, M.A., Shaikh, S.A., & Khan, M.A. (202, December 26- 27). Statistical analysis of the impact of penalties in driving: A case study. *Proceedings of the International Conference on Industrial & Mechanical Engineering and Operations Management Dhaka, Bangladesh*.

Kamouri, A., & Lister, K. (2020). Will offices go the way of the do do after COVID-19? *IFMA*, pp. 92-93.



Kapondera, S. K.(2021). The role of telecentres in empowering rural communities in Malawi.
[Doctoral dissertation, Royal Holloway University of London].

Karia, N., & Asaari, M. H. A. H. (2016). Innovation capability: The impact of teleworking on sustainable competitive advantage. *International Journal of Technology, Policy and Management*, 16(2), 181-194.

Karácsony, P. (2021). Impact of teleworking on job satisfaction among Slovakian employees in the era of COVID-19. *Problems and Perspectives in Management*, 19(3), 1-9.
doi:10.21511/ppm.19(3).2021.01.

Kawulich, B.B. (2011). Gatekeeping: An ongoing adventure in research.
Field Methods Journal, 23(1), 57-76.

Kazemi, S.S., Gharagozlou , F., & Tavileh, F.M. (2021). A Review on the impact of telecommuting on personal and professional life, ; *International Journal of Musculoskeletal Pain Prevention*.7(1), 643-648.

Kelliher, C., & Anderson, D. (2010). “Doing more with less? Flexible working practices and the intensification of work”. *Human Relations* 63, 83–106.

Kent, A., & Williams, J. G. (1990). *Encyclopaedia of computer science and technology*. 22 ed.
s.l.:CRC Press.

Khan, F.F.P., Nasrudin, M., & Harith, N.H.M. (2018). The relationship between the impacts of Telecommuting engagement and employee performance in oil and gas industry in Kuantan, Pahang, *Malaysian Journal of Social Sciences and Humanities* (MJSSH)3(15), 2504-8562.

Khaskheli, S.A., Kalwar, M.A., Siddiqui, A.A., Nagar, M.A.K., & Wadho, T.H. (2018). impatience among drivers with varying demographics. *Professional Trends in Industrial and Systems Engineering*, 465–469.

Kemppila S., & Lonqvist, A.(2003). Subjective productivity measurement. *Journal of American Academy Business*: 531–537.

Kim, T., Mullins, L.B., & Yoon, T.(2021) Supervision of telework: A key to organisational performance, *American Review of Public Administration*, 51(4) 263–277

Kinicki, A., McKee-Ryan, F. M., Schriesheim, C., & Carson, K. P. (2002). Assessing the construct validity of the job descriptive index: A review and meta-analysis. *Journal of Applied Psychology*, 87, 14 –32.

Ko, E.J., & Kim, S.S. (2018). Intention to use flexible work arrangements: The case of workers in Korea and gender differences in motivation. *Journal of Organizational Change Management* · November 2018.

Konradt, U., Hertel, G., & Schmook, R. (2003). Quality of management by objectives, task-related stressors, and non-task-related stressors as predictors of stress and job satisfaction among teleworkers. *European Journal of Work and Organisational Psychology*, 12, 61–79. <https://doi.org/10.1080/13594320344000020>.

Koopmans, L., Bernaards, C.M., Hildebrandt, V. H., Schaufeli.,W.B., de Vet, H.C.W., & van der Beek, A.J. (2011). Conceptual frameworks of individual work performance: A systematic Review, *Journal of Economics and Management*, 45(3).

Kossek, E., Lautsch, B., & Eaton, S. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. *Journal of Vocational Behaviour*, 68(2), 347-367. doi: 10.1016/j.jvb.2005.07.002.

Kotey, B.A. (2017). Flexible working arrangements and strategic positions in SME's, *Personnel Review*, 46(2), 355-370.

Kotey, B., & Sharma, B. (2015). Predictors of flexible working arrangement provision in small and medium enterprises (SMEs). *The International Journal of Human Resource Management*, 27(22), 2753–2770. doi: 10.1080/09585192.2015.11102160.

Krauss, S.E. (2015). Research paradigm and meaning making: A printer. *The Qualitative Report*, 10(4), 758-770.

Kshetrimayum, M. (2021). *5 key elements of methodology section of a research paper*
Mumbai: Mel Insights.

Kuhn, K. M., & Galloway, T. L. (2019). Expanding perspectives on gig work and gig workers. *Journal of Managerial Psychology*, 34(4), 186–191. [https://doi.org/ 10.1108/JMP-05-2019-507](https://doi.org/10.1108/JMP-05-2019-507) *Personnel Review*, 46(2), pp. 355-370.

Kumar, R. (2005). *Research Methodology*. SAGE Publications.

Kumekpor, T. K. B. (2002). *Research methods and techniques of Social Research*. Accra: Sonlife, 117-118.

Kurland, N. B., & Bailey, D. E. (1999). Telework: The advantages and challenges of working here, there, anywhere, and anytime. *IEEE Engineering Management Review*, 28(2), 53–67 [https://doi.org/10.1016/S0090-2616\(00\)80016-9](https://doi.org/10.1016/S0090-2616(00)80016-9).

Kuruzovich, J., Paczkowski, W., Golden, T. D., Goodarzi, S., & Venkatesh, V. (2021). Telecommuting and job outcomes: A moderated mediation model of system use, software quality, and social exchange. *Information and Management*, 58(3), 103431. <https://doi.org/10.1016/j.im.2021.103431>.

Lautsch, B.A., Kossek, E.E., & Eaton, S.C. (2009). Supervisory approaches and paradoxes in managing telecommuting implementation. *Human Relations*. 62 (6), 795–827.

Leedy, P. D. (1993). *Practical research: Planning and design*. New Jersey: Prentice-Hall.

Lehtisalo, S. (2019). Telework and job satisfaction: A case study from the employees' Perspective.[Doctoral dissertation, Stockholm Universitet].

Leonardi, P. (2021). COVID- 19 and the new technologies of organising: Digital exhaust, digital footprints, and artificial intelligence in the wake of remote work. *Journal of Management Studies* 58(1).

Lewis, R.A. (2012). Telework: The experiences of teleworkers, their non-teleworking colleagues and their line managers at the Conseil General du Finistere. [Doctoral dissertation, The University of Gloucestershire].

Lila, P. C., & Anjaneyulu, M. V. L. R. (2017). Network wide impact of telework in urban areas: Case study of Bangalore, India. *Journal of Transportation Engineering*, Part A: Systems, 143(8), 1-10. <http://dx.doi.org/10.1061/JTEPBS.000006>.

Lincoln, Y. S., & Guba, E.G. (2013). *The Constructivist Credo*. Walnut Creek, CA: Left Coast Press.

Lindén, A., & Oljemark, S. (2018). Managing telework: Investigating possibilities of telework for modern organisations. (Unpublished manuscript, KTH Industrial Engineering and Management Industrial Management SE-100 44 Stockholm).

Lister, K., & Harnish, T. (2019). Telework and its effects in the United States in the 21st Century; *Messenger Journal*, 128–170.

Liu, S. H., Liao, H. L., & Peng, C. J. (2005). Applying the technology acceptance model and Flow theory to online e-learning users' acceptance behaviour. *E-learning*, 4 (H6), H8.

