EFFECT OF TECHNOLOGICAL DEVELOPMENT ON ORGANISATIONAL EXCELLENCE

FOR SELECTED TELECOMMUNICATION COMPANIES IN GHANA: THE MEDIATING

ROLE OF E-LEADERSHIP

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This Thesis by <u>Anita Bans-Akutey</u> has been approved by the committee members below, who recommend it be accepted by the faculty of Unicaf University in partial fulfilment of requirements for the degree of

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Abstract

EFFECT OF TECHNOLOGICAL DEVELOPMENT ON ORGANISATIONAL EXCELLENCE FOR SELECTED TELECOMMUNICATION COMPANIES IN GHANA: THE MEDIATING ROLE OF E-LEADERSHIP

Anita Bans-Akutey

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This study assessed the effect of technological development on organisational excellence of selected telecommunication companies in Ghana as mediated by e-leadership. Specifically, the study identified the constituents of organisational excellence for telecommunication businesses in Ghana; examined how various technological advancements have impacted on the organisational excellence of telecommunication companies in Ghana; examined the role of e-leadership in adapting to technological developments in telecommunication companies in Ghana; and examined challenges presented by e-leadership in Ghanaian telecommunication companies as a result of technological development.

A mixed methods triangulation approach was employed for the study. For quantitative data, 443 respondents comprising 297 customers and 146 employees of telecommunication companies in Ghana were randomly selected while 12 respondents were purposively selected for the interview. Quantitative data was analysed with the use of descriptive and inferential statistics from IBM SPSS Statistics 24. Content analysis was used to analyse qualitative data.

Results indicated that there is a statistically significant positive effect of technological development on e-leadership; a statistically significant positive effect of e-leadership on organisational excellence, a statistically significant positive effect of technological development

on organisational excellence; and a statistically significant positive effect of technological development on organisational excellence through the mediation role of e-leadership. E-leadership was thus found to partially mediate the effect of technological development on organisational excellence.

It is therefore recommended that management's use of technology in telecommunication industries remains current, up to date and effective to ensure sustained organisational excellence during this era of rapid technological development. Future studies should examine the mediating role of leadership, thus traditional leadership without the application of technology, with respect to how technological development affects organisational excellence.

Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification except as specified. Parts of this work have been published in [Bans-Akutey, A., & Ebem, D. (2022). E-leadership and adaptation to technological development of telecommunication businesses in Ghana. *Annals of Management and Organisation Research*, 3(4), 259-269; Bans-Akutey, A. (2022). The Influence of Technological Development on Organisational Productivity. *International Journal of Science and Research (IJSR)*, 11(5), 1641-1648.].

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Dedication

This work is dedicated to the Lord Almighty for divinely directing my course and providing for all my needs always.

To my lovely husband, Randy, and the kids, Mawuse, Esenam and Elorm, I really appreciate the support you all gave me during this journey.

To my parents Mr. & Mrs. Uko, and my siblings, John and Esther, the dream has become a reality. God be praised.

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CHAPTER 1: INTRODUCTION

Background of the Study

It is generally perceived and also accepted that most organisations have one main objective which is to make profits. According to Singh et al. (2017), businesses which have proven to be sustainable over the years have a major objective of satisfying society's needs in addition to making for themselves some substantial profits. This notwithstanding is not entirely always the case. Business organisations focus on several other objectives in order to be considered as ethical organisations while remaining sustainable. According to Root (2019), business organisational objectives are the results business owners or entrepreneurs hope to achieve as they run and grow their businesses. These results can be broadly categorised dependent on what the organisation does in order to produce a product or provide a service and to which industry it belongs. A comprehensive list of objectives gives entrepreneurs the guidelines that become the foundation for business planning.

The list of objectives as exposed by Root (2019) for organisations may include getting and staying profitable, optimum productivity of people and resources, excellent customer service, employee attraction and retention, mission-driven core values, sustainable growth, maintaining a healthy cash flow, dealing positively with change, reaching the right customers and staying ahead of competition. This list however may vary depending on the type of organisation as well as what sector that organisation is a part of. These elements form the basis of measuring organisational excellence. According to Found et al. (2018), organisational excellence refers to being of the highest quality of performance with regards to all operational aspects of an organisation. An organisation is considered as being excellent when it consistently achieves its set objectives.

Organisational objectives can be classified in three levels. According to Daft (2016), these three levels of objectives are strategic goals, tactical objectives and operational objectives. Strategic goals are mostly long-term objectives of where the entire organisation wants to be in the future. They tend to be very broad statements that give the entire organisation a sense of direction. Achieving strategic goals sets an organisation on the pedestal of long-term excellence. Tactical objectives largely focus on goals that the main departments in the organisation intend to achieve. These should directly or indirectly contribute to the achievement of the organisation's strategic goals. Operational objectives are particular team or individual deliverables and are generally short-term goals. All three levels of objectives play a vital role if organisations intend to achieve excellence. When an organisation is able to consistently achieve these objectives, it is mostly said to have attained an excellent status.

Several research works have examined various elements that are very necessary for attaining excellence in an organisation. Such research identified orientation to clients, effective human resource and change management as responsible for the attainment of organisational excellence. Other studies have indicated that high performers maintain excellence through providing the best product, service or overall solution at the best competitive cost (Wing, 1988; Peters & Waterman, 1982; Peter & Austin, 1985; Treacy & Wiersema, 1995; Drucker, 2001; Kotler, 2003; Best, 2004, Pinar & Girard, 2008). According to Nohria et al. (2003), business strategy, strategy implementation, organisational culture and structure are four main practices that contribute to organisational excellence in addition to expertise, leadership and partnerships. They explain that organisations that are consistently perceived as excellent have successfully gained total control in at least two of the four main practices.

It is worth noting that most of the studies examined earlier had embedded in the innovation factor, a bit of the application of information and communication technology tools for the achievement of excellence. In recent times the use of information, communication and technology (ICT) tools to achieve organisational excellence has become a much more regular phenomenon with most organisations investing substantial amounts of their resources in ICT infrastructure (Bans-Akutey, 2019). Information and Communication Technology (ICT) is an umbrella term that represents the computers, software, networks, satellite links together with related hardware and systems that allow people to access, analyse, create, exchange and use data, information, and knowledge in innovative ways that in the past were almost unimaginable (Tettey, 2009). According to Klein and Unwin (2009), ICT is a broad term that includes any communication device or application, encompassing radio, television, mobile phones, computers and network hardware and software, and satellite systems, as well as the various services and applications associated with them, such as videoconferencing, distance learning and working remotely with virtual teams. Almost all departments in most organisations have installed at least one information, communication and technology tool with some parts of tasks if not all tasks automated or mechanized (Bans-Akutey, 2019). Despite the fact that department offices have ICT infrastructure installed, not all employees make use of such installation. Some employees, mostly lower level staff, would rather make use of traditional tools to carry out their daily tasks owing to limited knowledge, skills and training.

The impact of using ICT tools in organisations and their ability to achieve organisational objectives has been positive considering various studies that have been conducted (Bans-Akutey, 2020). According to a case study by Caldeira et al. (2012), business benefits of implementing a complete ICT based paperless management system

between 2007 and 2011 in the Espírito Santo Hospital in the city of Évora, in the south of Portugal included greater precision in diagnosis and clinical prescription; reduction in costs for medical tests and laboratory analyses; greater systematic information flow for management purposes and use; reduction in human resource personnel costs; reduction in costs for amenities, equipment and material supply; improved client and patient service; improved working conditions for professional health workers; and increase in activity of out-patient appointments. These therefore depict that the use of ICT tools do have a positive impact an organisation's ability to achieve its objectives; thus attaining excellence (Lal, 2017). These positive impacts are recorded when the ICT tools are installed and used; not installed and ignored.

Development in technology over the past two decades has been very phenomenal (Viguerie at al., 2017). Several frequent regular upgrades of ICT tools including computer hardware, software applications, programmes, social networking sites, data processing and storage devices, mobile phones and so on are general expectations worldwide. For both individuals and organisations, getting an upgrade for an older version of technology being used has financial as well as other implications. These implications affect an organisation's ability to achieve its objectives either positively or negatively, thus impacting directly on organisational excellence (Bans-Akutey, 2019). The same can be said for telecommunication industries in Ghana who are also in one way or the other faced with rapid technological advancements as they strive to achieve their objectives so as to attain excellence.

Discourses about organisational excellence will not be complete without mentioning leadership. Bans-Akutey (2020) exposes that for any organisation that seeks excellence, management should be able to communicate the organisation's vision to

employees; connect excellence to daily operations, activities and procedures; monitor and assess excellence; give employees official authority; firmly establish technology; and support continuous learning. These activities are all possible when management provides the requisite leadership. Scholars have studies leadership in detail and established the fact that effective leadership is critical for the success of every organisation. Several decades ago, Sun Tzu exposed that effective leadership is a major factor, among other factors, in attaining successful strategy (Wing, 1988; Kirkpatrick & Locke, 1991; Darling & Nurmi, 1995; Tiimub et al. 2021).

The influx of ICT has however influenced the way managers interact with their subordinates in recent times (Vought, 2017) resulting in the concept of e-leadership. He explains E-leadership as a concept of leading in virtual environments where large amounts of work and interaction are aided by ICT. Barnwell at al. (2014) posit that e-leadership comprise two main components which are mainly communication and technology. These two components are majorly powered by telecommunication companies.

Context of the Study

In Ghana, telecommunications include television, radio, mobile and fixed telephones as well as the internet. Ghana turns out to be one of the initial African countries that moved from a telecommunication industry controlled by central government to a liberal competitive market where private sector participation was much more organised (Osei-Owusu, 2015). Between 1996 and 2002, Ghana had just two national telecom operators, thus, Ghana telecom and Westel. After 2002, when that duopoly expired, other telecom operators were introduced into the industry, to improve efficiency and promote competition. Despite the fact that the industry is inclined towards a wholly private

competitive industry, Government continues to play a major role in ensuring that there is effective development in the telecommunication industry. This is achieved through the National Communications Authority of Ghana (NCA).

The NCA is in charge of allocating, assigning and regulating the use of frequencies that conform with the strategic developmental goals of the communications sector. Frequencies are regularly monitored to ensure that cases of interferences are checked and legal action taken against broadcasters who operate illegally. The NCA also ensures that there is fair competition among telecommunication operators in the industry. This is achieved through the implementation of a policy on competition and preventing misuse of market power, unfair and anti-competitive behaviour. It also ensures the consumers of telecommunication companies are served with the best quality of service by conducting network quality checks regularly nationwide (NCA, 2021). The NCA educates and protects consumers by acting as a neutral independent arbitrator.

The telecommunication industry has gone through several changes over the past years as they strive to remain relevant. According to (IMANI, 2018), Ghana has one of the most vibrant and competitive telecommunication industries in the sub-region as it has witnessed very rapid technological transformation, growth, and intense competition across the mobile, internet and fixed-line services. Telecommunication industries in Ghana are the main agencies in charge of ensuring that their clients are served with the right infrastructure to facilitate a great information and communication technology (ICT) experience. Clients of telecommunication companies comprise of both individual and corporate entities. While individual clients may require a great experience with regards to personal and official use of ICT infrastructure, corporate entities require a great experience that will facilitate their ability to also satisfy clients. This is significant because such

corporate organisations will also require their clients to perceive them as excellent in order to remain in business.

In Ghana, the telecommunication industry is generally viewed as one of the major economic strongholds of the country due to the liberalization surrounding the use of information and communication technology. The telecommunications market encompasses radio, television, fixed lines, mobile phones and the internet. In 2012, there were about two hundred and eighty-five thousand (285,000) fixed lines, 25.6 million mobile phone lines and 4.2 million internet users in the country. As at 2007, Ghana had just one public television station and two radio stations. There were however several privately owned television and radio networks. In addition to these were some international networks, cable and satellite subscriptions. In recent times, the fixed telephone line system is gradually phasing off while making room for the use of cellular phones and the internet. According to the 2020 Central Intelligence Agency (CIA) world fact book, the numbers have increased to over 300,000 fixed lines subscribers and about 37 million mobile phone lines (Central Intelligence Agency, 2020).

Cellular Phones

To understand the impact and growth of mobile phones on Ghanaian society, it is important to know the history of the Ghanaian telephone system. Telephone cables were introduced in Ghana in 1890 by the British; however, they were used in very few fields as postal services. By 1937 the chief post office and other service industries had begun to use technology. By the mid-1980's, telecommunications were widely used in Ghana. Wealthy homes usually had at least one telephone in the house. Years ago, having a telephone was a sign of status. Over the years, however, the use of the telephone has gained momentum.

Not only do Ghanaians get calls at their homes, but they also have access to telephone and cell phone sites. The appearance of the telephone booths in Ghana was very exciting. Many people had seen telephone scenes in Western movies and on television but had never seen them or used one. As a result, when they came out in the early 1990's, they were very few and far between. However, as technology has evolved, various companies have found a way to make it financially feasible for the average Ghanaian to use a telephone booth. The adoption of a prepaid calling card system has resulted in an increase of 275.78% of Ghanaian public telecommunications from 1997-1998 (International Telecommunication Union). Payphones were something new that people were attracted to (Central Intelligence Agency, 2020).

One of the great things about the excitement created by telephone sites was that this infrastructure was new to the community accustomed to wireless communication. The science of talking on the phone and standing in the booth was culturally diverse, very Western, and thus very attractive. The introduction of mobile phones has changed the flexibility between home and wireless phones (Avle, 2020).

The mobile industry has grown tremendously in the last few years alone. This growth may be largely due to the rapid increase in cellular use in the natural understanding of the cultural process of wireless communication from traditional forms of communication. However, the rise of mobile phones has not been a good thing at the community level, as it leads to less social, local and operational-focused interactions; important parts of traditional communication forms (Avle, 2020). However, cell phones are ideal for people of all ages, as they allow people to keep in touch with family and friends. Businesses also benefit because they can get information from one point to another

very easily, especially as landline calls are always busy. Mobile usage has the potential to be more than it currently is if the required infrastructure was available for hosting.

Internet

The internet as a major media machine has grown significantly over the last few years. According to the CIA World Fact Book, there are approximately thirteen (13) Internet Service Providers (ISPs) and about 16 million Internet users in Ghana since January, 2021 (Statista, 2021). This represents an increase over last year when recording 14.76 million users. These numbers are important because they demonstrate the ability of developing countries to participate in the technological advancement that is taking place worldwide, provided they have access to the necessary networks and infrastructure needed for technological advancement.

The internet has also been instrumental in getting Ghanaians around the world to adapt to what is happening in Ghana. Ghanaweb.com for example, is a website that contains a lot of information, especially political and local news. It also has sections for business, entertainment and sports. Additionally, popular Ghanaian newspapers such as the Ghanaian Chronicle and Daily Graphic have daily online versions of the printed newspaper so that locals and foreigners can access it. The increase in availability and accessibility provided by the internet has helped raise awareness among Ghanaians on a variety of issues in the field of politics, health care and education.

A disadvantage however is the rapid adoption of computer technology in spite of the lack of cultural context that is offered. An example of this is when author Pascal Zachary of Technological Review visited Ghana and saw how the global exposure provided by the internet led to his Ghanaian friend's dissatisfaction with Ghana. According

to him, over the past two years, he has seen his friend become more adept at using the computer, which is faster than using the Web. But even though his friend is still happy with the computer, his dissatisfaction is increasing rapidly. He has become more aware about the world now than ever before. This knowledge, however, clearly revealed his poverty, isolation, and, indeed, the long-term challenges related to success for the Ghanaian (Zachary, 2002). It is noteworthy here that the use of the internet reveals a stark contrast between what is happening in developed countries versus what developing countries offer. This awareness in itself is not really a bad thing. The problem is feeling down and depressed about the current situation and the lack of ability to look good in the world and fight for that. Therefore, it is important that people traditionally learn to filter the information they receive and not take all the pictures and information they see and read into reality.

In recent times, it has become increasingly common to see organisations engaging in online business activities. E-commerce, E-business, E-learning and E-management have become popular in Ghana today and around the world due to the availability and use of Internet.

Statement of the Problem

The problem, first of all, is some clients of telecommunication industries are extremely technologically inclined that at the introduction of any new technology, device or an upgrade, they would migrate to that new technology (Chui et al., 2023). This occurrence is common to both individual clients and corporate organisations who subscribe to the services of telecommunication organisations. The insatiable desire to

make use of the next latest technology by clients puts telecommunication industries under undue stress as they strive to attain excellence by satisfying clients.

Quite a number of organisations, of which telecommunications industries are included, who aim at excellence as part of their strategic goals, are being coerced to work in an environment that is dynamic with events which are not stable but undergoing regular constant changes in the area of technology (Saha et al., 2017). Such organisations need to be agile in order to survive and excel despite the rapid changes (Mousavi, 2009). These external changes put a demand on the organisations to be responsive to the market by ensuring clients are always satisfied no matter how often their needs change (Chung et al, 2012; Dunlop-Hinkler et al, 2011). Owing to the fact that these telecommunication industries would not want to lose their clients to competition, they have no option than to also keep adjusting and adapting to the new technologies as and when they are introduced. In order to achieve client satisfaction, operational excellence and beat competition, telecommunication industries in Ghana are under duress to adapt to rapid developments in technology. Resultantly, in this quest to achieve excellence from the point of view of clients, other areas like annual budgetary allocations and efficient use of other resources suffer. It is therefore important to identify what constitutes excellence for telecommunication companies in Ghana.

Secondly, recent technological developments are generally dispersed in several areas of practice. Ghobakhloo (2018) gives a summary of a variety of technological applications within the concept of "smart factory" in a manufacturing context. These include internet of things (IoT) that explains the independent interaction of physical tangible devices; big data, the method of analysing large volumes of data in order to be able to forecast the effects of tactical, operational, strategic and administrative actions;

blockchain as the foundation of self-sustaining, conspicuous, safe and reliable transactions carried out by either equipment or human beings; and cloud computing which is a workable internet based space that helps to manage operations concurrently (Cascio & Montealegre, 2016; Ghobakhloo, 2018).

In a study by Beer & Mulder (2020), he exposed that the effect of technological development on employees depend on long term decisions that are most suitable for the environment of the organisation; such that when operational unpredictability is too high, technology is used to improve on the ability of employees to adapt to the changing environment so that the organisation aims at remaining competitive on the market. On the other hand, when the level of unpredictability decreases, organisational procedures are standardised to improve workflow and account for output. This means the effects of technology is largely dependent on how unpredictable and competitive the external environment of the organisation is, thus increasing or decreasing the flexibility and chances for making decisions and self-organising (Burns & Stalker, 1994). Contingency theories therefore suggest that through technology, unpredictability is reduced and competitiveness increased from the employees' point of view (Burns & Stalker, 1994; Cherns, 1976; Liker et al., 1999; Parker et al., 2017). They do not consider how developments in technology affect other parts of an organisation's operation aside employees. It must be emphasized here that employees are very important assets of every organisation; however technological impact on an organisation goes beyond the impact on its employees. It is therefore imperative to examine the effect of technological development on organisational excellence for telecommunication companies in Ghana.

Thirdly, past studies have focused on human resources, skills, abilities, initiatives and actions as important assets that facilitate an organisation's excellence; with very limited study on the effect of technological development and the role of leadership on such excellence (Dove, 2015; Shayan & Ghasemizad, 2015; Stifayi, 2014; Tempura, Jenab, Moazeni & Bakhtiari, 2017). Despite limited research on these areas, the total quality management principles however include technology and leadership as essential pillars that facilitate organisational excellence (Lal, 2017). It is however not clear how technology and leadership affect organisational excellence.

Vitez (2019) explores how technological change affects the activities of a business organisation. According to him, technology has levelled the playing field for small, medium and large organisations. Through the use of technology, some small enterprises are born global; delivering for themselves competitive advantage on the economic markets. The use of technology helps organisations to reduce operational costs; create safe environments where sensitive confidential information can be secure stored; improve communication with stakeholders; improve employee productivity by increasing their output; and allow organisations to reach new markets; enable businesses to outsource parts of their management functions to other local or international organisations. In as much as these benefits that come with the use of technology are all positive, the effect of rapid regular changes in versions of technology being used by organisations is not known as very few or no studies have been done in that field. It is therefore not known how the rate of development of technology affects organisational excellence. There is therefore the need to examine the effect of technological development on the ability of telecommunication industries to achieve organisational excellence through the mediating role of e-leadership.