Luan, W. S., & Teo, T. (2009). Investigating the technology acceptance among student teachers in Malaysia: An application of the technology acceptance model (TAM). *Asia-Pacific Education Researcher*, 18(2), 261-272.

Locke, E. A. (1969). What is job satisfaction? *Organisational Behaviour and Human Performance*, 4, 309-336.

Lochmiller, C. R., & Lester, J. N. (2015). *An introduction to educational research: Connecting methods to practice*. Thousand Oaks, CA: Sage.

Makombe, G. (2017). An expose of the relationship between paradigm, method and design in research. *The Quantitative Report*, 22(12): 3363- 3382.

Martin, B., & MacDonnell, R. (2012). Is telework effective for organisations? *Management*.

Resources Revolution. 35, 602–616. doi: 10.1108/01409171211238820.

Martins, L. L., Gilson, L. L., & Maynard, M. T. (2004). Virtual teams: What do we know and where do we go from here? *Journal of Management*, 30(6), 805–

835. <https://doi.org/10.1016/j.jm.2004.05.002>.

Maruyama, T., Hopkinson, P. G., & James, P. (2009). “A multivariate analysis of work–life balance outcomes from a large-scale telework programme”. *New Technology, Work and Employment*, 24, 76–88.

Matos, K. (2015). Modern families: Same and different sex couples negotiating at home.

Retrieved from Families and Work Institute website:

<http://www.familiesandwork.org/downloads/modern-families.pdf>.

Mattress Clarity. (2019). How much is tardiness costing the American economy?

<https://www.mattressclarity.com/blog/much-tardiness-costing-american-economy/>

Maurer, R. (2020). Study finds productivity not deterred by shift to remote work. *Society for Human Resource Management*.

Mazid, R. (2009). Cisco study finds telecommuting significantly increases employee productivity, work-life flexibility and job satisfaction. Cisco, [online].

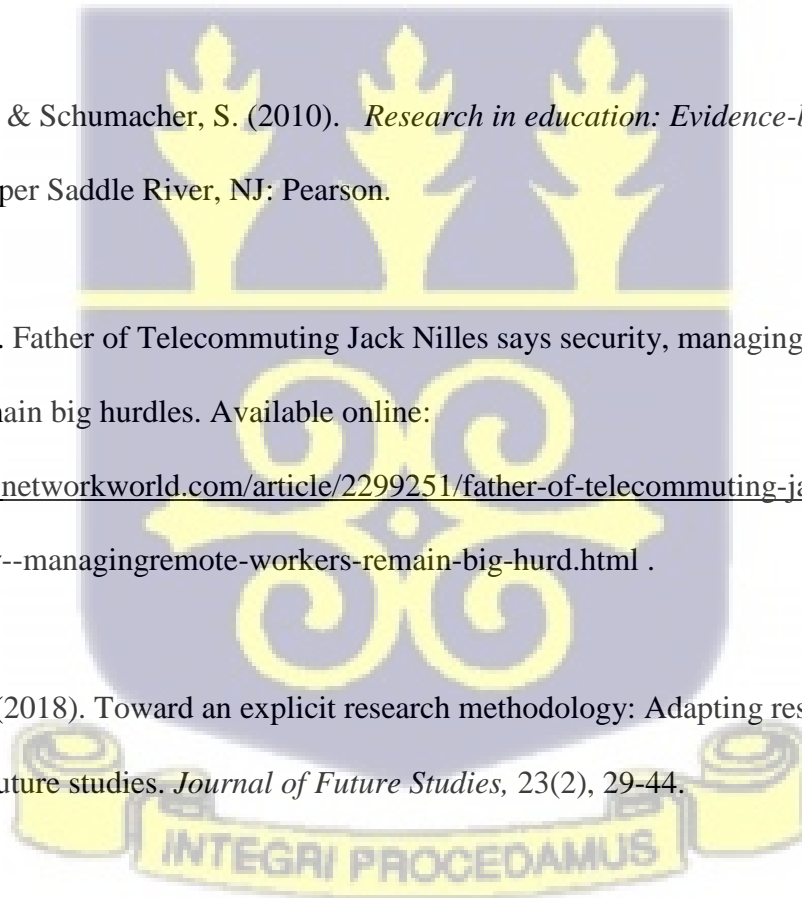
McCulloch, A. (2019, April 1). Major bank reverses its working from home ban. *Personnel Today*, Available online: <https://www.personneltoday.com/hr/major-bank-u-turn-on-working-from-home-ban/>.

McGregor, L., & Doshi, N. (2020). How to keep your team motivated, remotely. *Harvard Business Review*. Retrieved from <https://hbr.org/2020/04/how-to-keep->

McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry* (7th ed.). Upper Saddle River, NJ: Pearson.

Mears, J. (2021). Father of Telecommuting Jack Nilles says security, managing remote workers remain big hurdles. Available online: <https://www.networkworld.com/article/2299251/father-of-telecommuting-jack-nilles-says-security--managingremote-workers-remain-big-hurd.html> .

Melnikovas, A. (2018). Toward an explicit research methodology: Adapting research onion model for future studies. *Journal of Future Studies*, 23(2), 29-44.



Meroño-Cerdán, A. L. (2017). Perceived benefits of and barriers to the adoption of teleworking: Peculiarities of Spanish family firms. *Behaviour & Information Technology*, 36(1), 63-74.
<https://doi.org/10.1080/0144929X.2016.1192684>.

Merrefield, C. (2020). Working from home: What the research says about setting boundaries, staying productive and reshaping cities. *The Journalist's Resource*.

Messaoud, A.B., & Gupta, M.S. (2021). Remote work and controllers' motivation. How does Remote work impacts the motivation of German controllers, and how can it be positively handled? – A case study of a German automotive manufacturer. [Doctoral dissertation, Aalborg University, Benmamark].

Messenger, J. & Addati, L. (2013). Teleworking: The strong case for working remotely. Available online: www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_208067/lang-en/index.html.

Meunier, J. (2020). What does working remotely mean? *Allwork*.
<https://allwork.space/2020/09/what-does-working-remotely-mean/>

Miller, M. (2020). Advantages and disadvantages of quantitative research. *greengarageblog.org*.

Miller, R. L., & Brewer, J. D. (2003). *A-Z of Social Research*. London: Longman.

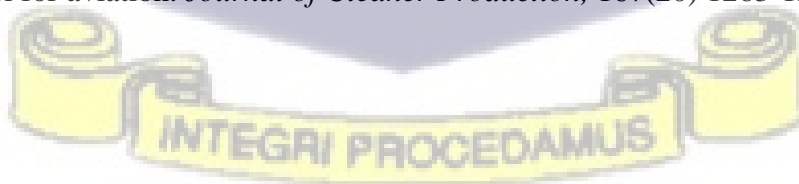
Miron, D., Petcu, M. A., David-Sobolevski, M. I., & Cojocariu, R. C. (2021). A multidimensional approach of the relationship between teleworking and employees well-being—Romania During the pandemic generated by the SarsCov-2 virus. *Amfiteatru Economic*. 23, 586–600. doi: 10.24818/EA/2021/58/586.

Mohite, M. D., & Kurland, R.V.(2019). Job satisfaction factors of employee in virtual workplace: Review. *International Journal of Trend in Scientific Research and Development (IJTSRD)* Conference Issue | March 2019 Available Online: www.ijtsrd.com.

Mokhtarian, P. L. (1991). *Defining Telecommuting*. Institute of Transportation Studies, University of California Davis, CA 95616 (530) 752-7062.

Morgan, R. E. (2004). Teleworking: An assessment of the benefits and Challenges, *Environmental Business Review*. 16, 344–357. doi: 10.1108/09555340410699613.

Mousavi, S., & Bossink, B.A.G. (2017). Firms' capabilities for sustainable innovation: The case of biofuel for aviation. *Journal of Cleaner Production*, 167(20) 1263-1275.



Nachtigall, C., Kroehne, U., Funke, F., & Steyer, R. (2003). Why should we use SEM? Pros and cons of Structural Equation Modelling. *Methods of Psychological Research Online* 8(2) 1-22.

Nakrošienė, A., Bučiūnienė, I., & Goštautaitė, B. (2019). Working from home: Characteristics and outcomes of telework. *International Journal of Manpower*, 40(1), 87–101. <https://doi.org/10.1108/IJM-07-2017-0172>.

Neufeld, D. J., & Fang, Y. (2005). Individual, social and situational determinants of telecommuter productivity. *Information & Management* 42 , 1037-1049.

Neuman, W.L. (2003), “*Social Research Methods: qualitative and quantitative approaches*” (5th ed.). Boston: Allyn and Bacon.

Nguyen, M.H., & Armoogum, J. (2021). Perception and preference for home-based telework in the COVID-19 era: A gender-based analysis in Hanoi, Vietnam. *Sustainability*, 13, 3179. <https://doi.org/10.3390/su13063179>.

Nguyen, T.T.L. (2019). Selection of research paradigms in English language teaching: Personal reflections and future directions. In the second annual international conference on language and literature, *knE Social Sciences*, 1-19. DOI: 10-18502/kss.v19.4826.

Nilles, J.M. (1998). *Managing telework: Strategies for managing the virtual workforce*. Hoboken, NJ: John Wiley & Sons.

Nilles, J. M. (1994). *Making telecommuting happen: A guide for telemanagers and telecommuters*. New York, NY: Van Nostrand Reinhold.

Nilles, J. M. (1991). Telecommuting and urban sprawl: Mitigator or inciter? *Transportation* 18, 411–432.

Nilles, J.M., Carlson, F.R., & Gray, P. (1976). *The telecommunications-transportation trade-off: Options for tomorrow*; London Wiley Publishing Inc.

Nilles, J. M. (1975). Telecommunications and organisational decentralisation. *IEEE Transactions on Communications*, 23, 1142-1147. doi: 10.1109/TCOM.1975.1092687.

Nunes, F. (2005). Most relevant enablers and constraints influencing the spread of telework in Portugal. *new technology, Work, and Employment*, 20 (2), 133-149.

Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.

Offstein, E.H., Morwick, J.M., & Koskinen, L (2020). Making telework work: Leading people and leveraging technology for competitive advantage. *Strategic HR Review Journal*, 9 (2),32-37.

Onder, C. (2016). Unfolding of telecommuting's effects in organisations: Performance, commitment, and mechanisms of action. [Doctoral dissertation, Colorado State University].

Organ, D.W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organisational citizenship behaviour. *Personnel Psychology*, 48, 775-802. <http://dx.doi.org/10.1111/j.1744-6570.1995.tb01781>.

Oxford (2020). Oxford Learner's Dictionaries: Find definitions, translations, and grammar explanations at Oxford Learner's Dictionaries. Retrieved 30 September 2020, from <https://www.oxfordlearnersdictionaries.com>.

Pacific Bell (1992). The Telecommuting resource guide, by Carol Nolan Telecommuting Manager.

Pänttjä, K., & Wu, X. (2021). Teleworkers' productivity in turbulent times - A comparative study of employees in Finland and China during the COVID-19 pandemic. [Doctoral dissertation, Uppsala University].

Parliamentary Office of Science and Technology (1993). (Extension 2840).

Parry, J., Young, Z., Bevan, S., Veliziotis, M., Baruch, Y., Beigi, M., Bajorek, Z., Salter, E., & Tochia, C. (2021). Working from home under COVID-19 lockdown: Transitions and tensions. Work after Lockdown project, *Institute for Employment Studies*, London.

Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the elusive black box of dynamic capabilities. *Decision Sciences*, Vol. 42(1)239-273.

Payne, W. R. (2015). *An introduction to philosophy*. Bellevue College, USA.

Perez - Perez, M., Martinez-Sanchez, A., de Luis, P., & Carnicer, M. (2003). The organisational implications of human resources managers' perception of teleworking. *Personnel. Review*, 32, 733–755. doi: 10.1108/004834803104 9869.

Peñas, P.M. (2021) Evolution of telework: Effective managing of virtual teams and projects. [Doctoral dissertation, Dublin Business School].

Penhoet, M., & Andersen, K. (2021). Enhancing dynamic capabilities through organisational leadership amid COVID-19 disruption: A case study of a social innovation housing project in Sweden. [Doctoral dissertation, Malmo University].

Perry, S.J., Rubino, C., & Hunter, E.M. (2018). Stress in remote work: Two studies testing the demand-control-person model. *European Journal of Work and Organizational Psychology*, 27(5), 577-593.

Peter, O. (2018). The Effect of Teleworking system on employees' performance in the Nigerian oil and gas upstream sector, *Apeejay-Journal of Management Sciences and Technology*, 5 (3), 347-500.

Phillips, A., Borry, P., & Shabani, M. (2017). Research ethics review for the use of anonymised samples and data: A systematic review of normative documents. *Accountability in Research*, 24(8), 483-496.

Pigini, C., & Staffolani, S. (2019). Teleworkers in Italy: Who are they? Do they make more? *International Journal of Manpower*, 40(2), 265-285. Doi:<https://doi.org/10.1108/IJM-07-2017-015>.

Powell, A., & Craig, L. (2015). "Gender differences in working at home and time use patterns: Evidence from Australia". *Work, Employment and Society* 29(4): 571–589.

Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: A review of current literature and directions for future research, *ACM SIGMIS Database*, 35(1), 6-36.

Pyöriä, P. (2011). Managing telework: Risks, fears and rules. *Management Research Review*, 34(4), 386-399.



- Rahi, S. (2017). Research Design and Methods: A systematic review of research paradigms sampling issues and instruments development. *International Journal of Economic and Management Sciences*, 6 (403).
- Raišiene, A. G., Rapuano, V., Varkulevičiute, K., & Stachová, K. (2020). Working from home- Who is happy? A survey of Lithuania’s employees during the COVID-19 quarantine period. *Sustainability* (Switzerland), 12(13).
- Rau, B., & Hyland, M. (2002). Role conflict and flexible work arrangements: The effects on applicant attraction. *Personnel Psychology*, 55(1), 111-136. doi: 10.1111/j.1744-6570.2002.tb00105.
- Richardson, J., & McKenna, S. (2014). Reordering spatial and social relations: A case study of professional and managerial teleworkers. *British Journal of Management*, 25, 724–736. doi: 10.1111/1467-8551.12017.
- Rindova, V. P., & Kotha, S. (2001). Continuous “morphing”: Competing through dynamic capabilities, form, and function. *Academy of Management Journal*, 44(6), 1263–1280. doi:10.2307/3069400.
- Research Methodology (2018). Quantitative data collection methods. [Online]. <https://research-methodology.net/research-methods/quantitative-research/#ftn1> (Accessed 27 November 2018).