Fourthly, Barley (1990, 2015) asserted that the use of technology can alter the role of workers as well as how these roles are carried out by workers. An alteration in the role of workers and how they perform those roles in turn influence people, equipment or robots with whom they interact with regularly. This implies that any change in the role network affects the social network; any change in technology has a way of altering the work system. Therefore, if a manager in performing a leadership role, makes use of ICT tools, which the is the concept of e-leadership, it impacts on the employee-employer network as well as the company-customer network. If the work system of an organisation is altered with any change in technology, particularly e-leadership it is worth finding out how this affects organisational excellence. This study therefore examines the role of e-leadership in attaining organisational excellence as well as some challenges that are encountered as a result of the use of e-leadership by most managers in modern times.

In summary the study addresses four knowledge gaps. The first gap is concerned with what constitutes organisational excellence for telecommunication companies. The second, has to do with how technological development affects organisational excellence. The third and fourth gap are concerned with the role of e-leadership in attaining organisational excellence and some challenges that arise as a result of implementing e-leadership, respectively.

Purpose of the Study, Research Aims, and Objectives

The purpose of this study is to examine the effect of technological development on organisational excellence through e-leadership. Owing to the fact that technology and leadership seem to play a vital role in organisational excellence (Lal, 2017), but has

not been extensively researched on, this study will provide valuable insights to industry players regarding how technological development and e-leadership impact on organisational excellence, thereby aiding in effective decision making and also adding to existing literature on the subject.

The study will make use of a mixed methods approach involving both qualitative and quantitative research approaches. The quantitative approach will assist the researcher measure the effect of technological development on organisational excellence through the mediation effect of e-leadership; while qualitative responses will help the researcher put the quantitative data collected in perspective by providing probable explanations for the outcome of the quantitative data; thus ensuring vivid explanation of quantitative data. The research will be conducted by using a survey questionnaire as well as conducting interviews as the main data collection tools. Observations will also be used by the researcher where necessary to achieve the objective set.

Specifically, the research aims at identifying the constituents of organisational excellence for telecommunication businesses in Ghana; examining how various technological advancements have impacted on the organisational excellence of Ghanaian telecommunication companies over the past two decades; examining the role of e-leadership in adapting to technological developments in Ghanaian telecommunication industries; and examining challenges presented by e-leadership in Ghanaian telecommunication industries as a result of technological development. These are outlined below.

    1.   To identify the constituents of organisational excellence for selected telecommunication businesses in Ghana.

2.   To examine how technological advancement have impacted on the organisational excellence of selected telecommunication companies in Ghana.

3.   To examine the role of e-leadership in adapting to technological development in selected Ghanaian telecommunication companies.

4.   To examine challenges presented by e-leadership in selected telecommunication companies in Ghana as a result of technological development.

Nature and Significance of the Study

This study will implore the use of a mixed methods approach in order to achieve the research objectives as well as answer the research questions. According to Tashakkori and Teddlie (2008), mixed method research are mostly studies that are as a result of the pragmatist paradigm; in that they combine both the qualitative and quantitative research approaches at various stages of the research. This implies that in order to appropriately complete this study, both quantitative and qualitative approaches will be used (Terrel, 2012).

This study will make use of both primary and secondary data sources. For the primary data sources, the researcher will contact respondents and participants directly rather than depending on data that other researchers have collected. Driscoll (2011) explains that the main objective for carrying out a primary research is to learn about an entirely new thing which has the potential of confirmation by other researchers with the researcher ensuring that all forms of biases are eliminated. To achieve this, the researcher made use of observation and online interviews to collect primary qualitative data; and

surveys in the form of online questionnaires to collect quantitative data. Secondary data sources were mainly from published scholarly articles on the subject matter.

Respondents and participants of the study were mainly customers, managers and employees of telecommunication companies in Ghana. In Ghana people who have not attained the age of eighteen are not eligible to be employees of any organisation since they are not considered as adults. Employing such individuals who are under 18 years of age, accounts for child labour which violates the labour laws of the country. As a result, even though some children have access to phone and other technological devices, they were not eligible to participate in this study. Also, adult employees who have attained the age of sixty (60) years and are due for retirement were not allowed to participate in the study. Children and adults who were well advanced in age were therefore not be allowed to participate in this study. Only adults within the age range of eighteen (18) and sixty (60) years were recruited as participants or respondents for the study. These are people who could provide informed consent for themselves without the assistance of any guardian.

Persons with visual impairments but could access the internet with a kind of vision aid were also allowed to participate in the study so far as they were customers, employees or managers of the selected telecommunication companies in Ghana. Such people would however be assisted to participate in the survey. Nonetheless, persons with any kind of mental disability who would not be able to provide informed consent for themselves were not allowed to participate in the study. Collected quantitative data was presented in tables, charts and graphs; and analysed with the use of descriptive and inferential statistics. Qualitative data was analysed with the use of content analysis and presented in themes.

In recent times, the rate at which information and communication technology is developing is such that, any organisation generally, and specifically any telecommunication company, that does not carefully follow the trends, is likely to get out of business sooner than later. According to the 2020 report of the United Nations Conference on Trade and Development (UNCTAD), Information and Communication Technology (ICT) sector has been characterized by constant and rapid changes. This is to say that the changes though rapid, are inevitable for both service providers and customers alike. This study, first of all, will expose to all concerned stakeholders, how constant rapid changes in ICT affect the organisational excellence of telecommunication companies, who happen to be one of the major players in the ICT space.

It is worth noting that telecommunication industries invest quite huge amounts of money into these technological developments. According to Viguerie et al (2017), in the telecommunication sector, companies are spending now more than they ever have done in the past – about fifty-six (56) billion dollars in capital expenditures in the year 2016. However, the telecommunication companies enjoyed lower returns as subsequent developments of standards and technologies depreciate at an accelerating rate. Secondly, findings from this study will enable management of telecommunication companies to assess whether adapting to rapid technological changes and investing heavily in them is worth the investment. Thirdly, findings can be extended to facilitate or serve as basis for performance assessment of telecommunication companies that invest heavily in new technology.

Fourthly, results from this study will help investors with scientific knowledge on whether to continue investing in rapid technological advancements, while bearing in

mind the return on investment. This will imply that such investments will be well planned and thought through before implementation.

With the onset of the Covid-19 pandemic, most organisations including telecommunication companies have been able to successfully implement remote working. Telecommunication industries were able to support their own operations as well as support operations of other organisations that migrated online as a result of the pandemic. Even before the pandemic, Vought (2017) intimated that considering the universality and pervasiveness of ICT, it has become nearly impossible for companies to do business or go about their operations without some level of virtuality. Management and employees of most companies have had to work in this changing environment from face-to-face to the virtual space while ensuring organisational excellence. This is mostly achieved through e-leadership. Again the study will expose to stakeholders the significance of e-leadership to achieving organisational excellence. Also, top managers and employees in management positions will be equipped with knowledge about potential challenges that arise as a result of implementing e-leadership. This will equip them to effectively overcome such challenges when they surface.

Finally, the study will potentially provide both practitioners and academia with relevant theoretical insights regarding the telecommunication industry and organisational excellence as well as how e-leadership contributes to achieving organisational excellence in the telecommunication industry. It will also serve as basis for future research to other researchers who would want to explore the subject further.

Research Questions and Research Hypotheses

Answers to the research questions outlined below will help the researcher achieve the set objectives for the study.

RQ1. What constitutes organisational excellence for telecommunication businesses in Ghana?

RQ2. How have various technological advancements impacted on the organisational excellence of Ghanaian telecommunication companies?

RQ3. What is the role of e-leadership in adapting to technological development in Ghanaian telecommunication industries?

RQ4. What are the challenges of e-leadership in Ghanaian telecommunication businesses as a result of technological development?

The research will explore three hypotheses which are stated below.

H1$_0$: Technological development does not have a significant positive effect on e-leadership.

H1$_a$: Technological development has a significant positive effect on e-leadership.

H2$_0$: E-leadership does not have a significant positive effect on organisational excellence.

H2$_a$: E-leadership has a significant positive effect on organisational excellence.

H3$_0$: Technological development does not have a significant positive effect on organisational excellence through the mediating role of e-leadership.

H3$_a$: Technological development has a significant positive effect on organisational excellence through the mediating role of e-leadership.

Chapter Summary

Summarily, in this first chapter, an overview of the entire study has been provided; thus setting the context for this research. The chapter introduced the main objectives of the study, research questions, nature of the study and its significance as well as the hypotheses of the research. The background of the study provided a general overview of organisational excellence and how it is related to technological development and e-leadership in the context of Ghanaian telecommunication companies. It also presented the specific problem for which this study was conducted, which is the need to examine the effect of technological development on organisational excellence through the mediating role of e-leadership.

Organisations, in addition to staying profitable, aim for optimum productivity of people and resources, excellent customer service, employee attraction and retention, mission-driven core values, sustainable growth, dealing positive with change, reaching the right customers and staying ahead of competition. These indicators show whether an organisation has attained excellence or not. Despite several studies carried out on organisational excellence, only a few of such studies have critically considered the place of leadership and technology in achieving organisational excellence despite the fact that almost all TQM principles touch on the concepts of leadership and innovation. In recent times, technology has influenced all aspects of an organisation's operations including how excellence is achieved. Thus, technological development has found its way into how leaders interact with their subordinates. Telecommunication companies provide the infrastructure for technological development. In Ghana, the telecommunication industry

comprises television, radio, mobile and fixed telephones as well as the internet. They are thus the foundation on which technological development is hinged.

The problem is that some clients of telecommunication companies are extremely technologically inclined that at the introduction of any new technology, device or upgrade, they would migrate to that new technology. This happens for both individual and corporate clients. The insatiable desire to make use of the next latest technology, puts telecommunication companies under undue stress as they strive to attain organisational excellence. They are thus coerced to work in an environment that is dynamic with events which are not stable but undergoing regular, constant changes in the area of technology. The effect of these changes in technological development on organisational excellence is however not known. For telecommunication companies, the effect of the rapid changes is deepened considering the resources that are directly or indirectly affected. It is also worth noting that technological development has greatly influenced the way leaders perform their leadership role. The study therefore examined how technological development affects organisational excellence as mediated by e-leadership. This was achieved by the use of a mixed methods study of clients and employees of telecommunication companies in Ghana between the ages of 18 and 60 years.

The study is very significant as findings will add up to the existing body of knowledge regarding how constant rapid changes in technology affects the organisational excellence of telecommunication companies, who happen to be one of the major stakeholders in the ICT space. Findings will also enable management of telecommunication companies to evaluate the investment made in rapid technological changes as against the benefits derived. This can also be extended to serve as a basis for

performance assessment of telecommunication companies that invest in technology change. Positive results from the study will empower investors to continue investing in such technological development; while negative results will serve as a caution for all concerned stakeholders. The study will also expose stakeholders to the significance of e-leadership in achieving organisational excellence. Top managers and employees in management positions will be equipped with knowledge about potential challenges that arise as a result of e-leadership.

CHAPTER 2: LITERATURE

Introduction

This chapter commences with an overview of theoretical and empirical studies related to organisational excellence and various factors that influence organisational excellence while focusing on technological advancements and leadership. Key terms for initial search included organisational excellence, operational excellence, service excellence, technology, technological advancement, e-leadership and technological change. After the preliminary search, several other keywords were found: business performance, organisational culture, transformational leadership, transactional leadership, organisational performance, organisational agility, strategy, knowledge management, competitive advantage, competencies, effectiveness, efficiency, and others.

Relevant scholarly articles from peer-reviewed journals were selected if they were published in English and in the category of Management Studies, Business, or Applied Information Technology; if organisational excellence, e-leadership or technological advancement was discussed; and if the journal publications were within the last 10 years, thus from 2011 to 2021. Sources for these articles were primarily Google Scholar and Research Gate. Majority of articles identified made use of quantitative research in studies related to organisational excellence. Only a few articles employed the use of qualitative research and mixed research methods. This points to the fact that researchers of organisational excellence seem to prefer the use of quantitative research methods in arriving at their findings.

The main objective of this literature review is to present the state of existing studies on organisational excellence, technological development and e-leadership. It will also present the conceptual framework with which this study will be conducted.

Overview of Organisational Excellence

The concept of organisational excellence has become widely used in recent times considering the rate of globalization. This concept has been widely discussed and implemented by managers, employees as well as customers (Nenadál et al, 2018). Some time ago, businesses used to compete on the national level; while struggling with competitors on the local market for clients. In recent times, as a result of globalization, business organisations find themselves at the same level with other high class international business organisation. Clients now have a wide range of options to choose from when it comes to which business organisation to engage. Competition has therefore moved from local competitors to international competitors. Owing to this development, business

organisations, no matter their location, are forced to pursue organisational excellence in order to be able to compete on the international market, thus retaining their customers globally. Several authors in discussing organisational excellence almost always touch on Total Quality Management (TQM) concepts (Fonseca et al, 2021; Janjić et al, 2019; Kassem et al, 2018; Nenadál et al, 2018; Samawi et al, 2018; Vaselova, 2019; Zhang et al, 2019). They argue that organisational excellence is hinged on TQM principles.

According to Nenadál et al (2018), organisational excellence ensures that various systems function together in a way that ensures confidence in the organisation's ability to attain sustainable success in the long term. Webster (2016) defines organisational excellence as "delivering, and sustaining the delivery of, outstanding value to all key stakeholders". Scholars from American Society for Quality explain organisational excellence as "ongoing efforts to establish an internal framework of standards and processes intended to engage and motivate employees to deliver products and services that fulfil customer requirements within business expectations. Bailey (2014) posits that "excellence is a cultural journey". The European Foundation for Quality Management (EFQM) says excellent organisations are those that achieve and sustain outstanding levels of performance that meet or exceed the expectations of all their stakeholders" (EFQM, 2012). From the definitions, it can be deduced that organisational excellence is sustained success that delivers outstanding value to all key stakeholders. Stakeholder values encompass customer requirements as well as business expectations.

Samawi et al. (2018) in an examination of total quality management practices as tools to facilitate organisational excellence found that there is actually a positive relationship between organisational excellence and total quality management practices in specific areas like leadership, focus on human resource, focus on customers, management

of processes, strategic management or planning and information analysis. Brown (2014) exposes that both organisational excellence and quality management are interchangeable owing to the fact that both concepts require organisations to adopt and implement the use of specific principles. Organisational excellence has its foundation on five all-important pillars – namely process management, project management, change management knowledge management and resources management (Dahlgaard et al., 2013; Harrington, 2005). Organisations must focus on all five pillars in order to attain change that will last.

According to Kassem et al. (2018), organisational culture plays a very important role in achieving organisational excellence. Some studies have indicated that specific characteristics of organisational culture can help the successful application of the organisational excellence models (Kujala & Lillrank, 2004; Metri, 2005). They explain that organisations which have a strong and healthy culture tend to succeed when the most influential culture kind falls in line with the organisation's beliefs and values (Polychroniou & Trivellas, 2018). There is therefore the need for management to examine cultural changes that are required for the organisation to achieve excellence. If this is not done before the organisation goes ahead to identify improvement tasks based on organisational excellence criteria, employees may not accept such interventions if they do not match the organisation's culture (Bolboli & Reiche, 2014). Morris (1994) recommends, from available information that organisations cultivate a culture of excellence that is popularly known to and accepted by employees.

Achieving success in the current global marketplace has become quite complicated due to the fact that consumers' expectations have increased given the variety of choices available to them; making them less brand loyal (Best, 2004). Despite the complication in achieving this sustained success, business organisations have no option than to pursue

excellence as that is the only assurance for sustained dominance in the current marketplace. Several studies have examined factors that influence the success of organisations and cause them to be excellent. Factors like customer focus, quality of employees, innovation, strategy, implementation, culture among others. (Best, 2004; Drucker, 2001; Kotler, 2003; Nohria et al, 2003; Peters & Waterman, 1982; Peter & Austin, 1985; Treacy & Wiersema, 1995; Pinar & Girard, 2008; Salehzadeh et al, 2017; Smith et al, 2019; Wing, 1988).

To attain organisational excellence several business excellence models have been implemented by organisations. These business excellence models are mostly developed by both national entities and individual researchers; and more often than not, supported by nations. They serve as the foundation for awards for the best use of the proposed principles in the models (Ladzani, 2016). Nenadál et al (2018) groups these business excellence models into two categories. The first category is those excellence models developed by entities which do not only provide guidelines but also serve as a basis for national and international awards. The second category consists of excellence models which are developed by individuals, researchers and scholars. Excellence models under this category serve as tools that assist organisations by providing support and inspiration. Excellence models discussed under the first category are Deming Prize Model (JUSE, 2017), Malcolm Baldrige National Quality Award Model (ASQ, 2017), and EFQM Excellence Model (EFQM, 2012). Those discussed under the second category are Kanji's Business Excellence Structural Model (Kanji, 2015) and 4P and 3C Model (Oakland, 2014).

Deming Prize Model

This model is possibly the oldest model in the world. It has however seen quite a number of modifications since it was first introduced in 1951. It employs the use of

statistical approach to process data and is widely used in South-East Asian countries. The Deming Prize is awarded to organisations that achieve three main particulars namely: the establishment of business objectives and strategies and top management's leadership; suitable use and implementation of Total Quality Management (TQM); and Effects of TQM.

The first particular, demands that organisations establish proactive customer-driven business objectives and strategies together with a clear indication of top management's role and its exhibition. The second particular, measures a number of indicators. These are Organisational rollout of enterprise objectives and strategies; Creation of new values which are based on an understanding of customer needs, social needs and innovation of technology and business model; Management and improvement of quality products, services and /or processes; Establishment and operation of management systems for various purpose such as quality, quantity, delivery, cost, environment and safety across the entire supply chain; Collection and analysis of information together with accumulation and use of knowledge; Development and active use of human resource and organisational capability; and Initiatives for corporate social responsibility. The last particular, measures results obtained owing to business objectives and strategies through the use and implementation of TQM; and outstanding activities and acquisition of organisational capabilities.

In summary, the award of the Deming prize focuses on policy, organisation and operations, collections and use of information, analysis, planning for the future, education and training, quality assurance, quality effects, standardisation and control. An individual or organisation which performs well in these areas qualifies for the award and is therefore considered excellent.

Malcolm Baldrige National Quality Award Model

This was established in 1987 with immense support from the US government. The Malcolm Baldrige National Quality Award is given to organisations in business, healthcare, education, and non- profit sectors that have performed excellently. It is a highly respected award Northern America. Its implementation however is found in other continents of the world. In order to qualify for this award, companies must have an organisational management model that assures continuous improvement in the provision of goods and service delivery; shows effective and efficient operations; while engaging and involving customers and other stakeholders.

The criteria for assessment consist of seven categories. These consist of leadership; strategy; customers; measurement, analysis and knowledge management; workforce; operations; and results. Leadership assesses how top management and executives lead the organisation in relation to how the organisation serves the public and keeps the environment in which it is located. The strategy element assesses how the organisation is directed strategically as well as how key plans of action are determined. Customers' category assesses how the organisation identifies customer requirements and expectations of markets, how customer relationship is established as well as how the clients are satisfied and retained. Measurement, analysis and knowledge management examines how data and information is effectively used in order to provide adequate support for relevant processes and performance management system of the organisation. The workforce factor assesses how the organisation allows its human resource to improve and maximise their potential while aligning themselves with the organisational objectives. Operations take into consideration various aspects of the production or service delivery process. It assesses how these are designed, managed and enhanced in the organisation. The last category, results,

assesses the entire organisational performance in core business areas like client

satisfaction; performance of markets and finances; performance of suppliers and partners;

performance of operations; human resources; performance in relation to competitors;

governance; and social responsibility.