Rocha, C.T.M., & Amado, F.N. (2018). Telework: Conceptualisation and issues for analysis. O teletrabalho: conceituação e questões para análise.

Röcker, C. (2012). Informal communication and awareness in virtual teams: Why we need smart technologies to support distributed teamwork. *Communications in Information Science and Management Engineering*, 2(1), 1-15.

Rosenfield, C. L., & Alves, D. A. (2011). Teletrabalho. In: Cattani, A. D.; Holzmann, L. (Orgs.). Dicionário de trabalho e tecnologia. Porto Alegre: Zouk,. 414-418.

Rupietta, K., & Beckmann, M. (2016). Working from home: What is the effect on employees' effort?, WWZ Working Paper, No. 2016/07, University of Basel, Centre of Business and Economics (WWZ), Basel, <http://dx.doi.org/10.5451/unibas-ep61317>.

Salolomo, B., & Agbaeze, E. K. (2019). Effect of work-life balance on performance of money deposit banks in south-south Nigeria. *Management Science Letters*, 535–548. doi: 10.5267/j.msl.2019.1.009.

Saltmarsh, S., & Randell-Moon, H. (2015). “Managing the risky humanity of academic workers: Risk and reciprocity in university work–life balance policies”. *Policy Futures in Education*, 13 (5): 662–682 doi:10.1177/1478210315579552.

Sánchez, A.M., Pérez, M., de Luis Carnicer, P., & Jiménez, M. (2007). Teleworking and workplace flexibility: A study of impact on firm performance. *Personnel Review*, 36, 42–64.

Saunders, M., Lewis, P., & Thornhill, A, (2019). *Research methods for business students*.8th ed. Pearson Education Limited, Financial Times Prentice Hall.

Schall, M.A. (2019). The relationship between remote work and job satisfaction: The mediating roles of perceived autonomy, work-family conflict, and telecommuting intensity, San Jose State University SJS Scholar Works.

Schilke, O. (2014). On the contingent value of dynamic capabilities for competitive advantage: Nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, 35(2), 179-203. <https://doi.org/10.1002/smj.2099>.

Schilke, O. (2013). On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, 35(2), 179–203. doi:10.1002/smj.2099.

Scholefield, G., & Peel, S. (2009). Managers' attitudes to teleworking. *New Zealand Journal of Employment Relations*, 34(3), 1-13.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A. & King, J. (2006). Reporting Structural Equation Modelling and Confirmatory Factor Analysis results: A review. *The Journal of Educational Research*, 99 (6), 323-337.

Schreyögg, G., & Kliesch-Eberl, M. (2007). How dynamic can organisational capabilities be? Towards a dual-process model of capability dynamization. *Strategic Management Journal*, 28, 913-933.

Schur, L.A., Ameri, M., & Kruse, D. (2020). Telework after COVID: A “silver lining” for workers with disabilities?. *Journal of Occupational Rehabilitation*. 30, 521–536.

Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and method of scientific, interpretive and critical research paradigms. *English Language Teaching*, 5(9): 9-16.

Scott, C. R., & Timmerman, C. E. (1999). Communication technology use and multiple. *IEEE Transactions on Professional Communication*, 42, 240-260, <https://doi.org/10.1109/47.807961>.

Scott, D. & Usher, R. (2004). *Researching education: Data, methods and theory in educational inquiry*. New York: Continuum.

Shadish, W. C. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton: Mifflin Company.

Shamir, B., & Ilan, S. (1985). Work-at-home and the quality of working life. *Academy of Management Review* 10(3): 455-464.

Shi, X., Moudon, A.V., Lee, B.H.Y., Shen, C. & Ban, X. (2020). Factors influencing teleworking productivity – A Natural Experiment during the COVID-19 Pandemic, Findings, December. <https://doi.org/10.32866/001c.18195>.

Short, G. (2001). The Western Australia Telecentre Network (WATN). In Colin, L., & David, W. (Eds.), *perspectives on distance Education Telecentres: Case studies and key issues*. Vancouver: The Commonwealth of Learning.

Shorten, A., & Moorley, C. (2014). Selecting the sample. *Evidence Based Nursing*, 17(2), 32-33

Silva, C, A. (2019). The attitude of managers toward telework, why is it so difficult to adopt it in organisations? *Technology in Society*, 59, 1-10.

Simpson, B. M. (1953). A scientific method of work distribution analysis. https://digital.library.unt.edu/ark:/67531/metadc107845/m2/1/high_res_d/n_0218_3.pdf.

Singh, K. (2015). Creating your own qualitative research approach: Selecting, integrating and operationalising philosophy, methodology and methods. *Vision: The Journal of Business Perspective*, 19(2), 132-146. doi: 10.1177/0972262915575657.

Singh, P., Paleti, R., Jenkins, S., & Bhat, C. R. (2013). On modelling telecommuting behaviour: Option, choice, and frequency. *Transportation*, 40, 373–396.

Smith, S., Patmos, A., & Pitts, M. (2018). Communication and teleworking: A study of communication channel satisfaction, personality, and job satisfaction for teleworking employees. *International Journal of Business Communication*, 55(1), 44– 68.
<https://doi-org.wsuproxy.mnpals.net/10.1177/2329488415589101>.

Solís, M. (2017). Moderators of telework effects on the work-family conflict and on worker performance. *European Journal of Management and Business Economics*, 26(1), 21-34.
<http://dx.doi.org/10.1108/ejmbe-07-2017-002>.

Solís, M. (2016). Telework: Conditions that have a positive and negative impact on the work-family conflict. *Academia Revista Latinoamericana De Administración*, 29(4), 435-449.
doi: 10.1108/arla-10-2015-0289

Sonnentag, S., & Zacher, H. (2020). “Pandemics: Implications for research and practice in industrial and organisational psychology”, *Industrial and Organisational Psychology: Perspectives on Science and Practice*.

Sotarauta, M. (2016). Shared leadership and dynamic capabilities in regional development. In *Regionalism Contested*. Routledge, 63-82.

South Carolina Department of Administration (2019).

Suggestions for implementing a successful telecommuting programme.

Statista (2021). Statista Research Department. Retrieved 05 05, 2021, from

<https://de.statista.com/statistik/daten/studie/1205767/umfrage/probleme-bei-Derhomeoffice-nutzung-in-der-corona-kris>.

Streefkerk, R. (2019). Qualitative vs. quantitative research.

Available at <https://www.scribbr.com/methodology/qualitative-quantitative-research>

Stripe, L., & Zarraga-Oberty, C. (2017). Are high-performance work systems always a valuable retention tool? The roles of workforce feminization and flexible work arrangements. *European. Management. Journal*. 35, 128–136. doi: 10.1016/j. emj.2016.04.002.

Susilo, D. (2020). Revealing the effect of work-from-home on job performance during the COVID-19 crisis: Empirical evidence from Indonesia, *The Journal of Contemporary Issues in Business and Government*, 26 (1), 23 – 40.

Tat, N. H. (2020). An examination of the influences of telecommuting on employee satisfaction and organisational citizenship behaviour in the information technology industry in Singapore. [Doctoral dissertation, Edinburgh Napier University].

Taskin, L., & Devos, V. (2005). Paradoxes from the individualization of human resource management: The case of telework. *Journal of Business Ethics* 62 (1), 13–24.

Teece, D.J. (2017). Business models and dynamic capabilities, *Long Range Planning*.

Teece, D.J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *Academy of Management Perspectives*, 28(4), 328-352.

Teece, D. J. (2007). ‘Explicating Dynamic Capabilities: The nature and micro foundations of (sustainable) enterprise performance’, *Strategic Management Journal* 28(13): 1319–50.

Teece, D.J. Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(7), 509-533.

Thorstensson, E. (2020). The influence of working from home on employees’ productivity: Comparative document analysis between the years 2000 and 2019–2020; *Informatik B-* [Doctoral dissertation, Karlstad Business School, Karlstad University: Karlstad, Sweden].

Thulin, E., Vilhelmson, B., & Johansson, M. (2019). New telework, time pressure, and time use control in everyday life *Sustainability*, 11, 1–17.

<https://doi.org/10.3390/su11113067>.

Tizala-Jatoe, E. (2011). Telecentres and community economic development in peri-urban areas of Ghana (Order No. MR80017). Retrieved from <https://search.proquest.com/docview>.

Tori, G., Goduto, G., Manfredini, F., & Melzi, M.J. (2021). The effect of the introduction of telework on job performance and satisfaction in the US: A systematic literature review.

<https://globalworkplaceanalytics.com/t>

Torten, R., Reaiche, C., & Caraballo, E. (2016). Teleworking in the new millennium.

The Journal of Developing Areas, 50(5), 317–326.

Townsend, A., DeMarie, S., & Hendrickson, A. (1998). Virtual teams: Technology and the workplace of the future. *Academy of Management Executive*, 12(3), 17-29.

Tremblay, D.G., & Thomsin, L. (2012). Telework and mobile working: Analysis of its benefits and drawbacks, *100 International Journal of Work Innovation*, 1,(1).

Trochim, W.M.K. (2006). *Research methods knowledge base* (2nd ed.). Retrieved from

<http://www.socialresearchmethods.net/kb/>.

Ugwu, C. L., Ekere, J. N., & Onoh, C. (2021). Research paradigms and methodological choices in the research process. *Journal of Applied Information Science and Technology*, 14(2), 116-124

USC Libraries (2018). Organising your social sciences research paper: Quantitative methods [Online]. <http://libguides.usc.edu/writingguide/quantitative> (Accessed 20 November 2018).

U.S. Office of Personnel Management (2011). Guide to telework in the Federal Government.

United States Office of Personnel Management (2021). Guide to telework and remote work in the Federal Government: Leveraging telework and remote work in the Federal Government to better meet our human capital needs and improve mission delivery.

University of Washington (2021). Telework guidance for return to the workplace (Staff).

Vega, R. P., Anderson, A. J., & Kaplan, S. A. (2015). A within-person examination of the effects of telework. *Journal of Business and Psychology*, 30(2), 313–323.
<https://doi.org/10.1007/s10869-014-9359-4>.

Venkatesh, V., Brown, S. A., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly*, 37, 21-54. Retrieved from <http://misq.org/misq/downloads>

Virtanen, M. (2020). The impact of remote working on employees' work motivation & ability to work. Retrieved from <https://www.theseus.fi/handle/10024/347416>.

Viswesvaran, C. (2002). Assessment of individual job performance: A review of the past century and a look ahead. In: Anderson N, Ones DS, Sinangil HK, Viswesvaran C, eds. *Handbook of Industrial, Work and Organizational Psychology. Vol 1: Personnel Psychology*. Thousand Oaks, CA: Sage Publications Ltd; 2002:110–126.

Viswesvaran, C., & Ones, D.S. (2000). Perspectives on models of job performance. *International Journal Select Assessment*, 8, 216–226.

Vogt, W. P. (2007). *Quantitative research methods for professionals*. Boston, MA: Pearson.

Von-Gaudecker, H.M.R., Holler, L., Janys, B., Siflinger, B., & Zimpelmann, C. (2020): “Labour supply in the early stages of the COVID-19 Pandemic: Empirical evidence on hours, home office, and expectations,” IZA Discussion Paper.

Wang, B., Liu, Y., Qian, J., & Parker, S. (2021). Achieving effective remote working during the COVID-19 Pandemic: A work design perspective. *Applied Psychology: An International Review*, 70(1), 16-59. doi:10.1111/apps.1229.

Wang, C.L. & Ahmed, P.K. (2007). “Dynamic capabilities: A review and research agenda”, *International Journal of Management Reviews*, 9 (1) 31-51.

Ward, N., & Shabha, G. (2001). Teleworking: An assessment of socio-psychological factors.

Facilities 19, 61–71. doi: 10.1108/02632770110362811.

Weerawardena, J., Mort, G. S., Liesch, P. W., & Knight, G. (2007). Conceptualising accelerated internationalisation in the born global firm: A dynamic capabilities perspective. *Journal of World Business*, 42(3), 294–306. doi:10.1016/j.jwb.2007.04.004.

Welz, C., & Wolf, F. (2010). Telework in the European Union. *Dublin: European Foundation for the Improvement of Living and Working Conditions* (Eurofound). Retrieved from :

<https://www.eurofound.europa.eu/publications/report/2010/telework-in-the-european->

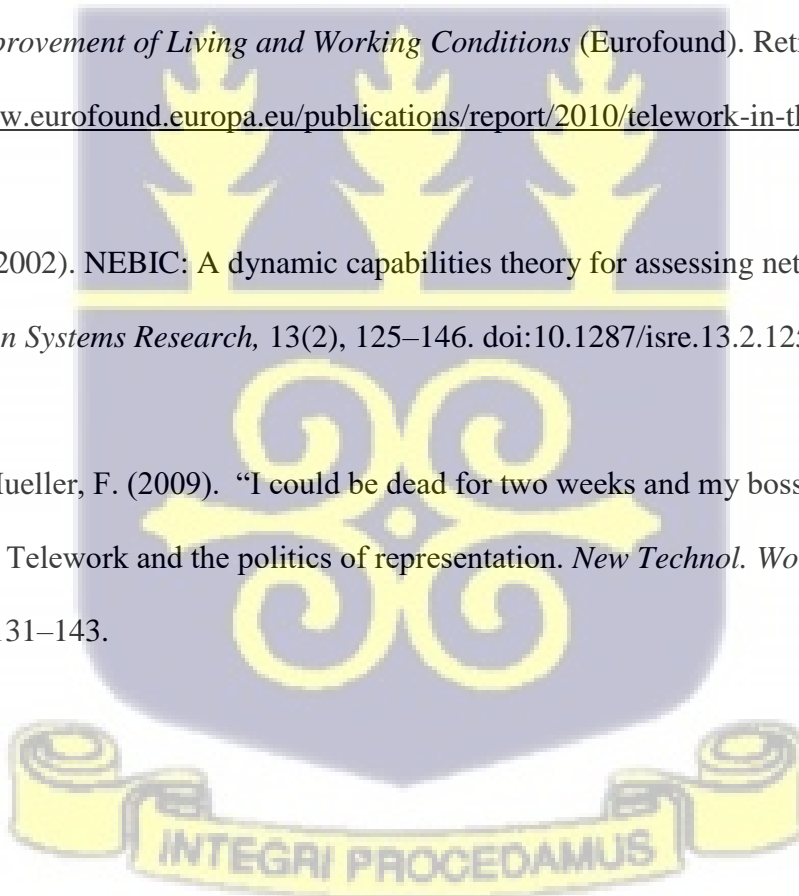
Wheeler, B. C. (2002). NEBIC: A dynamic capabilities theory for assessing net-enablement.