Studies have shown that even if organisations do not receive the award,

implementing this model or criteria of assessment causes organisations to improve on their

relationship with their employees, increase productivity, improve relationship with

customers thus increasing satisfaction, increasing market share and profitability (Nenadál

et al, 2018); thus ensuring they achieve organisational excellence.

EFQM Excellence Model

The EFQM Excellence Model was launched in 1991 as the European TQM model

EFQM (2012). It is recognised and accepted as the challenging excellence model presently.

It is mostly used especially in European countries and also serves as basis for the award of

other national awards. Criteria for the award are grouped into two – enablers and results.

The current version of the model is based on asking three questions. These are why, how

and what (Fonseca et al., 2021). Why focuses on the direction; How looks at execution;

and what addresses the results.

The EFQM 2020 calls on new paradigms, innovative perspectives, inclusive

leadership that ensures that business organisations concurrently manage their operations as

well as change with increased ability to act quickly while at the same time improving their

level of productivity (Fonseca et al, 2021). This model is purposefully for exemplary

organisations that are create sustainable value, giving special importance to the

environment, indicating, classifying and keeping track of stakeholder expectations

(Zapletalová, 2023). It is based on important concepts like organisational culture, leadership, transformation and performance, flexibility and adaptation, and concentration on the future.

Kanji's Business Excellence Structural Model

The first version of Kanji's Business Excellence Structural Model was launched in 1998 (Kanji, 2015). It is known and applied to several organisations in Asia and Europe. It comprises of a set of intangible recommendations which recognises the leadership role as a very significant one. The model is grounded on TQM principles and establishes the relationship between TQM principles and organisational performance. Some principles emphasised in Kanji's model are Leadership (the most significant principle for organisational excellence), Customer Satisfaction (both internal and external), management by fact, process management, work measurement, people-based management, teamwork, quality as a function of people and continuous improvement.

The place of leadership in the TQM principles for attaining organisational excellence cannot be overemphasized. In recent times, E-leadership has become a popular phenomenon with most leaders making use of ICT tools to facilitate achievement of organisational goals. The path-goal theory and transformational leadership have been proven to be very suitable for organisations undergoing major changes (Bans-Akutey, 2022; Bans-Akutey & Ebem, 2022; Bans-Akutey, 2021; Bans-Akutey & Tiimub, 2021; Bass, 1999; House, 1971; Ibrahim, Muhammad, Muhammad, Alaezi, & Agidani, 2023).

The TQM principles applied for the achievement of organisational excellence and subsequent quality awards are such that they are all one way or the other affected by technology. The use of information, communication and technology (ICT) tools in recent

years is so widespread that these TQM principles that facilitate organisational excellence cannot be discussed as standalone principles since ICT has become pervasive in all aspects of an organisations activities (Bans-Akutey, 2020; Bans-Akutey, 2019; Lal, 2017; Viguerie at al., 2017; Vought, 2017).

Linear Model of Innovation ("Technology Push" and "Market Pull" Model)

One of the principles of TQM that organisations implement in order to attain organisational excellence is being innovative. In a general sense, innovation according to Sengputa (2014) includes producing new products, making use of new procedures, or pursuing new organisational improvements. OECD (2018) defines Innovation as an entirely new or improved product, or a combination of both, that is completely different from the organisation's previous products, processes and services that are made available to the organisation's customers or used by the organisation itself. Such activities may include all developmental activities, financial activities and commercial activities that an organisation embarks on in the pursuit of innovation. For continuous improvement to be successful, innovation cannot be considered an option but a necessity (Keresztes & Endresz, 2020). Based on several perspectives, innovation can be categorised as product innovation, service innovation, process innovation or technological innovation. Innovation can also be disruptive, radical or incremental.

For a couple of decades now, the discourse on innovation has been based on two major schools of thought (Keresztes & Endresz, 2020). These are the market based view and the resource based view. The resource based view explains that an organisation's innovative activities are a result of market conditions. The resource based view, on the other hand argues that innovation is as a result of the resources available to the organisation.

Trott (2017) argues that when a firm focus on resources, capabilities and skills available to it in the pursuit of innovation, it is able to create a competitive advantage on the market.

For the past forty years, linear models of innovation have been the most applied as a result of the fact that it is easy to understand and makes simple the explanation of how innovation takes place (Keresztes & Endresz, 2020). The two main variations of the linear model are the "technology push" and "market pull" models. They can also be called "technology driven" and "demand pull" respectively. Technology push model assumes that consumers are just passive end users of new products and services on the market. Originating from NASA (Cooper, 1994), the technology push model suggests that scientists made new discoveries which are unexpected; these discoveries are then applied by technologists in the development of new product, process and service ideas; and then manufacturers and producers determine the best way to make the product; while the marketing and sales team determine the most appropriate available means to make the product available to the consumer.

The core of the market pull model is a result of an organisation's close interaction with its clients. The marketing and sales team, in this model, initiate the process that births the production of new products as well as provision of new services. New ideas that the marketing team receives from customers are forwarded to the research and development (R&D) team for onward design and engineering. The next step is for the manufacturing team to begin production. Sales team then makes the new product available to the customer.

Unified theory of acceptance and use of technology (UTAUT) explains how users intend to make use of technology and their actual usage behaviour (Venkatesh, 2003). The four major constructs of this theory are performance expectancy, effort expectancy, social influence and facilitating conditions.

It can be concluded that achieving organisational excellence is mostly connected to successful implementation of TQM principles. Of all the TQM principles discussed so far, it is implied that leadership and innovation have a major effect on achieving organisational excellence.

Determinants of Organisational Excellence

Some researchers have explained that an organisation represents a collection of two or more individuals who collaborate or work together to accomplish a desired set objective or a collection of goals. In other words, an organisation signifies a set of persons who work collaboratively to accomplish a goal that one person working alone will not be able to accomplish or will have difficulties accomplishing. Martinelli (2001) has defined an organisation as a number of factors in interrelation, decision-making and planning teams. He continued to explain that performance is a quantification of the organisational status, or the effect which results from decisions that managers make and how those decisions are carried out by staff and workers of the organisation. Performance incorporates both monetary and non-monetary indicators that provide relevant data regarding the achievement of goals and outcomes (Greenberg, 2011). Thus, performance can be viewed as organisational behaviour and results.

Achieving organisational performance is about how people perform in the workplace in ways that are in line with the goals of their organisation. Performance descriptions emphasize behaviour rather than results because focusing on results may lead employees to find an easier way to achieve desired results, which may be intentional or highly desirable in the organisation because other important tasks will not be performed. Performance consists of activities that employees participate in private (Xenikou &

Somosi, 2006). Without a strong definition of the operational ethics of the organisation, which can be viewed as ethical in itself, instead it can be said that performance is a characteristic of experimental behaviour (Lizarelli et al., 2019). This definition agrees with the key methods used to measure the performance of an organisation, which are performance measures from management and peers (Newman & Girvan, 2004). Although, this concept of experimentation is emphasized in defining the work environment, it is still maintained that work performance focuses on behaviour and not outcomes (Newman et al., 2004).

However, organisational performance signifies an active side of any leadership discourse in which leadership can be considered as an integral part of the organisation, a resource for the survival of an organisation or group (Lizarelli et al., 2021). Organisational performance can therefore be based on ideas such as skilled workers, motivated staff, a skilled management team, an effective competitive strategy that makes it effective and the best use of a set of monitoring systems.

There is no doubt that as all conditions remain the same, a well-endowed team will most definitely perform better than the less-endowed team; skilled workers are characterized by proper recruitment, and are employed by a well-structured management. Employees who voluntarily do their best are the most dedicated workers. The motivated team will probably surpass the less motivated team. The state of enthusiasm in a group or team has a direct effect on the effectiveness of management and ultimately on the organisation's productivity (Harter et al., 2002). Many organisations, notwithstanding, have problems when it comes to choosing an effective strategy that goes beyond competition. It has been noted that business executives hesitate to participate in research and development, or else they will be pursuing research actively since people who conduct

relevant studies fail to always talk to business owners and management about their findings. Owing to this, organisational strategic plans are often formulated on the experience of senior management teams. Establishment of monitoring systems allows senior management to track staff level, staff motivation, management team performance and business strategic objectives.

Performance and Productivity

Inasmuch as several organisations are investing in modern technology with the aim of cutting down on costs as well as improving productivity, scholars are actively arguing about if truly such results are to be achieved. There has been a lot of discussion about whether a 'production complex' exists, especially in terms of the amount of production brought about by information and communication technology (ICT). This contradiction facilitates the illustration that in spite of the many investments in technology for several years, the measure of moderate production improvement has refused to increase, and is likely to decline. According to Lehr and Lichtenberg (1999), 'since production is defined as the ratio of output to each input unit, and ICT tools are input, there is the need to ask under what circumstances business owners would require application of technology to increase productivity'.

Evidence also suggests that it is costly to integrate quickly and effectively new software programs (Alamiri et al., 2020). Berger, in the year 1999, discovered that Microsoft spends sixteen thousand dollars a year on every one of its operations in technology and development. Proponents of this situation have been working to make the actual transcript of this statement available online. In 1990, Solow continued the debate on exposure to technology all around us except production facts and figures. Apart from this,

there is enough proof that suggests the truth of the controversial debate that new ICT tools, including computer hardware and software, increase productivity.

Research shows that 'many well-funded IT businesses lose about $ 5000 per year per workplace due to the need for integration' (Mills & Bourne, 2002). Futzing refers to 'the time users spend confused while clearing unspecified events and overcoming uncertainty and anxiety when ICT tools put together complex information that cease working'. In modern times, a surge in the quantity of ICT related research is a confirmation of the competition of quantifying whether there is a production crisis. One of the objections to the confusing production debate is that there may be a failure to quantify production profits from ICT tools as a result of a significant slowdown preceding when the benefits can be realized. It is argued that computers may need major changes to the associated physical and organisational structures like personnel and ICT facilities prior to the realization of benefits (Alamiri et al., 2020).

Manpower Levels and Organisational Size

The main issue for technology investment is to achieve an increase in organisational productivity. Traditionally, this has been achieved through the use of machines to improve labour productivity and decrease costs related to human resources. In modern times the focus is currently on the effect of ICT on the magnitude of the organisation. There is ample proof that shows an association between increased levels in ICT use and organisation sizes which are fairly small. This implies that ICT tools decrease the required staffing capacity (Bans-Akutey, 2019). Brynjolfsson et al. (2011) found that relationships are all strong in a range of requirements and more than four dimensions of specializations. Notwithstanding, the researchers have stressed that these research conclusions need not be generalised to

apply to all organisations and all timeframes. The reduction in corporate size is particularly acute with the shortfall of just a couple years after investment in ICT. This implies that the impact of innovative technologies is not wholly experienced in the short term. These findings may further support past research that had an insignificant effect on ICT at the same time as the investment made.

An alternative reason for which ICT may result in small organisation sizes is that ICT is likely to make room for organisations to 'outsource' some of their supplementary functions. This means that, the use of ICT might cause organisations to 'buy' instead of having to 'make' the parts and services needed to make their core products. The evident outcome is that in most instances technical support services are sometimes provided by consultants from other organisations (Bans-Akutey, 2019). Perhaps it is clear that such consultants can vary in size from small operations to fairly large international companies. There are currently no studies on the connection that exists within ICT and work, which show proof that ICT has the potential to influence employment positively. Osterman (1987) proved that investing in ICT consequently led to an increase in the number of employees in an organisation after a few years of shortfall. In the same manner, Berndt and Morrison (1995) identified that ICT was at the same level helping, not instead of a job, especially hard work. In particular, they conclude that instead of saving workers, the rise of IT often consumes employees'. It is as though several research studies indicating job losses, a general study similar to that conducted by the United States Congress Office of Technology Assessment concludes that ICT seemingly creates increased employment than it destroys' (Handel, 2003).

It seems as though forecasting the effect of production technology is very accurate. Woodward (1965) came up with a scale of measurement where organisations were

identified by the level of technical complication in the production procedure. Here, where the technology level is high, it has shown that a large part of the processes is done mechanically with the use of technology, while the low-tech complexity means that workers play a major role in this process – thus work is done manually. Woodward (1965) indicated that the aggregate of management levels and the ratio of manager to staff keep increasing as the complexity of technology grows. With the organisations which are not into production, where deliverables are not so sensitive, the correlation between labour levels and ICT can be easily predicted.

Information Management and Policy

Generally, the practice has been that the application of new technologies brings about the development of new and different challenges related to policy and information management. It also comes with it a surge the expectations of the general public in relation with information access and service delivery. These issues related to information policy as a result of the introduction of ICT use also have effects on practices as new laws and regulations are formulated. These affect the way industries gather, process and share information. Owing to the fact that rulers are also a substantial market for the ICT market, their needs and use of ICT have an impact on how organisations tend to develop new technologies and applications (Van den Hoven et al., 2015).

Impact of Technology on Human Resources

Information and Communication Technology has introduced tremendous changes to organisations and how they work through effective and efficient human resource management leading to a much needed and complex process (Ball, 2005). The job of the Personnel Department is generally managerial with presence in almost all organisations

but in order to decrease the heavy burden of managerial duties, many organisations started automating their routine processes by building and launching ICT powered software applications which have resulted in the development of Specialized Human Resource Management Systems (HRMS). As a result of this progress, the use of information technology in HRM has increased significantly in modern times and there are now many uses for a diversity of human resource applications.

Ruel et al. (2008) explained that the term electronic human resource management, eHRM, was brought into use at the latter part of 1990 when e-commerce took over the world of work. E-HRM represents an internal use of e-business applications to increase value for managers through efficient and effective flow of information. Through the steady advancement of ICT, companies are able to properly handle the increasing volume of human resource procedures in a better way, that adds up to the acquisition of insight and much deeper understanding. This also enabled human resource experts to perform a key responsibility in attaining a better competitive advantage for their organisations.

Attaining a good collaboration and integration between ICT and the management of human resource results in the introduction of HRMS, a term that is used to describe systems and processes that combine both human resource management (HRM) or personnel management and information and communication technology (ICT). It brings together all personnel management functions and processes associated with the discipline using ICT tools. Through data processing and programming, there is a transformation into standard procedures and software packages that facilitate the organisation of business resources. HRMS has seen a lot of improvement from the time its visibility increased in the latter part of 1990 and was majorly used for managing and storing data. In recent times, it has been transformed into HRM applications that support recruitment and selection,

flexible benefits, training and development, e-learning and several others. A Human Resource Management System (HRMS) represents a system that aids a company to gain, maintain, manage, examine, store and share insights about the organisation's labour force. Inasmuch as 'e-HRM' is sometimes used to represent the use of ICT within the personnel management profession. Martin et al. (2006) give significant aspects where personnel management practitioners conventionally introduce ICT skills.

In addition, personnel management activity is likely to be included in organisational growth as well as in managing change. CIPD (2005) noted that employees belong to a group of the most sensitive segment in every organisation and that the excellent performance or under performance of the organisation lies in its personnel management ability and capacity. It cannot be doubted however that the launching and implementation of ICT within personnel departments is a complicated issue and therefore requirements, implementation and the impact of technology are diverse depending on the organisation's personnel management strategies and technologies.

According to Martin et al., (2008), making use of ICT could determine increased visible client connections for an organisation and hence cause it to render value to the strategy. With the use of social networking, it can also increase the voice of an employee. Wachira (2010), concluded that personnel management in the African region needs to be concerned with the use of the worldwide Internet and web-based programs as well as the extension of mobile technology to facilitate a variation with regards to the type of interaction between personnel managers, department managers and employees. Notwithstanding, the application of ICT to facilitate personnel management functions is often driven by prospective benefits such as process effectiveness and efficiency, saving of costs, increased client satisfaction, improved data precision, increased visibility and

compliance procedures, improved data availability, informing and facilitating change in the role of human resource management.

The design of HRMS usually includes making a choice between implementing a customised solution that will be suitable for the HRM and the entire organisational needs. Discussions with personnel managers in relation with how to design and develop the system is crucial to design procedures as it ensures that the system will work (Bans-Akutey, 2019). This should be carefully considered, as including it in the solution would ensure consistency with the staff needs and the organisation's brand.

Also, a comprehensive evaluation of the system and personnel management is important to come up with a productive and effective product. This will affect the personnel management systems in a positive way, thereby rendering them faster, more efficient, less costly, with more precision, more reliability, increased transparency and consistency. Information and communication technology has improved the capacity of personnel managers in coming up with dependable data through a personnel management system; allowing for human resource (HR) experts to make decisions based on real data and offer other expert services based on this actual data (Bans-Akutey & Sowah, 2020).

Last but not least, with respect to the role of personnel management, it is well known that personnel managers are likely to take on an advisory or strategic role as a result of the rise in the availability of information and of reliable personnel management data. The progress of several organisations have gone above normal operations and introduced personnel management systems which facilitate, selection, recruitment, employment placements, performance appraisal staff compensation and benefit evaluation, health, safety and security. In recent times, the areas for the implementation of the personal management system include: Pay, Work, Time, Benefit Management, HR Knowledge

Management, Hiring, Training/Learning Management System and Performance Record (Bans-Akutey, 2020).

The payment mode changes the automatic payment procedure through collecting information during work and punctuality, estimating a variety of deductions and taxes, as well as conducting regular salary checks and staff taxation statements. The information is mostly sent to the personnel department together with timeline to estimate default deposits and monitor records filed over some time. The section is able to cover every employee-related activity and integrate existing financial management systems. Work time involves deadlines and all other job-related efforts. There are other more developed modules which give a vast range of information retrieval methods, staff sharing capabilities and data analysis features. The examination of cost and efficiency measures are key tasks (Khan et al., 2018). A profit management module is one that helps organisations to control and monitor staff involvement in benefit and compensation plans. This mostly involves plans related to insurance policies, compensation packages, profit sharing and retirement plans. The personnel management module is an integral part of several other personnel categories from when an employee joins the organisation till retirement. The system takes notes of simple arithmetical data and address information, selection procedures and milestones, training and capacity development, skills and competencies, compensation planning records together with several other related activities. Top end-to-end systems give the opportunity to read applications and enter significant information into active data areas, inform employers and provide position of the organisation to management. Personnel management responsibilities include the on-boarding, placement, assessment, compensation and development of staff of the organisation. Organisations use system-

based information systems to: generate payments and earnings statements; keeping staff records; and pursuing talent management (Bans-Akutey, Abdullahi & Afriyie, 2021).

Recruitment online has proven to be one of the major methods used by human resource departments to hire prospective employees for organisational roles (Bans-Akutey, Abdullahi & Afriyie, 2021). Such Talent Management Systems (TMS) often include: assessing staff utilisation inside the organisation; locating likely applicants for a role; hiring from an organisation-owned list; virtual rental or published rental platforms aimed at both employers and potential employees.

Such huge costs used to maintain a planned recruitment effort, across board in and out of standard work specialisations or a particular industry and maintaining competitive exposure findings have resulted in the introduction and use of a dedicated Applicant Tracking System (ATS) module. The capacity building module gives a framework for organisations to manage and monitor staff training and development efforts. The system, commonly referred to as the Learning Management System (LMS) as an independent product, also allows employees to keep track of their education, qualification and skills, and to specify which capacity building programmes, literature, compact discs, internet-based education or resources are used to improve the skills of employees. Subjects will then be taught with specific dates for the sessions, where education materials are designed and implemented with the same system. The sophisticated LMS allows managers to approve training, budgets and calendars related to performance management and evaluation metrics.

Constituents of Organisational Excellence for Telecommunication Business in Ghana

For telecommunication companies in Ghana to attain organisational excellence, there are several factors which need to be considered. These factors will show whether the telecommunication company is able to show a sustained high performance that result in a state of organisational excellence. Factors like the quality of service, network infrastructure, innovation and technology, market differentiation, customer-centred approach, regulatory compliance, talent management, economic sustainability and active participation in corporate social responsibility (Ofori, Boakye & Narteh, 2018). These factors are able to distinguish one telecommunication company from the other as well as indicate whether the telecommunication company is excellent or not.