Information Systems Research, 13(2), 125–146. doi:10.1287/isre.13.2.125.89.

Whittle, A., & Mueller, F. (2009). “I could be dead for two weeks and my boss would never know”: Telework and the politics of representation. *New Technol. Work. Employ.*

24(2), 131–143.

Wiesenfeld, B., Raghuram, S., & Garud, R. (2001). Organisational identification among virtual workers: The role of need for affiliation and perceived work-based social support.



Journal of Management, 27(2), 13-229.

Wilks, L., & Billsberry, J. (2007). Should we do away with teleworking? An examination of whether teleworking can be defined in the new world of work. *New Technological Work Employment*, 22 (2),168–177.

Williams, C. (2007). Research methods. *Journal of Business & Economic Research*, 5(3), 23– 37. <https://doi.org/10.1017/9781108656184.003>.

Williams, K. (2021).The relationship between social isolation, telecommuting intensity levels, autonomy and job satisfaction during the COVID-19 pandemic. [Doctoral dissertation, The University of Southern Mississippi].

Williams, N. (2021). How COVID-19 has impacted on ways of working. *Occupational Medicine*, 71(1), 40. <https://doi.org/10.1093/occmed/kqaa196>.

Wilson, M., & Greenhill, A. (2004). Gender and teleworking identities in the risk society: A research agenda. *New Technological Work Employment* 19(3), 207–22.

WSJ (2020). “Companies start to think remote work isn’t so great after all,” <https://www.wsj.com/articles/companies-start-to-think-remote-work-isnt-so-great-after-all-11595603397>.

Wrike (n.d.). Remote Work Guide. Wrike.

www.techrepublic.com/article/

Yap, Y.Z., Yee, L.Q., Khairudi, M., Nizam, R.M., Kelun, I.J., & Yee J. (2020). Telecommute acceptance and work performance: A multiple regression analysis, *International Journal of Innovation and Business Strategy*, 14(2).

Ye, L. R. (2012). Telecommuting: Implementation for success. *International Journal of Business and Social Science*, 3(15), 20–29.

Zahra, S.A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A Review, model and research agenda. *Journal of Management Studies*, 43, 917–955.

Zahra, S.A. & George, G. (2002). Absorptive capacity: A review, reconceptualisation, and extension. *Academy of Management Review*, 27(2), 185-203.

Zakaria, N., Amelinckx, A., & Wilemon, D. (2004). Working together apart? Building Knowledge-sharing culture for global virtual teams, *Creativity and Innovation Management*, 13(1), pp.15-29.

Zia, A., & Bilal, H. (2017). Impact of telecommuting on the financial and social life of telecommuters in Pakistan. *Pakistan Economic and Social Review*, 55(1), 185- 199.

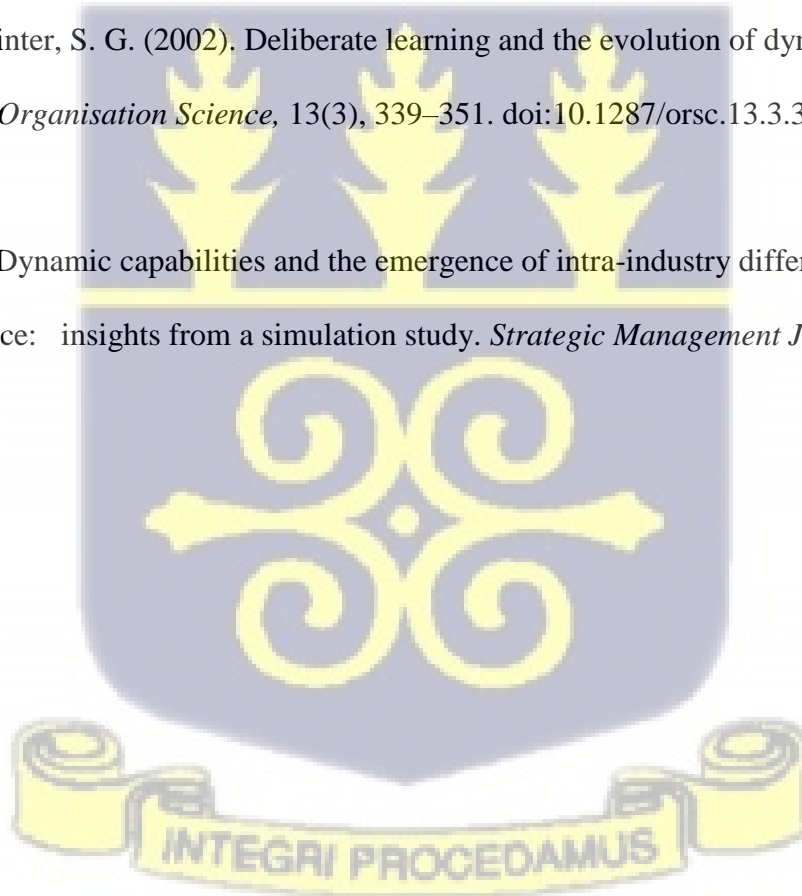
http://pu.edu.pk/images/journal/pesr/PDF-FILES/9-v55_1_17.pdf

Zöllner, K., & Sulíková, R. (2021). Teleworking and its influence on job satisfaction ; *Journal of Human Resources Management Research*

<http://ibimapublishing.com/articles/JHRMR/2021/558863/> Vol. 2021 (2021), Article ID 558863, 18 pages, ISSN: 2166-0018 DOI: 10.5171/2021.558863.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organisation Science*, 13(3), 339–351. doi:10.1287/orsc.13.3.339.2780.

Zott, C. (2003). Dynamic capabilities and the emergence of intra-industry differential firm performance: insights from a simulation study. *Strategic Management Journal*, 24(2), 97-125.



APPENDIX A: QUESTIONNAIRE

UNIVERSITY OF GHANA



THESIS TITLE:

**TELECOMMUTING AND WORK PERFORMANCE IN GHANA: A STUDY OF
PRIVATE AND PUBLIC ORGANISATIONS**

**TELECOMMUTING AND WORK PERFORMANCE IN GHANA: A STUDY OF
PRIVATE AND PUBLIC ORGANISATIONS
QUESTIONNAIRE**

Dear Respondent

I am conducting a research on ‘Telecommuting and work performance in Ghana: A study of private and public organisations. As part of the data gathering process, I have designed this questionnaire to collect original data from the management and employees of selected organisations. Please you are respectfully requested to respond to this questionnaire which is to assist in my academic work.

CONFIDENTIALITY

Please you are assured that your responses will be treated as anonymous and confidential. The research outcomes and report will not include reference to any individual. The study is purely for purposes of academic research. The compiler of the questionnaire will have sole ownership of the completed questionnaires and the questionnaires will be shredded after the completion of the study.

DEFINITION OF TERMS

Telecommuting/teleworking-This is any work arrangement that enables an employee to work outside the traditional office building using electronic devices such as computers, laptops and tablets connected to the Internet or the organisation’s network system.

SECTION A: BASIC DEMOGRAPHIC DATA (PLEASE CHOOSE AS APPROPRIATE)

1. Gender

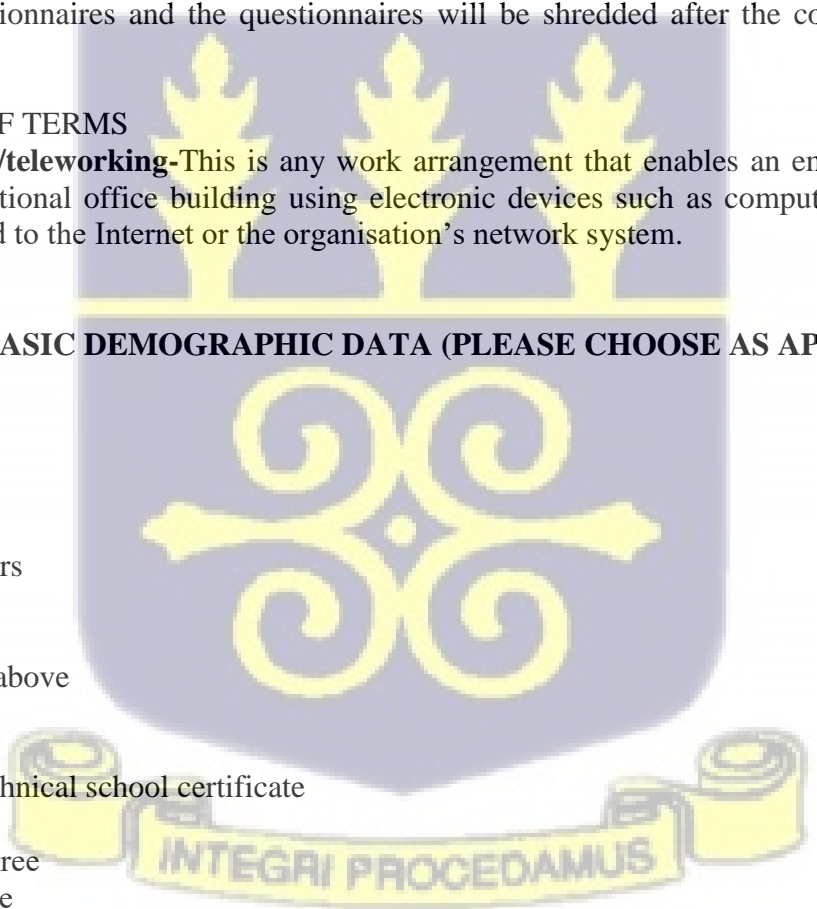
- Male []
- Female []

2. Age

- Below 20 years []
- 21-30 years []
- 31-40 years []
- 40 years and above []

3. Qualification

- Secondary/Technical school certificate []
- Diploma []
- Bachelor’s degree []
- Master’s degree []
- Others (please specify)..... []



4. Organisation

- Private []
- Public []

5. Industry

(Please identify the category that best describes your organisation's industry)

- Financial activities (e.g., finance and banking services) []
- Manufacturing (e.g., food, beverage, plastics) []
- Mining and natural resources (e.g., establishments that extract natural resources) []
- Professional (e.g., scientific, technical services and support services) []
- Regulatory (e.g., mining, public utilities and employer associations) []
- Educational (tertiary, secondary and examining bodies) []
- Transportation (e.g., air, rail, water, truck) []
- Other (please specify)..... []

6. Position in the organisation

- Top management/Strategic []
- Middle management []
- Supervisory/Operational []
- Others (please specify) []

7. How long have you been working with your organisation?

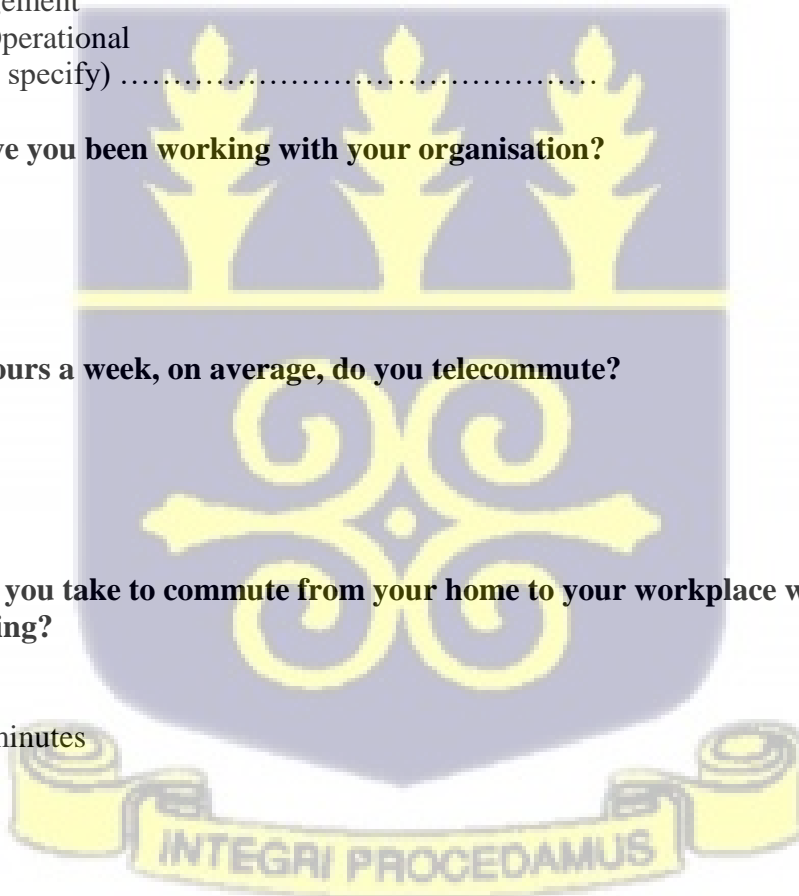
- 1-5 years []
- 6-10 years []
- 11-15 years []
- 16-20 years []

8. How many hours a week, on average, do you telecommute?

- 8 hours []
- 16 hours []
- 24 hours []
- 40 hours []

9. How long do you take to commute from your home to your workplace when not Telecommuting?

- 30 minutes []
- 1 hour []
- 1 hour and 30 minutes []
- 2 hours []