The quality of service that telecommunication companies render to customers both internal and external, is one of the ways that indicates the state of excellence of the organisation. This affects the retention of customers and their loyalty towards the organisation. For telecommunication companies, a good quality of service implies network connectivity that is reliable, downtime that is reduced to the barest minimum or does not exist at all, data speed which are very fast, voice quality that is clear during voice calls, and customer support that is efficient. In recent times, video calls have become much more popular phenomenon in a way that clients expect these video calls to be without hitches. These video calls require very high data speeds to be able to function in ways that will be desirable to the customer. The quality of service that a telecommunication company provides indicates whether it is excellent or not (Ofori, Boakye & Narteh, 2018).

Another factor that indicates the state of excellence of telecommunication companies is the network infrastructure. Telecommunication companies cannot afford not

to make use of robust and reliable network infrastructure considering the pressure from clients for quality service. To be able to provide quality service, there is the need to invest in requisite infrastructure for efficient operations. There is the need to deploy and maintain telecom equipment of high quality as well as determine to upgrade such equipment regularly, wide network coverage and the ability to meet the growing insatiable demands of customers. When this happens the telecommunication companies are seen as excellent in the eyes of customers. In the same manner, if the infrastructure is insufficient, customers' demands would not be met, which will affect the organisation negatively.

The factor of innovation also plays a major role in attaining organisational excellence for telecommunication companies. To stay ahead in the telecommunications sector, one must concentrate on innovation and use high technology tools and cutting-edge innovation. This entails making research and development investments, investigating new developments, fresh offerings and approaches, and using modern contemporary innovations like 5G, the Internet of Things (IoT), and cloud computing. It is worth noting that clients of telecommunication companies are already exposed to the use of these new technologies. Hence, if telecommunication companies who provide the infrastructure required for these modern innovations do not make use of it themselves, the client would not be satisfied.

The next factor that has the potential to influence an organisation's excellence if market differentiation. Telecommunications companies must set themselves apart from their rivals in order to succeed in a competitive industry. When telecommunication companies are able to identify their competitive advantage and differentiate themselves on the market, they are able to compete from the point of strength. This can be accomplished

through providing distinct services, providing individualized or personalised client experiences, providing value-added services, and using creative pricing methods. This makes customers feel special and thought about. When the clients have this feeling, they are able to identify with the brand or the telecommunication company which makes them remain loyal to the telecommunication companies.

The next factor that indicates organisational excellence for telecommunication companies is the customer-centric approach that they work with. Success in the company depends on placing customers at the heart of daily operations. Decision making is done with the absolute welfare of customer in mind. Understanding client demands, preferences, and behaviours will help you to better adapt your products, services, and marketing methods. Strong client relationships must also be based on quick and efficient customer service.

In order for there to be sanctity in the telecommunication industry of the country, the government has put in place a regulatory body to ensure that business is conducted in a way that the safety of customers will be protected and preserved. All telecommunication companies therefore aim to comply with all regulatory compliance. For businesses to operate legally and to keep customers' trust, they must adhere to the regulatory framework established by the National Communications Authority (NCA) and other pertinent agencies in the country. Data protection rules, licencing requirements, frequency restrictions, and other industry-specific regulations must all be followed by telecommunications companies. As the telecommunication companies adhere to these regulations, they are able to attain a state of excellence.

There is also the factor of talent management, where telecommunication companies strive to employ the best human resource and keep them retained in the organisation. Skilled professionals must be attracted, developed, and retained in order for an organisation to succeed. Businesses in the telecommunications industry should concentrate on hiring talented people with backgrounds in network engineering, software development, customer service, and marketing. After hiring them, human resource personnel ensure that these employees are trained and developed in a way the helps them to stay relevant in the face of dynamic working conditions A high-performing staff is therefore retained by offering continual training and career development opportunities.

The finances of an organisation determine the structures that can be put in place. A strong financial background enables telecommunication companies to be able to quickly adapt to technological change. This ensures sustainability over a long period of time. A telecommunications company's long-term success depends on achieving financial sustainability. Effective financial management, streamlining revenue sources, reducing costs, and making calculated investments to encourage development and innovation all ensure the attainment of organisational excellence.

The last but not least factor which has gained popularity in recent times is corporate social responsibility (CSR). CSR is a concept that ensures that organisations work in a manner that is sustainable and responsible. It makes the organisations not to focus on only profits, but also on the people and planet. In the current business environment, demonstrating a commitment to CSR is becoming more and more crucial. Through projects like digital inclusion programmes, community participation, environmental sustainability

initiatives, and ethical business practises, telecommunications corporations can support societal development as well as making good use of resources.

These factors work together to enhance the organisational excellence telecommunications companies. Companies can improve their competitiveness, customer satisfaction, and long-term success in the dynamic telecommunications business by concentrating on all the factors discussed earlier. Such efforts can be considered as the organisation's orientation to the market, the customer or the competitor.

Market Orientation. Eisenhardt & Martin (2000) describe the subject of market structure or market orientation as the flexible ability of an organisation to inculcate or integrate organisational resources and skills to attain higher organisational performance. According to Craig et al. (2013) market structure was linked to new product development, international business performance and market orientation as a broad organisational development of market intelligence, strategic distribution across departments and the organisation as a whole.

Mahmoud (2011) explored market trends and organisational performance among Ghanaian SMEs (Naab & Bans-Akutey, 2021). His research output indicated that several SMEs in Ghana's orientation to the market results in a much higher performance even in a highly competitive environment. Keelson (2012) also came up with a related work which considered companies which had their operations in Ghana and the connection between certain organisational constructs such as senior management characteristics, internal organisational features and market structure. Findings were similar to that of Mahmoud (2011). In the Ghanaian telecommunication industry, the only available research is the work of Mahmoud & Hinson (2012); their focus was however not on business

performance. Also, each sub-structure of the market structure was not researched in order to fully comprehend their various impacts on organisational performance. Danso et al. (2017) took steps to fill this gap. They therefore examined the mediated relationship between market structure and business performance and internal communication. From the available research activity documented, they were of the opinion that the market structure could not be considered as one of the sub structures in terms of organisational performance.

Customer Orientation. According to Matsuno et al. (2002), customer orientation has been considered as the generation of companywide market intelligence which pertains to present and future needs of clients and how this is distributed into the organisation. It serves as a guide for all decisions of the company's management with respect to the customer. This is as a result of the tremendous significance of the customer to the organisation (Tanja & Jurij, 2014). The organisation that puts its clients in focus when making decisions will be able to positively respond to changes in clients' needs, preferences, demands and tastes. These will be converted to a large number of loyal customers for the company. The main objective of the customer-orientated company would therefore be to capture the loyalty of customers by providing superior value to the clients perpetually (Hasanzadeh & Ghadiri, 2010).

Competitor Orientation. Collecting data that is related to activities of an organisation's competitors and making use of this information to facilitate effective decision making of the organisation has been proven to be another major factor that indicates whether an organisation is excellent or not. Competitor orientation, according to Ali et al. (2014), is considered to be the assessment of the strategic strengths and abilities of competitors against their short term weaknesses. They further explained that every

competitor-oriented organisation does not only take into consideration present competitors, but also potential future significant competitors.

In as much as these three orientations are very distinct, they are very much interconnected that and in attaining organisational excellence, management would have to focus on each of the orientations. These orientations differ from one another, but they are nonetheless related and mutually supportive. A business that is focused on the market comprehends the larger market dynamics, including consumers and rivals, and leverages this understanding to create customer-focused strategies that beat competition. Similar to this, customer-focused businesses use competitor and market data to tailor their services and improve the entire customer experience. In the end, incorporating these orientations helps companies grow sustainably and succeed in their target markets.

Internal Communication

Internal communication, basically, is a kind of communication which happens inside an organisation. It can therefore be a formal or informal interaction between top level employees and other employees of the organisation (Hopkins, 2006). This type of communication a range from senior management to other employees or from subordinates to managers or between employees at different levels in the organisation (Mazzei, 2010). The importance of internal communication, among many others is to motivate employees (Ryynänen et al., 2012) in a way that maintains and promotes innovation, to raise awareness of current developments in the organisation in order to deliver high performance.

On the other hand, Grunig & Hunt (1984) focused on which way internal communication flows and came up with five types of internal communication flow within

the organisation. He stated these as laterally among persons in the same department; laterally between individuals of varied departments but at the same level; from individuals in a higher authority to those at a lower level; from individuals in a lower level to those in authority; and finally, to all people in varied departments and at varied levels of position in an organisation.

As an additional development of the structure of communication inside an organisation, Emmanuele et al. (2012) examined two different forms of internal communication that are present in an organisation. They noted the communication between individuals and the formal communication systems that take place within the organisation. These programs and partnerships are designed to guide the organisation in its development and success (Invernizzi & Biraghi, 2012). It is noteworthy that the method of communication was also promoted by the International Association of Business Communicators as one of the five internal communication systems (Grunig et al., 2002).

There are four other elements which consist of the integration and speed of information sharing and inclusion in customer decisions thus providing a competitive advantage (Szukala & O'Connor, 2001), communication clarity to get rid of ambiguity and inspire positive responses front staff, constancy of information from management and other employees within the organisation; and dependability and timeliness of the information. All of these combined, create an environment in which employees can bring incredible performance to success (Eisenberg & Rowe, 2009; Szukala & O'Connor, 2001). In all organisations that have a well-structured communication internally, they are capable of easily adapting very well to rapidly changing and unpredictable financial conditions.

In summary, the flow of information, messages, and ideas among a company's personnel, divisions, and management accounts for the internal communication in the

organisation. For a business to run smoothly, effective internal communication is essential. It also significantly contributes to employee engagement, collaboration, and organisational success. A happy work environment, increased employee engagement, easier cooperation, information sharing, and employee alignment with organisational goals are all facilitated by strong internal communication, which eventually leads to better performance and productivity in that organisation.

Excellence Theory

As a leader, the ability to communicate effectively is one of the most important keys to reaching the organisation's public and sharing information and instructions that will ensure excellent tasks performance and completion. How a leader monitors and informs his or her employees depends on the ability to communicate or model. Excellence theory is a common theory that describes how proper relations with the public make organisations work better, the way they are organised and controlled; when it contributes significantly to the efficiency of the organisation, the situations in the organisations and environments that make the organisations more efficient, as well as how to determine the value of public relations. The first phase of the study that led to Excellence Theory included extensive research, based on a survey of more than 300 organisations in Canada, the UK and the US, covering a diverse segment of companies, non-profits and government agencies. Four original models of Public Relations and the idea of two equal communication methods as a beauty model was reinforced by a subsequent analysis from Excellence Theory.

"Excellence Theory" was originally recommended in 1992 (Grunig et al., 1992). It is based on detailed literature review and assessment, that explored the theoretical states

from several disciplines and ontologies, including marketing, psychology, communication, and feminist studies (Grunig, 1991). The objective of the research was to come up with an innovative way of dealing with the community, to explain to public relations staff what organisations should have in terms of presuppositions and features, to be more effective and to share those ideas. The resulting elements of the best social work programs look at all levels of the organisation: system, department, organisation, and society, and the desired outcomes for the best performance of public relations.

These features reflect not only "Excellence Theory" a common perception, but also as a liberation program that fights for equal opportunities for the society as a whole. Features and results of excellent social relations, as proposed by Grunig et al. (2002), provide an opportunity for an important investigation of a powerful alliance between an unidentified public relations organisation or an organisation with a public relations component. This new theoretical possibility and its pragmatic power sets "Excellence Theory" as an important paradigm that applies to current critical research calls between public relations experts.

The Roots of Excellence Theory

Management is often regarded as a seminal function of excellence theory. The origin of this theory was first developed in a book on Public Relations Management (Grunig & Hunt,1984). In this previous work, they came up with a simple comprehension of public relations and showed a history of public relations as defined by the presentation of the theory of four-dimensional communication that will advance over time.

Public Relations is defined as "the management of communication between an organisation and its community" (Grunig & Hunt,1984). This is a general definition that,

basically, remains the same during the development of the excellence theory. Grunig and Hunt (1984) through this definition, portrayed social relations as an important cross-border function, as experts stand somewhere between internal and external people and therefore are important connections. They also provided four examples where public relations can be well understood. Models are considered in a certain way and/or fashionable in terms of two spectrums, the first being the level of measurement (either asymmetrical or symmetrical), and the second shows the direction of communication flow (one or two ways). Grunig and Hunt (1984) use these models to describe the history of modern social relations and their centuries-old origins from ancient times to the present. The history with which these models are presented is straightforward and progressive; however, as new models are introduced, they will probably dominate.

Previous models are not limited to use. According to Grunig and Hunt (1984), the first method of public relations that dominated the field until the beginning of the twentieth century was the media agent. The media agent is considered as one form of asymmetric communication and is often referred to as propaganda. The goal of the media agency model is advertising, which can be achieved using almost any method required. Communication with media agents is usually not a natural lie, as the staff at this model are not overly concerned with the truth.

Grunig and Hunt (1984) congratulate Ivy Lee for establishing true value in communication and its widespread use of the second model of communication, public knowledge. In the model of public information, public relations staff acts as "active journalists," disseminating factual information to outsiders. Although public information is understood as a one-size-fits-all model, it is very different from the media agent in its purpose which is to provide complete truth to the relevant community so that they can

make informed decisions about organisations. If the truth about the organisation is problematic or potentially harmful, the public information officer will seek to "change the organisation's behaviour so that the truth can be spoken without fear" (Grunig and Hunt, 1984, p. 31).

Public Relations (PR) staff, however, do more than just provide information to the public. They also make use that knowledge to achieve desired results. That result could be a change of attitude, in the form of a plea. That opened up a two-way asymmetric model, which uses scientific knowledge to persuade the right society to embrace the behaviour they want. It was previously recognized that pleading could be a useful tool to direct the interests of the organisations and the community to which they have been assigned; moreover, the work of persuasion was made easier when the result seemed to benefit the community. Two methods of asymmetric PR practitioners investigate which objectives and methods are acceptable to an important community and act in accordance with those standards.

Although Grunig and Hunt (1984) never explicitly define it in any major detail, they provide the basis for recent paternal cases against symmetric processes of two approaches. A common fear is that organisations, when they claim to act in the public interest, can often persuade the public to act in a way that is contrary to their interests, by creating or maintaining an unbalanced status quo. Fearing that such practices may lead to unethical and unwanted social schemes and consequences, teachers working with a small number of staff have developed a two-dimensional model, which is the basis of the excellence theory. A two-way symmetric model, has a conversational focus and seeks to establish coherence in a balanced relationship between organisations and society. Although Grunig and Hunt (1984) introduced a two-dimensional model in their work, it was not

developed explicitly and completely until Grunig (1992) made a clearer idea. Perhaps because the parallel two-way model was still young, Grunig and Hunt (1984) embraced the urgent need to apply their models.

In the case of emergencies, there is no one right way always. What is the best way to deal with it depends on the organisation and the environment in which it is located? An emergency view represents the best way to respond to which of the four models mentioned are correct.

Much work has focused on answering what scholars have called the question of vitality: "How to form social relations and organise social work in order to contribute to the well-being of the organisation" (Grunig, 1992, p. 3). Although this definition of excellence is perfectly acceptable, it depends on the effectiveness and efficiency of the organisation, the very concept that needs further explanation.

Scholars have defined efficiency in many ways, often based on Hage's (1980) definition, where success is "an achievement associated with the importance innovation in terms of cost and quality relative to value" (p. 136). In fact, organisational efficiency can best be understood as priorities the various organisational goals and their subsequent achievements (Grunig, et al., 1992; Ehling and Dozier, 1992).

In a subsequent book, Grunig (2006) describes the most effective and concise performance: "For an organisation to function effectively, it must be responsive to problems and meet the needs of its stakeholders and managers" (p. 159). Finally, effectively satisfying the goals of the organisation and the important community, this approach has been found to be partially consistent, as success also represents "the way in which an organisation satisfies the needs of its right external community" (Grunig et al., 1992, p. 76).

The questions of efficiency and effectiveness provide a comprehensive framework of high-quality theory to explain the ideas of Grunig and Hunt (1984) as well as to present other ideas in building a model of sensitive social relations. For example, the four social relations models presented by Grunig and Hunt (1984) are important to this new theory of excellence, and are more clearly defined.

Many of the same concepts of Grunig and Hunt (1984) apply to Grunig's (1992) definition of four media agency models, public knowledge, two-way relationships and two equivalent two-way relationships. Also, the media ambassadors who do not care about the truth, strive for good broadcasting, especially through the media. The public information model uses ordinary "Permanent journalists" to spread factual and often important information about a particular organisation. Social media workers do this using "media and controlled media such as newsletters, brochures, and direct mail" (Grunig, 1992b, p. 18). Also, the asymmetric model of the two approaches focus on behavioural change, using "Message development research that is more likely to persuade the strategic community to behave the way the organisation wants it to" (Grunig, 1992b, p. 18). The theme of the effect of inequality within this model is still prevalent in this new perspective.

It is also seen that the two-way model equals emerging as the most popular model, defined as "a model of research-based social interaction and uses communication to control conflict and improve understanding of social systems" (Grunig, 1992, p. 18). Although brief, this definition is much broader and clearer than that presented by Grunig and Hunt (1984). This model has been the basis of aesthetic theory since the beginning of the 21st century.

Although the understanding of the first four models remains unchanged, the eight years between the publication of Grunig's first work with Hunt (1984) and Grunig's (1992)

full work provided a wide window of criticism and subsequent reviews. One significant reaction to criticism is evidenced by Grunig's (1992) introduction to the fifth model: mixed motive. Murphy (1991) criticized the theory of excellence on the grounds that a few PR departments created different relationships within the community, but instead used a combination of strategies, especially two different approaches and two equal sides. For that reason, Murphy (1991) developed a model of mixed motivation, which is the approach chosen by proponents of positive ideas.

According to Grunig (1992), high-level departments tend to make a mixture of two equal methods and two-way asymmetrical models - a model with mixed motives. Their practice, however, is much more than asymmetrical" (Grunig, 1992, p. 19); It is clear, then, that the best relationships with the community - or allowing for a more equitable mixed model - are the rights to equal social relations above all other models. Grunig and Hunt's (1984) first emergency approach was abandoned in order to develop a distinctly diverse social relationship as the best performance model focusing on understanding rather than persuasion as a primary goal (Grunig & Grunig, 1992).

In distinguishing this practice from other examples, Grunig (1992) states that "equitable communication occurs through dialogue negotiation, listening, and controlling conflict rather than begging, cheating, and giving orders" (p. 231). Ironically, the obvious reason for creating the best two-way operation and leaving the emergency model comes from criticism based on Murphy's game play about the non-use of two equilibrium models. The best theories, following in the footsteps of Murphy (1991), focused on cresting winning situations for the organisation and its community while avoiding zero-sum games. In short, "in zero-sum games, the winning team gains the full amount of what the losing team loses" (Ehling and Dozier, 1992, p. 278).

In this case, all that can be gained is limited; therefore, the only way to increase the prizes of one party (i.e., an organisation) is to limit the prizes of another party (i.e., the community). The focus of the influence of the three parallel models in line with the staff's aspirations to achieve organisational goals that benefit them often creates a winning, zero-sum game that favours the organisation, yet ignores the effectiveness of theories. Because asymmetric techniques have the potential to create negative win-win situations that may be harmful to the strategic community, theoretical experts are developing a two-way dialogic model as a better communication management tool.

For employees of a two-way equilibrium model, "the goal of communication management is to create a cohesive, integrated win-win-out situation in a risky, conflicting situation of losing gains" (Ehling & Dozier, 1992, p 266) which often results in zero-sum games. Excellent theoretical experts promote a two-dimensional social relationship because they believe that the results and methods of this practice work better and have better behaviours than those of asymmetric models.