SECTION B: PLEASE CHOOSE AS APPROPRIATE

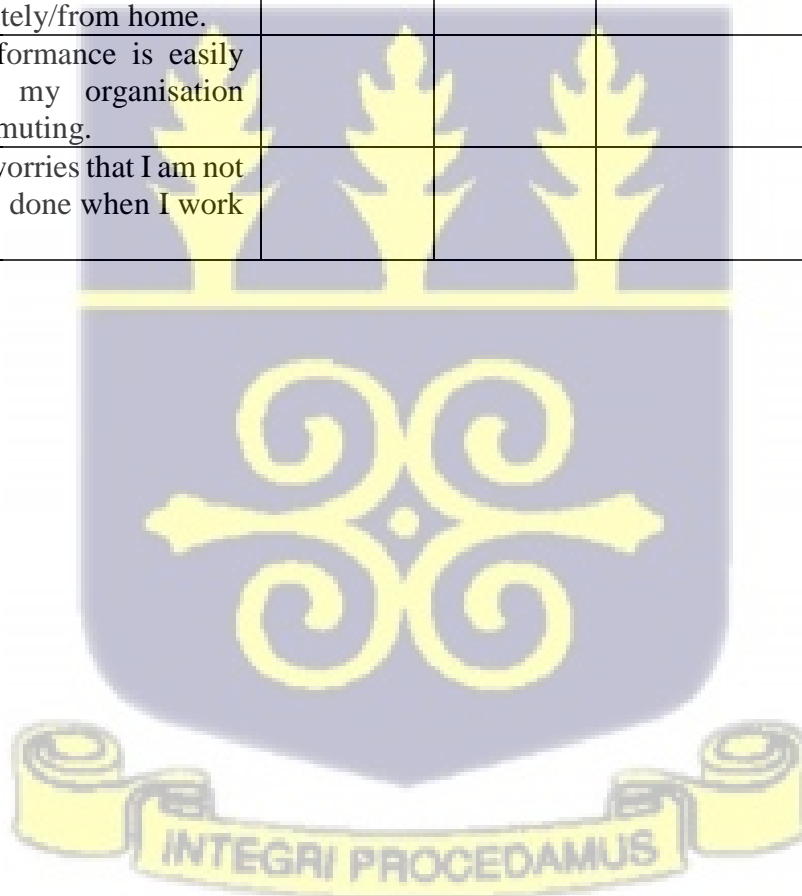
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

I. PLEASE TICK THE APPROPRIATE NUMBER AGAINST EACH STATEMENT ACCORDING TO THE SCALE GIVEN BELOW ON TELECOMMUTING DESIGN

ITEM	TELECOMMUTING DESIGN	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
1 1	When telecommuting/teleworking, I am equipped with adequate tools and technologies to perform my tasks.					
2	Help is available from the organisation when I have a problem.					
3	My organisation created a dedicated work space at home for me.				-	
4	I have the same level of job responsibility compared to my colleagues in a similar job who do not telecommute.					
5	I receive sufficient training from the organisation to develop my core skills.					
6	My organisation's leaders are knowledgeable about how telecommuting works.					
7	Telecommuters are selected based on their relations with Managers					-
8	Teleworkers need technological literacy.					

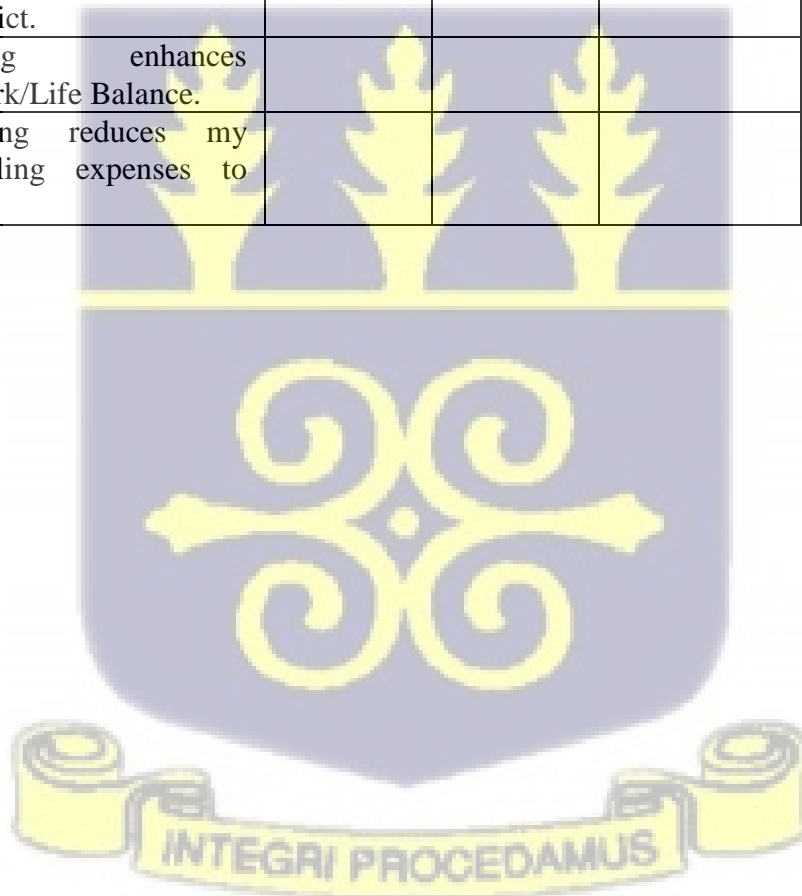
II. PLEASE TICK THE APPROPRIATE NUMBER AGAINST EACH STATEMENT ACCORDING TO THE SCALE GIVEN BELOW ON TELECOMMUTING AND WORK PERFORMANCE

ITEM	TELECOMMUTING AND WORK PERFORMANCE	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		5	4	3	2	1
1	Telecommuting/teleworking makes me more effective to deliver against my key objectives and deliverables.					
2	When teleworking/telecommuting I can concentrate better on my work tasks.					
3	My overall job productivity has increased by my ability to telework remotely/from home.					
4	My work performance is easily measured by my organisation when telecommuting.					
5	My Manager worries that I am not getting the job done when I work from home.					-



III. PLEASE TICK THE APPROPRIATE NUMBER AGAINST EACH STATEMENT ACCORDING TO THE SCALE GIVEN BELOW ON BENEFITS OF TELECOMMUTING

ITEM	BENEFITS OF TELECOMMUTING	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
1	Telecommuting/telework means higher levels of productivity for teleworkers.					
2	Telecommuting enhances my organisation's competitive position.					
3	Telecommuting is cost-saving and has financial benefits for my organisation.					
4	Telecommuting reduces inter-personal conflict.					
5	Telecommuting enhances employee Work/Life Balance.					
6	Telecommuting reduces my daily travelling expenses to work.					



IV. PLEASE TICK THE APPROPRIATE NUMBER AGAINST EACH STATEMENT ACCORDING TO THE SCALE GIVEN BELOW ON CHALLENGES OF TELECOMMUTING

ITEM	CHALLENGES OF TELECOMMUTING	Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1
1	Technical challenges (Software and hardware) are solved on time by the technical support team.					
2	Telecommuting leads to increased work pressure.					
3	When teleworking I feel isolated.					
4	Managers give less challenging tasks to teleworkers.					
5	Constant access to work through teleworking is very tiring.					
6	I sometimes interrupt my work to meet home requirements.					
7	When teleworking I feel left out on activities and meetings that could enhance my career.					
8	Office tension emanates from managing teleworkers together with non-teleworkers.					

THANK YOU FOR CONTRIBUTING TO KNOWLEDGE