According to Dozier & Ehling (1992), "communication executives are far more successful at bringing the two sides together rather than transforming, one party (communities) into another bigger party (big coalition)". In other words, a good argument that understands and integrates dialogue and produces positive results in an organisation is often more effective than persuasive tactics. In addition, to support their theory in what is like a deontological framework; excellent theorists say that the two-way equilibrium model is officially higher than the three asymmetrical types (Grunig & Grunig, 1992). Grunig (1992) articulates his belief in a multidisciplinary public relations system: "According to philosophy, equitable social relations are morally sound and socially responsible rather than unequal social relations because they govern conflict rather than lead the war.

The adoption of a wide range of public relations between the accreditation of the emergency model and the expansion of the original four models and the inclusion of a mixed-cause model, represents major changes from Grunig and Hunt's (1984). Along with these important changes, there are also many additions that explain the excellence theory in detail and serve as a way to answer the "question of excellence" asked earlier.

Summarily, the Excellence Theory is an approach to communication that focuses on the procedures and tactics used by businesses to succeed in communication and public relations. The Excellence Theory offers a framework for organisations to attain excellence in their communication practises by putting an emphasis on relationship-building, two-way, symmetrical communication, research and evaluation, and the incorporation of communication into organisational decision-making. The need of two-way communication between organisations and their stakeholders is emphasised by the theory. Instead of promoting one-way information dissemination, it encourages conversation and involvement. It encourages businesses to consult with stakeholders and take their viewpoints into account when making decisions. According to the theory, public relations should be included in an organisation's overall strategic planning and decision-making processes as a management function. Organisations should make an effort to build lasting, mutually beneficial relationships that are founded on trust, open communication, and openness. In order to better understand their stakeholders, evaluate the success of their communication strategies, and make data-driven decisions, organisations should carry out rigorous research. It explains that communication specialists should be adept strategists who can evaluate stakeholder demands, analyse organisational goals, and create efficient communication plans. They ought to be the organisation's and its stakeholders' moral defenders. Effective communication is recognised as having a substantial impact on

organisational culture, structure, and leadership according to the excellence theory. For the implementation of excellent communication practises, an encouraging and transparent organisational climate is essential. Organisations should regularly assess and modify their strategies in light of stakeholder feedback, research findings, and shifting expectations. By adhering to these guidelines, organisations can establish good relationships with stakeholders and improve their overall success and reputation.

Technological Development

Making it a habit of Information and Communication Technology (ICT) usage, in recent times has been deliberated as a strategic development area in all areas of an economy, precisely, in a highly vigorous and extremely challenging organisational setting which needs the use of advanced ICT tools to increase productivity, cost efficiency, and supply goods and services with high quality to clients (Allen & Morton, 2004). ICT can also be seen as an instrument for advertising, communicating with clients and searching for possible clients, in addition to offering ICT facilities as notable probable services for clients (UNDP, 2001; Werthner & Klein, 2005, Bans-Akutey, 2019).

Information and communications technology (ICT) has transformed how persons live, study, labour and interrelate (Eke & Kenebara, 2020). Tambe and Hitt (2014) specified that ICT is a tool used in businesses towards exploring new ways of working and conveying information to attain economic gains. Referring to Abou-Moghli et al (2012), ICT represents a combination of technologies made up of the internet, software, hardware, computer, television, telephone, email, satellite, blogs, and internetworking projects. Kushwaha (2011) refers to ICT as skills and tools that individuals use to segment, mete out, and gather data to interconnect with each other, individually, or in teams, by using

computers and connected networks. Listyarini, Ratnaningsih and Yuliana (2016) defined ICT as any use of technology to access, gather, manipulate and present meaningful information at the end. Kioko et al. (2015) stated that ICT is a technology used to sustain data collection, analysis, organisation and demonstration in an expressive form. ICT is used in diverse fields and in all of them, the underlying feature is its approval as a system that facilitates moving data through the use of several communications sided by electronic means for easy access and assessment (Koltay, 2016).

When administrators supervise resource management and distribution, the situation can be challenging to manage commercial tasks through several assignments. According to Hobday (2000), information and communication technology serves as one of the significant inventions that are mostly executed to aid in the procedure. Peansupap & Walker (2005) uphold that ICT is mostly executed as it is believed to aid interaction, advance incorporation, increase production and provision of service.

Companies' reliance on modern result of technological advances and changes is in tandem with their growth and change. Companies deploy and use digital technologies to discover answers to specific difficulties, to make better decisions, to improve efficiency and excellence, and to contest for emerging businesses in our global and competitive corporate world (Martin-Rojas et al., 2019). Furthermore, ICT is viewed as an influential power that unlocks stimulating prospects that allow organisations to attain set objectives, missions and aims in an efficient way. Consequently, managers in companies need to gain a general appreciation of the prospective nature of ICT and connect the attainment and operation of ICT to the structural assignment of the organisation (Hacker & Saxton, 2007).

ICT is at the central point of several organisational tasks, processes, goods and services. In recent times, companies all over the world make us of not less than 50% of

their new investment resources on ICT and linked infrastructures. The way these companies handle these huge funds is very crucial to the company's efficiency and effectiveness. Also, ICT tends to be the connection between the organisation's business model and the crucial indicators of excellence. Several companies have not been successful at working with funds intended for their ICT-based projects because of poor orientation between ICT use and with the business (Bans-Akutey, 2019; Dodds et al., 2003; Haro-Domínguez et al., 2010; Kramer et al., 2011; Srivastava et al., 2015). Taking into consideration Toyota, which is a Japanese vehicle producer, has excelled despite the highly competitive and challenging environment as a result of putting in place a set of well thought through organisational procedures and information systems which concurrently increase the business' agility, effectiveness, efficiency, and quality. It helps to be able to quickly respond to clients' needs and requests; as well as variations on the market as incidents happen when working directly with several suppliers and retailers or wholesalers.

Incorporating in its constant quest to check and ensure quality, effectiveness, efficiency and costs, the management of Toyota identified a chance to make use of information systems to enhance organisational excellence and performance. Despite the fact that just the use of technology may not have produced the required outcomes, organisational procedures were carefully examined and revised in order to support a build-to-order manufacturing model that based the manufacture of automobiles on actual client purchase orders instead of "best guesses" of client demand. The moment they were able to achieve this, they made use of the Oracle e-business software to coordinate the sequence of information dissemination among contrasting internal manufacturing, placing of orders and preparing of invoice systems within the organisation together with arrangements for retailers and suppliers. The results of ICT on organisations' excellence have been examined

and proven positive (Bans-Akutey & Sowah, 2020; Bans-Akutey, 2019; Naab & Bans-Akutey, 2021).

Fundamental ICT tools have been utilized to safely keep, restore, order, disseminate and algorithmically change almost all types of data that can be digitized into numbers, text, video, music, speech and programs to name a few (Brynjolfsson & Hitt, 2000). According to the observation of Frenzel et al. (2009), the ICT dispensation has brought about uncountable possibilities in addition to some difficulties for several companies; as a result, managers need to educate and familiarize themselves with this knowledge thereby maximizing the advantages made available by ICT in this information-based era while curbing against the several challenges that come with its use.

The use of ICT has made even the playing field for all businesses (Naab & Bans-Akutey, 2021; Bans-Akutey, 2019). In modern times, one cannot imagine a world without mobile phones and the internet (Schubert & Leimstoll, 2007). This is because the use ICT has reduced the gap between buyers and sellers, thus making closeness a possibility unlike what was existent in earlier eras. ICT has been found to enhance efficiency and improve productivity in several forms that lead to reduced costs of transaction, improved allocation of resources and technical enhancements (Olusola & Oluwaseun, 2013). In order for a business organisation to excel in such an evolving setting, managers need to be proactive in the adoption of innovative technological practices and improved techniques. ICT facilitates the economic use of money and time the is used on repetitive tasks in most companies (Chinomona, 2013).

The use of ICT in organisations has completely changed the practices of management as well as how work is done in all nations worldwide (Bans-Akutey, 2019). Properly disseminating information through the use of technology enables government

empowerment, institutional stability and exposure to individuals who are able to integrate it well into their operations and organisational structure. Nowadays, the diffusion of information worldwide has very little restriction, because of the availability of the internet; people can access very large databases on big data channels which ICT makes available. Woherem (2000) confirms that by virtue of the use of internet connectivity, organisational transactions can be carried out throughout the world eliminating all middlemen or physical connections with the client. The use of technologies in businesses has developed through four distinct phases (Eke & Kenebara, 2020): Large central mainframes, personal computers and distributed data processing, the networking of microcomputers and the networking of networks.

Sometimes when organisations are able to successfully introduce or adopt a new technology, they encounter difficulties in successfully integrating the new technology into their operations so as to preserve their market share and retain their competitive advantages. Managers therefore need to be made aware or trained by experts regarding potential challenges as well as possible outcomes that can affect the organisations strategic goals and tactical goals (Ahsan & Malik, 2015). Once top management acquires the requisite training, there is the need to put together a viable framework that will be shared with the entire workforce and funded by the leadership of the organisation (Ahsan & Malik, 2015; Kamal et al., 2015; Srivastava et al., 2015; Yin, 1992).

Management is expected to make strategic decisions that relate to acquiring the technology, integrating the technology into processes which will factor in change and then development of the needed infrastructure. Technology acquisition takes into consideration a company's ability to get an external tool or knowledge that is necessary for the efficient and effectiveness of its operations (Zahra & George, 2002). Technology integration or

change focuses on how the new concepts and tools are explored, assessed and altered to serve as foundation for developing a new product or service (Iansiti, 1995). Technological infrastructure is the enabler on which the organisation depends. It serves as the foundation for the company's applications (Byrd & Turner, 2001).

Technological Development: Linkages and Relationships

In order for a business to efficiently utilize ICT as part of its operations, the business needs to keep regular interactions with other companies which are included in the invention development (Martin-Rojas et al., 2019). This requires several interactions or contacts which involves the provision of updates about the new technology, getting the needed assistance, and transferring of the said technology itself. The communication design that takes place between companies has been considered to be the foundational focus of businessmen and, more lately, of organisational scholars. Businessmen, mostly comprehend those interactions in terms of competitive market interactions. The traditional state of the transactions takes on an entirely competitive market where there are several sellers with sufficient information without any uncertainty sell very similar goods and unable to apply any price control. Despite the fact that an entirely competitive market model has shown to be very good in handling most economic problems, it has serious weaknesses.

It is argued that the assumptions of the way firms operate in entirely competitive markets make sense only when the market is balanced (Arrow, 1959). Wachler and Williamson (1978) expand on this insight and argue that when disequilibrium exists, businessmen do not trade autonomously but rather, they develop accustomed business relations. Good clients, dependable suppliers, and a strong desire to keep the exigencies of

the other party are all valued trading attributes. In consideration of these, the parties will seek to regularise the terms upon which the trading takes place (Wachler & Williamson 1978).

These "accustomed trading relations" between economists are inter-organisational exchange relationships in the minds of organisation theorists (Levine and White 1961). What the economists (Arrow, 1959; Wachler & Williamson 1978) refer to as accommodation and custom is very much what the organisation theorists (Guetzkow & Jensen, 1966; Marrett, 1971) refer to as the formalization or standardization of inter-organisational interactions. All of these authors argue that norms, rules, and traditions emerge which in turn govern transactions.

The companies form such relationships in order to reduce the uncertainty associated with transactions over long periods of time. By regularizing interactions, members of organisations are negotiating their environments (Cyert & March 1963). To some extent, the regularization of interactions between organisations can be handled by contracts. However, it is most difficult to write contracts when there is uncertainty about potential problems and results (Arrow 1974, Machlup 1962). Businessmen prefer loose contracts which allow negotiation to contracts that contain detailed specifications (Macaulay 1963). This may reflect the "host of legal doctrines and techniques that lie in the way of enforcing such contractual remedies" (MacNeil 1974, p. 730). The relationship between two firms can vary from a simple ad hoc or market interaction to a fully formalized contract. However, the tendency will be for firms to form regularized relationships with trading partners. Such relationships are formed to reduce both the uncertainty and costs of transactions. The formation of such linkages between the producers and users of technology provides an underlying structure within which stable transactions are possible.

Impact of Technology on Organisations

Besides the danger of the intended technology not functioning as planned; and of budget overrun and delays in timescales, the effect that ICT has on companies do not cease when the technology is introduced in the organisation. The effect of ICT on organisation is a widely researched area and involves the specific themes of management and organisational science, managing change, socio-technical arrangements, computer science, human institutions and several other disciplines. In the subsequent sections the significant effect that ICT has had on companies are summarized. The list is however not conclusive, because there are basically quite a number of aspects to cover that may not all be considered in this study; however, the motive here is to provide an overview of some aspects of the major issues that affect organisations.

Institutionalisation of Technological Progress

As the technological set-up in a segment develops, it delivers an established structure in which technological transformation can occur as a routine, supportive procedure amid several companies. The infrastructure defines the restrictions of technological complications, offers an established technological tactic, and launches the mode of assessment of projects and results (Bolton & Foxon, 2015). As the organisations participating in the network make commitments to use particular technological approaches, their inventive effort will be compatible with that of the other organisations who are the potential users of their technological approaches. At the same time, the users make commitments to these approaches in their operations and product lines, as do their customers and suppliers.

In effect, the situation becomes more standardized, which allows for greater exchange (March & Simon 1958). As the technology becomes more standardized, its role in competitive strategy must change. Technology becomes an effective barrier to new entrants, and strategy relates to attempts to improve the market position and returns on investment of individual firms within the sector. This view of the invention process suggests that the institutionalisation of the infrastructure is a critical factor in the effective formulation and implementation of technological strategies. We turn now to some important implications of this view.

Institutionalisation and Radical Technological Change. The process by which established standards, principles, and practises become deeply embedded in an organisation's structure and culture is referred to as institutionalisation. On the other side, radical technological transformation refers to important and disruptive changes in technology that have the potential to profoundly alter markets, industries, and organisational procedures. For organisations, the interplay between institutionalisation and extreme technology change can offer both opportunities and challenges. This implies that organisations face both opportunities and problems as a result of the relationship between institutionalisation and profound technological development. Organisations must handle change resistance, promote an innovative culture, match strategies with emerging technology, support organisational learning, and manage the coexistence of old and new systems in order to successfully navigate this intersection. Organisations can position themselves to capitalise on and adapt to dramatic technological change.

As the technological infrastructure becomes increasingly institutionalised, it changes the nature of radical technological change within the product market. The

commitments of organisations in the invention process make radical change riskier and expensive since such change involves moving beyond the technical areas in which the firm is experienced (Byrd & Davidson, 2003; Stone, 2006). The technological commitments of the organisations involved in the innovation process (and their customers) make radical changes more expensive to adopt. Such changes will not be consistent with their operations, and investments in new equipment, new product designs, and new styles of doing business may be required to integrate a radically different technology into their operations. At best, radical changes will disrupt the product markets and create levels of uncertainty.

The institutionalisation of the infrastructure is a barrier to the entry of radical technological changes, as it bars the entry of new competitors. On the other band, radical changes may create opportunities such as new markets and lines of business (Martin-Rojas et al., 2019). The effect of radical innovation is more likely to move the organisation into a new business and to create new lines, as was the case when Eli Lilly and Co. developed artificial insulin. Radical process changes can revolutionize product markets, create new markets for hitherto costly products, and can result in making new products possible. Such radical changes are often critical in the history of a company or industry. However, from a strategic point of view, such radical changes are very difficult to predict. They must remain strategic long shots. If such radical changes cannot be predicted or planned, they can be built into a systematic technological strategy (within a business strategy) only under certain, specific conditions.

Firms seeking to break out of technological constraints, either to revitalise a stagnant industry, confront foreign competition, or to create new lines of business, may find radical changes useful (Martin-Rojas et al., 2019). Indeed, as the level of institutionalisation increases, radical change will become increasingly necessary in the

effective pursuit of such strategies. Under such conditions, however, a firm would need to break out of the existing infrastructure, either to work on its own or to seek access to alternative invention processes. As institutionalisation increases, radical changes will come from outside of the infrastructure that grows up around the product market. If successful, the firm's technology strategy could then be built around both the emergence of a new infrastructure and the technological progress that occurs as the radical change is domesticated (Martin-Rojas et al., 2019). Organisations should not, however, count on radical new technologies to help them out of current problems. There are good institutional reasons why technological "quick fixes" are unlikely to appear and less likely to be effective. Radical process and product changes provide a sound basis for technological strategy only under very special conditions.

Institutionalisation and the Timing of Technological Change. The timeframe of technological change and institutionalisation are closely related. The period during which new technologies are introduced and embraced by organisations is referred to as the timing of technological change. Organisations may be significantly impacted by the relationship between institutionalisation and the timing of technical progress. Timing and how an organisation responds to technology improvements can be influenced by institutionalised practises, culture, and change aversion. Organisations can negotiate the timing of technology change more successfully, positioning themselves for success in a quickly changing technical landscape, if they grasp the window of opportunity, adjust their institutionalised practises, and promote a culture of innovation.

As institutionalisation increases, the timing of technological change becomes critical. Any advantage accruing from a technological change will be hard to protect.

Patents and trade secrets will be easily penetrated because of the standard and public character of technology. Firms can use the pattern of technological development to their advantage, however, only by carefully timing the adoption of a product or process change. A first-mover advantage can be achieved and protected if subsequent developments are small enough or infrequent enough to provide a long lead time before a second mover can obtain a worthwhile technological advantage (Zahra et al., 2009). In other words, a firm can wait until technological development has gone far enough to produce a set of changes that provide a competitive advantage and then use the incremental nature of institutionalised change to protect its first-mover advantages. A timing strategy is possible when the infrastructure and the process of technological change are institutionalised. Institutionalisation provides a stable process in which good estimates can be made of the rate and extensiveness of future technological change.

Institutionalisation and Product Technology Leadership. Institutionalisation also has important implications for firms attempting to establish a competitive advantage based on product technology leadership. Sustaining an effective strategy based on leadership in product technology requires that the firm continue to introduce new products. As institutionalisation increases, the rate of new product introduction increases (Martin-Rojas et al., 2019). Thus, maintaining a competitive advantage based on new product technology requires being positioned to gain the new technology as soon as possible. The firm must maintain access to the technological infrastructure in order to carry out such a strategy. Without access, technological leadership becomes impossible as the infrastructure

develops. Such a strategy also requires that the firm influences the kinds of product technologies that are being developed (Omerzel & Antoncic, 2008).

Since institutionalisation implies that other organisations can have access to the technology, a firm can successfully pursue this strategy only if the invention process produces changes in product technologies that fit into the firm's overall strategy. This requires being involved in establishing the direction of technological development in ways which serve its own technological needs. Institutionalisation also increases the rate of technological change. Only those firms that are well integrated into the system will be able to sustain a strategy of product technology leadership and appropriate the benefits of rapid improvements in product technologies.

Institutionalisation and Process Technology Leadership. Firms building a strategy in which leadership in process technology is critical will face similar effects of institutionalisation. Increased institutionalisation will be associated with an increased rate of process innovation and shifts to more systematic, routine, and efficient production. This will lead to falling production costs as the technological infrastructure develops. Again, the benefits of this are not equally available to all firms in an industry. Only firms who have committed to the technological program of the invention process and linked their technological strategy to it will be able to systematically and smoothly adopt successive changes. So, a process technology strategy, tied to a cost leadership strategy within the firm, will require linkage with the system (Martin-Rojas et al., 2019). Here too, the problem

of aligning the organisation's strategy with the direction taken, and attempting to influence the direction taken in the development of the infrastructure, is a key strategic issue.

Institutionalisation and Mobility Barriers. Institutionalisation increases barriers to entry by creating a specialized and integrated technology particular to an individual product market (Martin-Rojas et al., 2019). An implication of this is that firms doing business in the product market should attempt to accelerate the pace of development and limit access to the technology in order to protect the sector from new entrants. Given the weakness of protection afforded by patents and trade secrets in many industries, barriers to entry can be maintained by limiting a that have value primarily for existing technologies. Processes are specific to products; and products that can only be produced and sold by organisations that have already acquired the basic technologies; are more difficult to appropriate.

Institutionalisation has a similar effect on exit barriers (Harrigan, 1980). As firms participate in, and commit to the technology produced in the network, they limit their ability to engage in other lines of business. As the technology becomes increasingly specialised, it becomes increasingly limited in its application. As a result, organisations may find themselves locked up in a poor position in a sector from which they cannot escape without incurring high costs.

Impact of Technology on Quality. The net effect of service quality, product quality and price on a buyer's assessment is an issue in need of systematic empirical research (Parasuraman et al., 1994). Nonetheless, several case studies and unscientific proof strongly indicate that being able to achieve a long term excellence and competitive advantage in the marketplace may be extremely difficult with just high class goods and affordable costs. Despite an organisation's core offerings, products or services, a very high

service quality is crucial when striving to attain excellence on the market that will last (Berry, 1999). The primary motive on which this conclusion is based is that achieving service quality is much more difficult for competitors to copy effectively than are product, quality and price.

Early research (Books-Gunn & Lewis 1983; Gronroos 1982; Lehtinen & Lehtinen 1982; Sasser et al., 1978) pointed to the fact that clients measure service quality by comparing their expectations (thus what they feel a seller needs to put on offer) with the service the seller actually provides. This is referred to as the expectations-performance gap. This illustration of service quality gained exceptional backing in an elaborate exploratory research (Parasuraman et al., 1985), which also found several specific features upon which clients may examine the expectations-performance gap.

A couple of the macro-perspective research works such as (Roberts 2000; Sheth et al., 2000), and one micro-perspective article (Bitner et al., 2000), concentrate specifically on the effect of ICT on market systems and on relationships between suppliers and customers. The rest of the macro-perspective research works also attest to issues related to technology. Owing to the fact that ICT may be (if not) a significant driver in charting future transactions between buyers' and sellers', it would be informative to assess how this may affect the traditional quality of goods. During a quest to start the assessment, the pyramid model, which was proposed by Parasuraman et al., (1996) and referenced in the article by Bitner et al. (2000), is incorporated with the quality-value-loyalty chain.

Pyramid Model

In order to accurately record the difficulties that emerge from the rising influx of ICT into service provision for clients, Parasuraman (1996) recommended the pyramid

model of services marketing, an extended version of Kotler's (1994) triangle model of services marketing. Kotler's (1994) triangle model sums up the supplementary difficulties of marketing services in relation to the marketing of products. It recommends besides external marketing—acts related to the "4 Ps" (product, price, promotion, and price) which are stressed in the marketing of products—the efficient marketing of services needs internal and interactive marketing also.

Internal marketing is concerned with seeing employees who provide service as internal clients and giving them requisite training, assistance, enthusiasm, and compensation so they can appropriately serve external clients. Interactive marketing deals with ensuring a good image is created on the minds of external clients when transacting with service employees or internal clients. Owing to the current intrusion of ICT in the way goods and services are bought and used, the triangle model however is deficient when it comes to completely mirroring all the connections included in seller-buyer transactions. The pyramid model takes into consideration this limitation by including technology as a third angle to the two-dimensional triangle model. As a result, the pyramid model stresses on the need for efficiently managing three new connections which are organisation-technology, technology-employee, and technology-customer to maximize how efficient marketing activities turn out.

Linear Model of Innovation

This model explains that, there is a basic order of stages set up from simple scientific ideas to actual innovations. An innovation is said to be an origination or creation that can be commercialized. Almost all organisations are faced with the paramount tasks of coming up with new or modified goods and services that clients are interested in and

will pay to acquire. There is just an adequate equilibrium between serving the client just what the organisation knows the client wants and what product the manufacturer trusts is a way better resolution pack. The equilibrium shows continuity, with growth methodologies called "market pull" against "technology push" correspondingly (Rothwell, 1994).

"Technology push model" basically refers to a fundamental linear ideal which proposes that an innovation procedure begins with from knowledge, an idea or a discovery – this is mostly referred to as "idea push". In some cases, such ideas are by ingenious person(s) who are equipped with the information and thoughts to acknowledge the importance and the applied expertise to change those ideas or innovations to become actual inventions. The manufacturer remains in the trade of satisfying tasks that clients request for, and makes use of distinctive approaches, know-how or expertise to accomplish the tasks in enhances techniques that even the client may not initially take notice of. The manufacturer prudently studies and comprehends exactly what the clients' difficulties are. In summary, "technology push" product development is founded on the acceptance that the provider notices a market essential way afore the market notices. Expressing this in another way, with the "technology push model", the market becomes a venue where the productivity of studies and development can be identified. Clients had to purchase products and services which were obtainable at the marketplace (Zizlavsky, 2013); nonetheless, in recent times, the beginning point is simple scientific studies or practical research and development (R&D) in companies. This then progresses to the strategy design and final development to a finished product that would be produced efficiently, effectively and frugally and then sold on the market.

"Market pull" on the other hand is an instance where the market places a demand for particular a product or service kind, or describes a challenge, and manufacturers reply by making and conveying that product or service to the client. Market need should be very well examined. The manufacturer goes through the procedure of supplying goods or services projected to fulfil a position pre- defined by the market. Summarily, market pull product development is founded on an insight of what goods or services the client actually wants, where the client has a big say in the path of product development. The client describes what is likely to be involved in the resolution and instructs the manufacturer. The needs of the customer are factored in both the development and marketing processes (Schewe & Becker, 2008). Here, the customer's need is what informs the research and development process.

Unified Theory of Acceptance and Use of Technology

In a progressive effort to guarantee that users' reception of the use of technology is a continuing administration task (Schwarz & Chin, 2007), and one which has engaged "information systems" (IS) and" information technology" (IT) scholars so much to the point that the adoption of technology and circulation of research studies is now deliberated to be one of the extra developed sections worthy of critical studies (Venkatesh et al., 2016; Venkatesh et al., 2012; Venkatesh et al., 2011; Venkatesh & Zhang, 2010, Venkatesh et al., 2008; Venkatesh et al., 2003). According to Williams et al., (2009) the considerable rate of action has resulted the usage of a large variety of investigative methods which examine several diverse structures and tools in innumerable different settings, to such a level that even the utmost rapid assessment of the existent collection of research works will disclose a variation of interested party viewpoints, tools and settings, elements of

investigation, philosophies as well as study methodologies. The said condition has subsequently resulted in a state of misunderstanding among scholars, owing to the fact that they are mostly coerced to stick to a particular preference and select features which span through a large diversity of mostly contending simulations and concepts. As an answer to this misunderstanding, in addition to harmonizing existing works connected with reception of innovative technology and direction of future studies, scholars, Venkatesh et al. (2003) came up with "unified model that brings together alternative views on user and innovation acceptance; thus the unified theory of acceptance and use of technology (UTAUT)". Nevertheless, aside the obvious effect, there has not been any research in recent times that has either tested or had a second look at how effective the UTAUT is, neither examined nor assessed the conclusions, and limitations.

The UTAUT proposes the use of four key paradigms namely "performance expectancy, effort expectancy, social influence and facilitating conditions". The constructs are straight forward determining factors of attitudinal intent and eventually actual attitude, and that these concepts are subsequently moderated by sexual category, stage of development, knowledge, and whether individuals want to voluntarily explore usage of the technological tools (Venkatesh et al., 2016). There exists a regular debate where by assessing the existence of every one of the determinants in a "real world" setting, scholars and specialists can properly examine a person's intent to make use of a particular technology, thereby consenting for the documentation of significant effects on reception in any particular setting. The philosophy was advanced through an assessment and incorporation of eight (8) principal philosophies and models, these models are: "the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational

Model, the Theory of Planned Behaviour (TPB), a combined TBP/TAM, the Model of PC Utilization, Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT)".

The causal models and theories mentioned earlier, have been broadly and fruitfully used by a sizeable number of preceding research works connected to technology or adoption of innovation and dissemination through a variety of subjects which include but not limited to "information systems, marketing, social psychology, and management". In an innovative article, findings from a six-month research of four companies was presented, which showed that the eight causative theories clarified about 17% to 53% of discrepancy in a user's intent to make use of technology. "Nevertheless, UTAUT outperformed all the eight separate theories by an adjusted R^2 of 69%" (Venkatesh et al., 2003).

Since introducing the UTAUT, it is extensively used within the acceptance of technology and dispersion studies like a theoretic 'eye' through which scholars conduct practical research of user intent and behaviour. Around the period of gathering sources for the study, Venkatesh et al.'s (2003) original article had been cited a little over 5,000 times, with UTAUT being deliberated making reference to a variety of the use of technologies in several disciplines like internet use, websites, Tax Payment Systems, Hospital Information Systems, and Mobile Technology, Crypto currencies and several others; with a variety of regulating elements like age, sex, experience, voluntary use, revenue, and training; and concentrating on a diversity of worker sets; like, learners, specialists, and common users.

For every company that is directed by well-organized management, it is not sufficient the way leaders or top management and employees perform their employment duties; but similarly how acceptable every form of information given out to workers or employees and strangers or clients of the company. The UTAUT Model helps to explain user opinion and reception behaviour (Venkatesh et al., 2003). The UTAUT model is

explained by the "performance expectancy, effort expectancy, social influence, and facilitating conditions are the four potential constructs to explain user perception and acceptance behaviour". Weber (2012) established a structure of theory assessment, thus UTAUT plus its additions alongside a couple of categories where quality scopes are assessed; namely, the various areas of a model and the model as a whole.

Scholars have used, incorporated, and applied UTAUT to research on an individual's acceptance of technology and its use across a diverse setting like diverse user types, dissimilar organisation types, various types of technologies, diverse jobs, dissimilar periods, and different sites. First, one can classify users of technology into various groups, such as personnel, clients, and people in general. An example is the use of a sample of personnel at various levels of the company like the top management, senior managers, intermediate managers, and operational workers (Hong et al., 2011). Zhou et al., (2010) employed a sample of consumers of mobile service. Venkatesh et al. (2011) researched on citizens' usage of e-government facilities. Other research works have been directed towards more particular kinds of consumers, such as educators (Pynoo et al., 2011) as well as doctors (Chang et al., 2007).

Secondly, one can classify companies by trade sectors like industrial and service segments, or private and public companies. Studies have assessed a range of institutions, like educators, health institutions as well as government agencies (Chang et al., 2007; Gupta et al., 2008; Pynoo et al., 2011). In recent times, we have telecommunication industries who are responsible for the infrastructure on which technology development is based.

Thirdly, technology may be studied from a variety of contexts. Studies have tested the usage of technological tools from the overall contexts like "the Internet", to much more

particular contexts, like agile Information Systems, e-learning settings, mobile and electronic banking contexts, plus e-government facilities (Gupta et al., 2008; Hong et al., 2011; Venkatesh et al., 2011; Zhou et al., 2010).

Fourthly, individuals or groups can also research on the variety of jobs or tasks; various tasks that the main technology supports. These consist of generating of ideas and making decisions in the design of technology, filing of taxes on revenue generated, and health diagnosing (Brown et al., 2010; Carter & Schaupp, 2008; Chang et al., 2007). The tasks therefore depend largely on the kind of industry.

Fifth, the use of technology can be studied at diverse periods as in the instance of its acceptance, first usage, or after acceptance use. An example is when Zhou et al. (2010) concentrated on consumer acceptance of banking with mobile applications, while Venkatesh et al. (2008) incorporated acceptance, first usage, and post-acceptance usage.

Finally, individuals may classify such research works by the geographical site, i.e., nations and financial areas where the main technology has been accepted and made use of. Some research works have assessed technology adoption and its use in other places apart from the Western countries, such as in India (Gupta et al., 2019, Gupta et al., 2018); in China (Venkatesh & Zhang, 2010); and in Korea (Im et al., 2011). Additional research works have concentrated on particular economic sectors, like the provision of services (Hong et al., 2011; Liang et al., 2021), training (Chiu & Wang, 2008), nutrition provision (Yoo et al., 2012), health services and healthcare (Liang et al., 2010), as well as the public segment (Dasgupta & Gupta, 2011).

In general, studies have continuously confirmed the strength of UTAUT and associated main effects. Nevertheless, studies have barely assessed the mediating roles of age, sex, skill, and voluntariness. Numerous research works have studied only the key

impacts (Chang et al., 2016), while others (Gupta et al., 2008), have only examined a part of the mediating influences. In all, several research works agree with the universality of the theory (UTAUT), although just according to its major effects.

Johns' (2006) topology has been extended to recognise eight scopes of the setting of technology acceptance together with its usage. He recognized seven extents of settings at two diverse heights; "namely, the omnibus-level context that comprises of who, where, when, and why dimensions; and the discrete-level context with the task, social, and physical dimensions". To be specific, significant Information Systems research (Burton-Jones & Straub, 2006; Goodhue & Thompson, 1995) are incorporated and become accustomed to the seven contextual settings (John, 2006); to be more precise to the acceptance of technology and its use situation; "namely, user (who), location (where), time (when), rationale (why), task (task), organisation (social) and environment (physical). One more discrete dimension (technology) is added to represent the IT artefact".

It is possible to conceptualise the eight scopes as diverse groups with diverse attributes which are necessary to personal acceptance of technology and application (Weber, 2012). Even more significantly, each of the classes or dimensions serves as the prototype for a collection of context effects or characteristics (Whetten, 2009). Extensions of UTAUT are used to show the conceptualization and notification of imminent research prospects. The eight extents of the study setting of technology reception and usage are subsequently discussed.

Generally, founded on the eight dimensions, cautious assessments propose that the recent completed works have considered just four; namely environment, company, location, and events) a little less than the rest. As explained by Whetten (2009), researchers could concentrate on the four groups to identify the groupings of other background impacts.

First, concentrating on the technology consumer class rather than the general organisational affiliates referred to by Johns (2006). The conceptualisation of users of technology also extends Johns (2006) as well as Goodhue & Thompson (1995) to involve customers and people who fall outside the boundaries of the organisation. Attributes for users comprise demographics, profession, and user type like workers, consumers, and citizens".

Literature on UTAUT has extensively assessed the user class. These research works have hypothesised "consumer demographics like age, sex and experience as mediators in the innovative UTAUT, and later as mediating new associations" (Venkatesh et al., 2012; Venkatesh et al., 2008). Liang et al. (2010) examined doctors as a professional group and their related responsibilities such as preparing prescriptions and execution of lab tests, to assess the impact of group climate for inventions on technology usage. clients as a user type functioned as the setting which facilitated extensions in UTAUT (Venkatesh et al., 2012; Venkatesh et al., 2016) and, specifically, "for the innovative endogenous instrument underlying the connection between worth value and behavioural objective". Other individual features of users have also helped as devices of UTAUT extensions. For example, Brown et al. (2010) researched on the effects of technology practice and computer self-efficacy as the backgrounds to performance expectation and effort expectation for new exogenous devices. Several research works have also studied the impacts of technology self-efficacy on behavioural objective and usage (Carter & Schaupp, 2008; Chiu & Wang, 2008).

Technology characteristics primarily comprise of the total occupation and the structures of the target tool (Burton-Jones & Straub, 2006) and other features, such as being able to use the technology. The main technological tools helped as the incentives for UTAUT additions in several other studies. For example, "enterprise information systems

(EIS) gave the setting for Neufeld et al. (2007) to research on the effects of charismatic management on UTAUT principles. There are quite a number of studies' contexts for developments, such as conviction, danger, and privacy, where e-government expertise contained delicate information". (Carter & Schaupp, 2008; McLeod et al., 2009; Schaupp et al., 2010).

Advanced Information Technology

Weick (1990) describes technology as both an origin and effect of arrangements in business organisations. Orlikowski (1992) makes use of the phrase "interpretive flexibility" to explain the recursive association among "advanced information technology" (AIT) and the business context where the technology was established and made use of. Rather than been seen as some static entity with permanent effects, AIT is viewed as something which give several options to create and interpret. Employees of a business, mainly managers, have a major role to play when it comes to the establishment and clarification of AIT. The interpretation of AIT defines its mode of use, its capabilities, and most importantly, the influence it has on the business' performance.

Orlikowski et al. (1995) described the relationship that exists among AIT and the setting where it is applied, as an intentional administratively authorized interference that aids in the adaptation of innovative technology in that setting, as well as a modification of the setting to accommodate usage of technology. They explained the institution and usage of innovative technology as having an effect on organisations, comprising of the management structures that operate them, in the same way organisations can affect the usage and adaptation of new technology.

Later, Yates et al. (1999) linked the use of technology mediation to "genres" of an institution. These "genres" are somehow similar to the reasoning researchers have denoted as templates, and function as establishing arrangements or rationality for determining an institution's interactions. The writers demonstrate the existing connection between AIT and societal structures by relating the way instituting of innovative information and communication technology (ICT) can cause the performance of improved or innovative genres inside the new "communication medium", and the manner in which the collaboration within the innovative medium should also be designed by genres in existence before the institution of the innovative technology.

Similar concepts also acknowledge that as a supplement to AIT and establishments having an effect on one another, there seems to be a dialectical and mostly unintended interaction between AIT and companies that appears or develops over a length of time. For example, Hutchins (1991) recommended the advancement of business organisations is not really attained by methodical conscious consideration but reasonably through an order of positioned or limited revisions that are founded on how arrangements are understood and considered in action.

It is a general belief that leadership plays an important part in the interaction between AIT and the environment (Bans-Akutey, 2020; Bans-Akutey, 2019). Orlikowski (1996) builds on Weick's (1993) "theatrical improvisation" representation of organisational transformation and discusses that organisational change happens as a result of continuing, unforeseen, and set revisions of organisational affiliates in their daily work life (Bans-Akutey, 2020). Orlikowski (1996) explains that change can take place even subtly, in the excesses and managing of daily activity. These little differences that are recurrent, common, augmented, and unrelenting can, over a period of time, result in

noticeable and major organisational changes. Scholars make meaning of the societal environment surrounding them by endorsing very little deviations that accrue, causing major societal and systemic changes (Weick, 1990). Leaders are considered to be resilient contributors to this assumption and enactment (Bans-Akutey & Tiimub, 2021).

E-Leadership

According to Avolio and Kahai (2003), E-leadership happens to be a lot more than basically an extension of orthodox leadership. E- Leadership is an ultimate change in the way leaders and followers cooperate in an organisation and between businesses. Despite the dynamics in recent leadership contexts, the authors stressed that most leadership fundamentals will practically undoubtedly continue to be the same. They described e-leadership as a societal stimulus development mediated by the use of technology from an organisation and managerial perspective. E-Leadership is defined as the process where a person's entire leadership tasks and activities are performed by use of electronic channels (Vought, 2017). Owing to this, the main difference between an orthodox leader and an electronic leader is the setting where they perform their given tasks.

Avolio and Kahai (2003) describe e-leadership to be a "silent revolution" that has caused the connecting of business organisations to the level where several serious human relations are now intermediated by the use of information and communication technology. Leadership, according Vought (2017), is a "dynamic, resilient mechanism nested inside a wider organisational structure." This implies that well-defined organisational systems define the projected relations among personnel. In recent times, Information and Communication Technology (ICT) executes such organisational arrangements electronically through "time and space"; in such cases, in addition to having ICT enable

communication between managers and subordinates, it also aids in the gathering and distribution of data required to aid organisational labour (Avolio & Kahai, 2003).

It is very common in modern times to notice leaders leading whole projects from afar and interacting with their group or team members completely through the use of ICT (Vought, 2017). E-leadership assumes its distinctive form in the virtual setting where teamwork and leader-follower relationships are intermediated by organisations or persons together, where plans are directed, supervised and executed (Van Wart et al., 2017). Just like the way conventional face-to-face leadership sets out to motivate employees, e-leadership also can inspire by interacting through electronic mail (e-mail) and any other electronic mode. It is argued that leadership facilitated by ICT can produce precisely the same results and style as conventional leadership which is face-to-face (Liu et al., 2018). With reference to how the media and information access has transformed, the authors explained that subordinates or team members today have available to them, the same data that leaders are privy to, which lays pressure on such leaders to be always prepared with all the latest details to substantiate their position on issues at any time. Nowadays, an unhappy worker can immediately communicate what they feel to several hundreds, thousands, or even millions of peers with just a click. E-leaders are therefore advised to strike a balance between the conventional and new, to openly share their intentions, and to completely make use of ICT to spread out and affect others (Allen & Seaman, 2015).

According to Gurr (2004), despite the fact that e-leadership is a comparatively freshly developed theory with ongoing theoretical uncertainty, there are substantial variances between leadership in conventional ways and leadership that exist in technology-mediated environments. Work environments seem to expect leaders to handle inconsistencies and problems together with the accompanying behavioural complication.

The E-leader is therefore expected to put together a suitable societal environment through constant communication, while being able to express standard interactive skills through the related technology. E-leadership also details more importance on disseminated leadership. For instance, in some cases, such as secret groups, official prescribed leadership may not be the best way to achieve group performance (Avolio et al., 2014).

As posited by Antonakis & Atwater (2002), the theory of "leader distance" has been considered in quite a number of leadership concepts. A review of accessible literature demonstrates that a thorough comprehension of "leader-follower distance" is significant to the mission of unravelling the changing aspects of the leadership persuading process. Distance not only signifies physical remoteness, but also a societal detachment. "Both types of distance are studied, with physical distance resulting in the need for virtual leadership" (Antonakis & Atwater, 2002). This implies that physical distance can be closed e-leadership or virtual leadership, thus physical distance leadership can be a virtually close leadership. This leader is also known as an E-leader who brings about several advantages and disadvantages to workers through the use of virtual communication.

Avolio et al. (2014), has documented the most cited definition of e-leadership. Their definition has increased the establishment and reception of e-leadership in the typical community of leadership studies. They describe e-leadership as "a social influence process mediated by AITs (advanced information technologies) that produces a shift in attitudes, feelings, thinking, behaviour, and effectiveness in both proximal and distal contexts." This implies that, e-leadership is an intangible concept that requires the usage of ICTs to cause transformations in the characters and psychological conditions of followers. E-leadership, nonetheless, is not only related to particular technologies and communication activities; but also about generating a progressively general digital setting that will amount to high

levels of efficiency and effectiveness, in any way those are defined - high levels of productivity, low employee turnover, high employee morale, etc.

Some example of common challenges described in the collected works concerning digital environments include but not limited to "email and data overload, worker alienation and weak social bonding, poor accountability in teams and use of time, low trust, insufficient technological competence, and an inability to provide persuasiveness and deep change based on commitment rather than commands' (Avolio et al., 2014). As a form of reply to these variations, organisational researchers have begun considering e-leadership to be related to leaders who perform many of their processes, procedures or activities mainly through electronic networks. The concept of leadership in this modern age is surely different from what was the norm owing to the impressive and apparently relentless display of development as ICT continues to positively influence the world.

An extremely significant setting for leadership is the influence of the "electronic" feature on leadership. This electronic factor alters the structure of how information is gained, saved, understood and shared - and that, subsequently, alters the way people are impacted as well as how decisions are concluded on in business organisations. Some particular events caused by ICT such that it alters leadership and their foundations of control according to Avolio & Kahai, (2003) are; a change in the accessibility to information and media; better interconnectedness among workers; easier and better personal interrelations; a more indelible communication in present time unlike before.

The main variance between general leadership and e-leadership is the context where work is intermediated by ICT. In a context like that, the leader's interaction with followers does not only take place through the use of ICT, but also the gathering and distribution of data is also through the use of ICT. The serious differences are likely to be in what is meant

by "feeling the leader's presence", as well as influence, promptness, longevity, and awareness of the leader's message. But then again the resolve of e-leadership relates to taking the relationships among a business organisation's members as stated by the organisational structure and enhancing them.

Problems Related to E-Leadership

E-leadership, often known as electronic leadership, is the art of leading and directing teams or organisations in digital environments or virtual work situations (Krisnafitriana et al., 2023). While e-leadership has many advantages, it also has some obstacles and problems. To address these issues, e-leaders must be agile, proactive, and proficient in harnessing digital tools as well as interpersonal abilities (Bans-Akutey & Ebem, 2022). It entails leveraging technology to improve communication, promoting transparency and openness, and cultivating a supportive and inclusive virtual work environment. Continuous learning, good communication, and empathy are essential for e-leadership success.

Poor and Insufficient Communication. Leadership requires effective communication, and e-leadership presents unique communication issues. Nonverbal cues and face-to-face engagement may be lacking in virtual communication platforms, resulting in misunderstandings, misinterpretations, and difficulty in creating rapport and trust (Krisnafitriana et al., 2023). Trust is essential for effective leadership, but establishing and maintaining trust in virtual contexts can be difficult. E-leaders struggle to establish personal connections, exhibit dependability, and foster a trusting climate among team members due to limited face-to-face engagement and physical presence. Poor or insufficient communication comes about when leaders or managers are not able to provide detailed

programs and supporting publications of important milestones, absence of openings for questioning and answering; whether about finished task or tasks which are yet to be concluded, or merely not providing clear instructions and examples for group or team members to follow (Bans-Akutey & Ebem 2022; Abusebaa, 2023).

Miscommunication. Miscommunication occurs occasionally with leaders who try to ease their tone with some types of jokes that are best reserved for face-to-face settings, in the virtual context. However, the humour is mostly misunderstood by followers and the sarcasm is not seized (Bans-Akutey & Ebem, 2022). When this happens and care is not taken, the real reason for which the joke was shared will not be exactly transferred. E-leadership frequently requires managing remote teams distributed across multiple regions, from different cultures and time zones (Wang et al., 2023). This makes it difficult to coordinate and align team efforts, maintain collaboration, and ensure responsibility. E-leaders must devise tactics to overcome geographical and cultural limitations while also instilling a sense of togetherness and shared purpose in remote team members by. Keeping virtual teams motivated and engaged, while avoiding miscommunication, can be more difficult than keeping traditional face-to-face teams motivated and engaged. To inspire and energise team members, e-leaders must use innovative ways such as employing the use of emerging technologies for virtual team building activities, recognising individual and team achievements, and giving opportunities for skill development and career growth.

Communication Chaos. Communication chaos is defined as a state of disorder, confusion, or breakdown in communication inside an organisation or among individuals. When there are substantial barriers, inadequacies, or breakdowns in the communication process, it results in misunderstandings, misinterpretations, and poor information

exchange. Chaos communications is an application of chaos theory that aims to guarantee security in information transfer using telecommunications systems. Secure communications imply that the contents of the message being delivered are unavailable to potential listeners (Bans-Akutey & Ebem, 2022). Chaos theory is a field of study that investigates complex systems' unpredictable and nonlinear behaviour. It investigates the underlying order and patterns in what appear to be random and chaotic processes. Chaos theory originated in mathematics but has since found applications in physics, biology, economics, and social sciences (Roy, Chakraborty & Mali, 2023).

Chaos theory has extensive applications in a variety of fields. It has been used in physics to explore phenomena like as fluid dynamics, turbulence, and the behaviour of celestial bodies. It has been used in biology to study the dynamics of ecosystems, population expansion, and genetic algorithms. Chaos theory has been used to model market behaviour, asset values, and financial crises in economics and finance. It has been used in the social sciences to analyse patterns of human behaviour, societal dynamics, and decision-making processes. Traditional linear and deterministic models are challenged by chaos theory, which emphasises the complexity and nonlinearity inherent in many natural and human systems. It contributes to human understanding of complexity, self-organization, and unpredictability in diverse systems by providing insights into the underlying order within seemingly chaotic processes.

Lack of Leadership Support. As leaders, part of their role is providing support to its members or teams or followers just to meet their needs. Meanwhile, the leaders need to also have a support that will help attend to the needs of their subordinates to keep them working efficiently (Bans-Akutey & Ebem 2022). This however can get complicated in the

online space. Owing to the fact that all team members have access to the leader through virtual means at all times, the leader is mostly pressed for time; thus not being able to provide the necessary support for members of the virtual team.

Insufficient Accountability and Use of Accountability Incentives. Within face-to-face office contexts, even when employees do not record attendance during meetings, the visual attendance generally serves as an incentive and encouragement to leaders (Bans-Akutey, 2019). Researchers have explained that, for leaders who want to encourage maximum participation, there is the need to ensure that several, easily obtainable online technological tools should be used to track involvement of employees and ensure that the employees are conscious of any such tracking. Within team contexts, if leaders provide feedback on assigned tasks, it is assumed that the leader has identified way(s) of measuring comparative involvement of each member of the team. If the leader allocates a team comment about the completed task, it is assumed that the leader has planned ways of identifying and disciplining employees who are inefficient with specifically little or non-performance.

Poor Management of Change. Managing change is often difficult since it frequently requires altering established habits, processes, and attitudes inside an organisation. Leaders can raise the probability of successful change implementation and create a more adaptive and resilient organisation by proactively addressing challenges and implementing effective change management practises. The usage of innovative technology needs proper preparation to facilitate smooth changes. Even if change is at the personal level the leader

needs to make use of basic change management techniques to guarantee a smooth change (Bans-Akutey, 2020) when the challenge of poor management of change surfaces.

Weak Management of the Basic and Auxiliary Technology. Communication and collaboration in e-leadership are strongly reliant on technology. Leaders' capacity to provide timely help and direction might be hampered if they are unfamiliar with or do not successfully use the available tools and platforms, leading to an impression of insufficient leadership support. ICT-related concerns during virtual gatherings and training session for tasks happen to be very common. Such issues require good leaders to be able to avoid some of the general challenges and make a diagnosis on others. ICT management suggests identifying little challenges by reading the manual that comes with a particular technology and performing personal troubleshooting, while contacting technology experts when difficulties persist. This also indicates devising the capacity to work around uncommon, but significant, system outages.

How Leadership Affects an Organisation's Performance

One conjecture fundamental to the study of leadership turns out to be the fact that leaders influence the performance of every organisation (Bans-Akutey, 2020). Through actions and personal influence, leaders are able to cause a transformation. Top managers, who control business organisations at the highest level, also allude to this same conjecture. A regular solution to key business organisational challenges is to substitute the leader, hoping that the recently chosen leader will change the performance issues for the better.

Being able to comprehend the influence of leadership on the performance of an organisation is very essential because the leadership concept is seen by most researchers as one of the main drivers for improving an organisation's performance (Bans-Akutey &

Tiimub, 2021; Darling & Nurmi, 1995; Kirkpatrick & Locke, 1991; Tiimub et al. 2021; Wing, 1988; Zhu et al., 2005). Effective leadership has been considered as a powerful foundation for organisational excellence, management development and continued strategic competitive advantage that results in organisational performance enhancement (Lado et al., 1992; Avolio, 1999; Rowe, 2001). An example is "transactional leadership" which assists organisations to attain their present goals more proficiently by connecting work performance to valued payments and also certifying that workers are equipped with the required means necessary to complete the work assigned (Bans-Akutey & Tiimub, 2021; Zhu et al., 2005). It is known that leaders who have vision create long-term goals of some future state, communicate that vision through framing and use of metaphor, model the vision by acting in a consistent manner, and building commitment towards the set objective (Avolio, 1999; McShane & Von Glinow, 2000). Some researchers like Zhu et al. (2005) propose that visionary leadership is likely to end in great altitudes of motivation, commitment, trust, and resultantly, on performance in the new organisational environments.

Mehra et al. (2006) indicate that "when some organisations seek efficient ways to enable them to outperform others, a longstanding approach is to focus on the effects of leadership". This is due to the fact that group leaders are thought to play a key function in determining collective standards; assisting groups survive within their environments, and organising group action. The leader-centred viewpoint has made available useful insights into the connection between "leadership and team performance" (Bans-Akutey & Tiimub, 2021; Guzzo & Dickson, 1996). Some scholars (Bans-Akutey & Tiimub, 2021; Judge & Piccolo, 2004; Judge et al., 2002; Keller, 2006; McGrath & MacMillan, 2000; Meyer & Heppard, 2000; Purcell et al., 2004; Yukl, 2002;) have examined the long term role of

leadership, together with how to apply concepts related to leadership and behaviour to advance organisational performance; since intangibles such as "leadership styles, culture, ability and competency, and motivation are increasingly viewed as essential sources of influence in organisations that can integrate people, processes, and organisational performance" (Purcell et al., 2004). Research indicates that, "leadership paradigms will have a direct impact on customer satisfaction, employee satisfaction, and financial performance" (Bans-Akutey, 2021).

According to Tarabishy, et al. (2005) examining the effect of leadership on organisational excellence is an area that has not been extensively studied. Most leadership studies have focused on 'superior-subordinate interactions' at the expense of various other roles that leaders undertake, as well as organisational and environmental variables that are critical in mediating the leadership-performance link". Another concern with present leadership research is that the results are reliant on the type of investigation used. "Micro-level" study, which centres on the leader's association with subordinates and direct bosses, and "macro-level" study, which centres on the whole organisation and surroundings, were also distinguished. Other researchers believe that leaders and their leadership styles have an impact on their subordinates as well as organisational outcomes (Irby, Pashmforoosh, Lara-Alecio, Tong, Etchells & Rodriguez, 2023; Tarabishy, et al., 2005).

Advanced Information Technology and E-Leadership

"Advanced Information Technology is defined as tools, techniques, and knowledge that enable multiparty participation in organisational and inter-organisational activities through sophisticated collection, processing, management, retrieval, transmission, and display of data and knowledge" (DeSanctis & Poole, 1994). These tools and techniques

include, though not limited to "e-mail systems, message boards, groupware, knowledge management systems, executive information systems, and collaborative customer relationship management and supply-chain management systems". These innovative technologies assist leaders probe, strategize, choose, distribute, and control data.

Nowadays, a further swift and widespread propagation of AIT all over business organisations is being observed. Rendering the account of the Barua et al. (2000), "the Internet Economy, which has been enabled by AIT, has grown much faster and has had a deeper impact on the U.S. economy from 1994 to the present, than the entire Industrial revolution, which began in the eighteenth century". According to Henry et al. (1999), companies which create information technology like "computer and communications hardware, software, and services accounted for 8% of the U.S. Gross Domestic Product and contributed on average 35% of the nation's real economic growth. By 2006, about half the U.S. workforce would be employed by industries that are either major producers or intensive users of information technology". An economy powered but AIT is generating a new setting for the leadership concept and practice.

Major features of an AIT-powered economy include instantaneous availability of data, better information distribution among stakeholders, as well as the usage of the information and data to foster personalised interactions. These personalised interactions are placing increased stress on businesses and organisational leaders and causing them to be extra receptive to all stakeholders. Complementary to these radical modifications is the international nature of business relations driven by the simplicity with which data transfer is permitted through nationwide boundaries (Drucker, 1993). "Not only are leaders' knowledge structures changing as a result of greater accessibility of information, but the nature of leadership is also changing" (Shamir, 1997). Client demands are also rapidly

changing and these have resulted in more tasks being performed by short-term project teams. Such teams are mostly organised virtually, where persons perform tasks remotely away from one another from varied nations, cultures, and establishments (Lipnack & Stamps, 1997; Mahoney & Barley, 1999). Communication among members of virtual teams happens via AIT, which enables "asynchronous, synchronous, one-to-one, or one-to-many communication". Virtual team leaders may display e-leadership when they have to link up with other group members over digital means (Elron et al., 1999). Furthermore, leadership can be collective when virtual team members interact with one another (Shamir, 1997).

"Leaders will need to play a more proactive role in creating the social structures that foster the implementation of AIT" (Vought et al., 2019). Nevertheless, one of the major challenges leaders are faced with in recent times is how excellently to combine human and AIT in their organisations to fully leverage on the concept. Stimulatingly enough, "although organisations implement AIT with the expectation of business and personal benefits including increased efficiency, productivity, and profitability, no demonstrable relationship between dollars invested in AIT and corporate profits has been reported" (Brynjolfson, 1993; Grover et al, 1996).

In fact, several AIT structures have been able to create what McDermott (1999) calls "information junkyards." E-leadership integrates the new developing perspective for assessing leadership. E-leadership is thus considered as a social inspirational procedure intermediated by AIT to create a variation in people's attitudes, how they feel, think, behave, and/or perform with other persons, teams, and business organisations. E-leadership may ensue at any ranked level in a business organisation and can involve` interpersonal and inter-group communications within and through large units and organisations. It might

be linked to a person or shared by several persons as its locus varies with time. To sum up, AIT is generating an innovative setting where leadership will be applied. In order to guide this discussion, it is necessary to take into consideration how AIT relates with leadership in order to have an effect on both the "structure and effects of leadership and how leadership, in turn, might influence AIT's adoption and effects on organisations".

The application of information technology and how it influences the complex social relations within organisations has become one of the most significant issues challenging the human dimensions today in business organisations. "The use of Local Area Networks (LANs) and Wide Area Networks (WANs) may have considerable impact on organisational communication since it is transmitted within and outside the chain of command, as well as alters the patterns of communication" (Bans-Akutey, 2019).

It is as though IT brings back what the "human relations movement" has tried to take away: "the mechanized system of standardized work processes and operations governed by rules and prescribed behaviours" (Bans-Akutey, 2019). But for now, "work is automated and self-regulated with people following predetermined codes and procedures, which specify activities without much influence by the people involved'. The formal authoritative system of control that had demoralized people and triggered Chester Barnard's famous call to raise interpersonal communication to a high level of priority has re-emerged this time in a transformed fashion as a digital medium that inconsistently increases the information processing abilities of the business organisation, while concurrently reducing the extent and degree of verbal communications.

The ability to control the flow of information centrally, by-pass middle managers, and connect directly with front-line employees can lead to another effect of IT. Top managers may have an incentive to recover delegated authority. They can avoid vertical

loading and decentralisation of managerial decision making, depriving middle managers of exercising their legitimate authority over lower levels and eliminating their function as communication transmitters and translators. Information technology facilitates the shift of managerial responsibilities to teams while stripping midlevel managers of their traditional bases of power. Information technology helps operationalise the needs for greater independence between employees and develop their awareness for joint accountability.

Larkin and Larkin (1994), who advocate direct contacts between top and lower levels, cite research by Harcourt et al. (1991) who researched on the communication habits of 871 middle managers in the United States. Findings showed 16 per cent had their highest significant source of information being through the formal communication channels; 21 per cent through grapevine; and 62 per cent, which was the largest group, being through their intentionally constructed network. The researchers therefore concluded that information moves in through middle management. It does not move out. Therefore, when the transformation is critical to the survival of the organisation, top managers are advised to establish direct communication link with front-line supervisors by calling them directly to see if they have received and understood the message.

O'Connell's (1988) assessment of the impact of IT on human communication and the system of interactions within the organisation is worth mentioning. "Opportunities for face-to-face contact will be diminished; information from non-verbal cues will be reduced. Consequently, opportunities for random, spontaneous information sharing will be reduced. Managers will need to structure work and relationships to provide for face-to-face contact to occur. Meanings will be derived increasingly from text and symbols".

Several casual messages and by-passing of the formal structure and hierarchy are likely to happen as new arrangements are established owing to the distant nature of the

electronic network. Organisational structure and the flow of formal information will thus be redefined.

Trust will therefore assume a different function within communication. Trust progresses through the collective involvement, ethics and exchanges that result from human interaction. The introduction of internet, electronic mail, and telecommunication networks has the potential to reduce the original extents of trust which employees have become familiar with. As a result, new dimensions of trust are likely to develop in their stead.

The use of computers tends to impose the discipline of linear thinking as data are administered at speeds that improve with an upgrade of the chip. As a result, employees may become increasingly impatient and intolerant for personal communicating styles. Business organisations may think or observe activities in a stringent, linear mode without any emotion. Such organisations will therefore need to explore ways to reassure and safeguard nonlinear discerning and interaction.

Work performance expectations may be determined by technology. In the same way as leaders become use to the speed and accuracy that the use of technology presents, employees may likely be expected to possess the same features thus producing similar if not the same results. Some employees will sense this as degrading and inhumane. Staff unions will pursue the "human environment" as an issue of concern. There is therefore the need to explore innovative ways of describing and making use of performance standards.

Having the use of ICT cover up the traditional way of leadership can cause a major transformation in the way people perform their tasks or are expected to perform those tasks. Typical of most working environments, where employees do not get to see each other or team members on a regular basis or not at all, it is necessary to use a changed method,

changed tactic and changed systems to relate with them (Bans-Akutey, 2020). A related adjustment in turn, reflects in the behaviour, thinking, efficiency, performance, motivation and satisfaction of employees. It is very important to trail this consequence so as to reshape the existing practices, in a case where all assets are to be used effectively.

Leadership and Adaptation to New Technology

In the same way as the "characterization of technology, the leadership system in an organisation can be characterized by its spirit or intent" (Bans-Akutey & Tiimub, 2021). This implies that the intent of "participative leadership system, for example, is to increase involvement of organisational members in decision-making, by fostering openness in communication and collaboration among members". Uniformity between the intent of leadership and that of AIT is essential for authentic assumptions, and are likely to forecast the success rate of innovative technology in an organisation.

Taking into consideration Vandenbosch and Ginzberg's (1997) research on the inclusion of a groupware named Lotus Notes into a business organisation. The intent of Lotus Notes is mainly to improve teamwork among employees. Nonetheless, teams which did not work together prior to the institution of the collaborative technological tool; failed to team up even after the introduction of the new technology. The authors explained that such systems mostly strengthen and support already existing structures and practices other than introducing new ones. The idea of information and communication technology as the driving force for organisational transformation mostly does not just apply. The assumption of groupware technology mostly falls short of its intent owing to the lack of an effective leadership structure that promotes team work (Bans-Akutey & Tiimub, 2021).

According to Vandenbosch and Ginzberg (1997), groupware systems like Lotus Notes are most likely to improve teamwork in companies that already have in place a collaborative culture; this is however very rare. It may be argued that in order to work effectively in a group or team, there needs to be the suitable leadership, organisational culture and necessary support systems in place before the inclusion of new technology. It is worth noting that the effective adoption of AIT is linked to the leadership type and cultural structure within which the technology is placed. Leadership is most likely expected to spearhead the transformation, thereby preparing the organisational structure to co-evolve with the technology and make use of the innovative technology authentically. A major section of the preparation of the organisational structure for suitable usage of technology is likely to include changing the current leadership system. Initial research shows that the kind of leadership in an organisation, team or group may have some little opportunity within which it can promote an effective adaptation to innovative technology.

Weick (1990) recommended that business organisations and individuals are most vulnerable to alteration and transformation when innovative technology is initially presented to an organisation. In support of this position, an investigation by Tyre and Orlikowski (1994) where he studied a diverse variety of project teams indicating that societal and systematic adaptations of innovative technology were achieved in a comparatively shorter early season of commitment. After the initial adaptation period, most people resisted further adaptations due to pressures from management to achieve.

The way technology is appropriated may be affected by a team's internal structure, which is described in relation with the team's fashion of interrelating, individual experience, views of other team members, mutual conceptual models, variety, and identification. "Leadership is expected to have a substantial influence on many of these

factors, which will in turn affect the appropriation of new technology" (Bans-Akutey & Tiimub, 2021). Team members have been found to be more supportive of one another using a groupware structure made to improve collaboration when the leader is more participative than directive (Bans-Akutey & Tiimub, 2021; Kahai et al., 1997).

Together with having an influence on the nature of technology use indirectly by affecting a team's internal structure, leadership can also directly affect the nature of AIT adoptions. "For example, participative leadership is likely to promote a more positive attitude among group members than directive leadership; as group members appropriate an AIT" (Kahai et al., 1997). Having an optimistic attitude among team members while they are adopting the use of technology is most likely to cause a more efficient set of interrelations and eventually healthier usage of AIT (Gopal, Bostrom, & Chin, 1993).

"Not only can leadership promote successful adaptations to change, it is possible for leadership to cause new information technology to be appropriated in such a way that it has little or no effect on the pre-existing social-cultural system within an organisation" (Kahai et al., 1997). For example, the autocratic style of leadership is likely to deter the finest efforts at teamwork "enabled by a groupware system designed for collaboration". In the same way, leaders who create an "in-group" and "out-group" among employees may see the best AIT structure resulting from efficiently generating teamwork from low points of trust in the entity.

Technology's Effect on Leadership

The influence of innovative information and communication technology on e-leadership depends partly on the technology's system characteristics and intent, the teams' core structures, as well as the organisation's core culture (Wiyono, Komariah, Alghamdi,

& Fahlevi, 2023). The introduction of AIT may cause a leadership system to be enabled, damaged, or totally incapacitated. In an autocratic organisational system, leaders are seldom challenged when planning the "mission or standard operating procedures". Leaders are likely to have an implied exemplary group of followers as inactive, reliant, and non-confrontational.

Following the institution of the use of technology, having greater access to data can test already prevailing views of the constituents of followership, as well as constituents of a complete composition of suitable leadership behaviour. Innovative technology can facilitate the existence of relationships within systems where higher levels of teamwork can also "spontaneously" arise. Having access to innovative data and growth of knowledge can change what sometime in the past was considered satisfactory and improper conducts by both followers and leaders, ensuing in a change in how everyone should collaborate in order to achieve both personal and organisational objectives (Wiyono et al., 2023). As a matter of fact, a leadership structure is likely to co-evolve on introducing innovative technology, changing into an entirely new and maybe more adaptive socio-cultural system. Then again, introducing innovative technology has the potential to put an end to a social structure that creates a leadership void that needs to be addressed.

Path-Goal Model

Leadership has been acknowledged as representing an essential practice in general social contexts and specific business organisations. This section summarizes a few theories that back how the function of e-leadership improves the performance of a business organisation through the development and use of technological. This begins with the Path-Goal theory or model. This is a theory that is based on stipulating a leader's style that is

most appropriate for the worker and nature of business environment so as to attain an objective (Bans-Akutey, 2021; House & Mitchell, 1974). "The main objective here is for the leader to improve employees' motivation, empowerment, and satisfaction so they become productive members of the organisation" (Bans-Akutey, 2021).

The Path-Goal theory is founded on Vroom's (1964) expectancy theory where individuals behave in ways grounded on the anticipation that the service being provided will produce a given outcome and based on how attractive that outcome is to the individual. This theory was propagated first by Evans (1970); then later further advanced by House (1971). "The path-goal theory can best be thought of as a process in which leaders select specific behaviours that are best suited to the employees' needs and the working environment so that they may best guide the employees through their path in the attainment of their daily work activities" (Bans-Akutey, 2021; Northouse, 2014).

According to the Path-Goal theory, leaders tend to be effective as a result of their impact on the motivation of employees, capacity to work efficiently and satisfactorily. The theory is referred to as the Path-Goal because the primary motive relates to how the leader influences his or her subordinates' perceptions of their work goals, personal goals and paths to goal attainment. "The theory suggests that a leader's behaviour is motivating or satisfying to the degree that the behaviour increases subordinate goal attainment and clarifies the paths to these goals" (Bans-Akutey, 2021).

As already indicated, the path-goal approach is rooted in a rather general "motivational theory" referred to as expectancy theory. In brief, the "expectancy theory states that an individual's attitudes (e.g., satisfaction with supervision or job satisfaction) or behaviour (e.g., leader behaviour or job effort) can be predicted from: (1) the degree to which the job, or behaviour, is seen as leading to various outcomes (expectancy) and (2)

the evaluation of these outcomes (valences)" (Vroom, 1964). Consequently, employees are content with their assigned role if they perceive it will result in things which are valuable; in addition, they give off their best if they trust that energy leads to things that are highly valued. This theoretical foundation is used to forecast several processes associated with leadership, "like what makes leaders act the way they do, or how leader behaviour influences subordinate motivation".

The consequence of this for leadership exposes that employees are motivated by the behaviour of the leader to the point where such behaviour affects employee expectations. Most scholars have developed particular hypotheses related to the way leaders influence the routes and objectives of employees. "These writers focused on two Issues: (1) how the leader affects subordinates' expectations that effort will lead to effective performance and valued rewards, and (2) how this expectation affects motivation to work hard and perform well" (Bans-Akutey, 2021; Vroom, 1964). Despite the fact that these theories are still in the process of being developed, it is believed that there is a lot of potential because of two reasons. Firstly, it recommends influences of the behaviour of leaders that are yet to be studied though they tend to be productive areas of research. And then secondly, suggesting that some levels of accuracy are dependent on the environmental issues and the special effects of leader behaviour.

The original research work carried out by Evans (1970) states that" leaders will be effective by making rewards available to subordinates and by making these rewards contingent on the subordinate's accomplishment of specific goals". He debated that the main role of leadership is to make clear for employees the acceptable behaviour that guarantees achievement of objectives and appreciated rewards. This role may be denoted as "path clarification". He went on to say that the leader adds up to the rewards by showing

concern about their rank or position, well-being and security. The support of a leader is by itself an incentive at the disposal of the leader, and the prudent usage of this incentive intensifies the enthusiasm of employees. While examining the relationship between the behaviour of leaders and the employees' expectations, he stated that "effort leads to rewards as well as the resulting impact on ratings of the subordinates' performance".

He exposed that when employees observed leadership as providing the required support and being quite considerate about their needs; and when such managers gave requisite instructions and supervision to employees, "there was a positive relationship between leader behaviour and subordinates' performance ratings". Nonetheless, the behaviour of the leader showed a relationship with the behaviour of employees' performance only when the leader's behaviour was also related to the employees' anticipations that their determination would contribute towards the desired rewards. The findings therefore propose that the main effect of leadership on the employees' performance is ensuring a clarification in the route to wanted rewards and making such rewards dependent on actual performance.

General Propositions. According to Bans-Akutey (2021), "The first proposition of path-goal theory is that leader behaviour is acceptable and satisfying to subordinates to the extent that the subordinates see such behaviour as either an immediate source of satisfaction or as a vital tool to future satisfaction. The second proposition of this theory is that the leader's behaviour will be motivational; thus, increase effort, to the extent that (1) such behaviour makes satisfaction of subordinate's needs contingent on effective performance and (2) such behaviour complements the environment of subordinates by

providing the coaching, guidance, support and rewards necessary for effective performance".

The two assumptions above put forward that the leader's major roles are to improve motivation for employees that will cause them to perform while ensuring they are satisfied with their tasks and recognize the leader. Initial studies related to expectancy theory of motivation indicate that the tactical roles of the leader is made up of the following: (1) knowing and causing the arousal employees' desires for results for which leadership has control over, (2) improving individual pay-offs to employees who are able to achieve their objectives, (3) showing the route to those rewards and making it less difficult to navigate through training and direction, (4) assisting employees to be clear with management's expectations, (5) removing all forms of obstacles and (6) Providing more opportunities for individual fulfilment to be dependent on operational output. Generally, put, the inspirational roles of leadership include; improving the amount and types of individual rewards to employees when they achieve their allocated objectives and ensuring the way to these rewards are relatively easier to travel on through clarification of the paths, decreasing all stumbling blocks or obstructions and adding on to the chances for individual gratification while travelling the path.

The General Concept of Leadership

Over the last century, researchers in management and organisational sciences have redefined leadership multiple times and conducted numerous empirical studies, but leadership remains a conceptual enigma. In our high-tech, knowledge-based world, the demands of present-day social conditions and organisational conditions have challenged traditional views of leadership. "Leadership is defined in a variety of ways, but at its most

basic level, it is preoccupied with the capacity to persuade people to achieve a common objective' (Bans-Akutey, 2021). An individual who has several potentials and features which include "leadership styles" and "innovative approaches" considered necessary to attain success is referred to as a leader. Leaders, first of all, are expected to have a strong idea of what exactly is to be done as well as how to do it by making use of a variety of leadership styles made possible by thinking innovatively. The concept of vision means having knowledge of what one's destination is and how to get there. Leadership has very little to with a person's guiding, but rather a supportive determination facilitated by "listening, gathering a variety of opinions, considering effective strategies and effectively generating a clear vision" (Northouse, 2016). Leadership is therefore defined as "the behaviour of an individual when he is directing the activities of a group with a focus on a shared goal."

Nowadays, leadership and associated functions are the utmost emphasized difficulties that businesses and organisations encounter. "Leaders are chosen as those who give best guidance and direction, but they also seem to embody negative qualities. This term can be regarded from multiple angles and concepts. Furthermore, recent research on leadership as a developmental process suggests that age may play a role in how people understand and practice leadership" (Day et al., 2008; Komives et al., 2005; Lord & Hall, 2005). There is therefore a prospect to enlarge current studies on leadership in order to get a superior and extensive comprehension of how organisations express the leadership concept as well as how ethnicity, sex, and time of life can impact such descriptions.

The studies on "leadership perceptions" also show probable sex and ethnicity variations in leadership insights. "Men viewed leadership as more hierarchical than

women, whilst women viewed it as more collaborative". (Fischer et al., 2010; Komives et al., 2010; Wielkiewicz, 2000).

A leader is considered as one or more individuals who chooses, prepares, teaches, and impacts one or more subordinate(s) who are endowed with a variety of talents, capabilities, and expertise and cause the subordinate(s) to focus on organisational vision, mission and objectives and also instigating the subordinates to voluntarily and actively make use of all the energy required in a determined synchronized work to attain the organisational aims and objectives. The leader attains the level of influence by modestly passing on the strategic organisational vision in ways that resounds with the subordinate(s) views and morals in a mode that the subordinate(s) is able to comprehend and construe the impending goals into current action steps. This procedure requires that the leader transfers the strategic vision as opposed to the present state of the business by the usage of "critical thinking skills, insight, intuition; and the use of both persuasive rhetoric and interpersonal communication including both active listening and positive discourse; facilitating and drawing forth the opinions and beliefs of the followers such that the followers move from ambiguity toward clarity of understanding and shared insight; that results in influencing the follower(s) to see and accept the future state of the organisation as a desirable condition worth committing personal and corporate resources towards its achievement" (Bans-Akutey, 2021; Northouse, 2016).

The leader attains this by the use of principles while seeking the greater good of subordinate(s) in the implementation of planned action steps which make the subordinate(s) better off. These include the individual improvement of employees together with their sensitive and bodily health resulting from interactions with the leader; who also attains the exact state by seeking "personal growth, renewal, regeneration, and increased

stamina–mental, physical, emotional, and spiritual–through the leader-follower interactions".

It is dependent on the leader to identify the variety that exists among the subordinate(s) and attain unison of shared standards and guidelines without putting an end to the individuality of the employees. The leader is able to achieve this by use of new flexible forms of teaching, preparation, assistance, and defence that make available for all subordinates what they require inside the scope of organisational possessions in relation to the worth of attaining the business goals as well as the growth of the follower.

While the leader is in the course of leading, he allows subordinates to be original as well as "self-directed within the scope of individual-follower assignments and allows the follower(s) to learn from his/her/their own, as well as others' successes, mistakes, and failures along the process of completing the organisation's objectives". The leader is able to achieve this though credibility building and confidence with the subordinates over interactions and response towards and through the subordinates that forms the subordinates' morals, outlooks, and conducts to hazard, disaster, and achievement. According to Bans-Akutey (2021), "in doing this, the leader builds the followers' sense of self-worth and self-efficacy such that both the leader and followers are willing and ready to take calculated risks in making decisions to meet the organisation's goals/objectives and through repeated process steps of risk-taking and decision-making the leader and followers together change the organisation to best accomplish the organisation's objectives".

The leader takes notice of the effect and significance of all organisational publics and presents the business organisation to the publics in a way that the publics have a pure impression of the organisational purpose and objectives and can clearly identify these purpose and objectives demonstrated in the leader's life. By doing so, the leader assesses

"the fit of the organisation relative to the outside environment and shapes both the organisation and the environment to the extent of the leader's capability to insure the best fit between the organisation and the outside environment".

Throughout each "leader-follower-audience" contact, the leader shows commitment to the standards of "(a) humility, (b) concern for others, (c) controlled discipline, (d) seeking what is right and good for the organisation, (e) showing mercy in beliefs and actions with all people, (f) focusing on the purpose of the organisation and on the well-being of the followers, and (g) creating and sustaining peace in the organisation– not a lack of conflict but a place where peace grows". These standards constitute the "Beatitudes" seen in Matthew 5 which also serve as the foundation of Servant Leadership.

Kent et al. (2001) gave the definition of a leader as the one who orders, uplifts, and unites individuals in search of the realisation of a particular vision. As added by Beck and Yeager (2001), there is the need for leaders to challenge individuals to realise organisational vision. "The idea of followers actively working to achieve the vision goes beyond the concept of inspirational motivation, as described in transformational leadership or the motivational rhetoric of charismatic leaders". There is the need for followers to "see" the progressive steps that link the current state to the expected; with each subordinate having a clear understanding of the required individual function within the determined corresponding group effort.

"Persuasive rhetoric is the process of using language effectively, and persuasive rhetoric is the process of effective persuasion" (Gellis, 2002). Literature review on leadership and persuasive rhetoric shows that rhetoric is more relevant in political communication domain than general communication; it should however not be restricted to just the political arena. "If rhetoric is about the effective use of language and leaders use

language (written, spoken, aesthetic, non-verbal, etc.), then leaders must continually engage in the practice with the study of leadership being done through a rhetorical lens" (Gellis, 2002).

Communication that ensues between the sender and a recipient is referred to as Interpersonal communication. "This type of communication is considered the most effective way of changing one's attitudes, opinions, and behaviour because it is dialogical in nature, in the form of a conversation and has direct feedback" (Effendy, 2007). Interpersonal communication involves exchanging of information between two individuals who can be directly recognized. "Some other terms of interpersonal communication are dyadic communication, dialogue, interviews, conversations, and face-to-face communication" (Muhammad, 2015). Kacmar et al. (2003) asserted to the fact that the worth of interpersonal communication in a research that indicated a connection between greater job performance and extra recurrent communication with the manager. The research also indicated much poorer job performance when communication was less frequent with the supervisor. Lee (2001) also added to the value of interpersonal communication in his research conclusion that subordinates in leader-member give-and-take associations of high quality felt greater impartiality in distributive justice which resulted in subordinates' discernment that there was more cooperative communication between leaders and followers in the teams.

Campbell et al. (2003) stated that "leader-follower rapport is a cause of both positive and negative interpersonal communication". By doing so, "the integrative definition references the positive side of interpersonal communication in that leaders, while not ignoring mass communication, must use one-to-one and one-to-few communication methods to clearly present to the follower what needs to be presented in a manner that helps

the follower understand and contribute to the achievement of the organisation's objectives".

The method of hearing and feeling the subordinate's emotions and intentions as well as the spoken words is referred to as Active Listening. Rutter (2003) performed an "active-listening" study in a British-based boat manufacturing company as a way of altering the leader-follower relations which expectantly may result in better job performance. The findings of the study indicated that performance increased as the quality of leader-follower relationships also increased. Fascinatingly, when most effective contemporary leaders are interrogated the means of motivation subordinates, they mostly mention the significance of asking questions and providing responses (Cohen, 2009; Ferrari, 2012; Groysberg & Slind, 2013; Leeds, 2000; Marquardt, 2005; Maxwell, 2014). However, the regular activity of probing through questions and listening has rather been met with very little interest by business scholars (Brink & Costigan, 2015). It can therefore be concluded that there is "motivational power in asking open questions and listening, a configuration that has come to be formally defined as Respectful Inquiry (Van de Ven, 2007).

McManaman (2005) states that "We have the power to sow a spirit of anxiety, or fear, or anger, or joy into the hearts of listeners by the words we choose to employ. Indeed, our words express an attitude that is within, and they bring a portion of that interior world of ours to those to whom they are addressed. We are, however, affected further by the quality of our words–we are either the first beneficiary or first victim of the words we utter. That is why we ought to be especially careful of the words we speak over ourselves". By using positive conversations leaders are able to create a friendly environment thus

becoming the first recipient of the communication. Deming (1986) stated that one of the responsibilities of leaders is to produce delight in the workplace.

It is clear that human capital (follower function) is heightened by sociability. The sociability environment created by the leader over time and eventually reciprocated by the follower, yields trust and friendliness (Gao et al., 2011). Given this reality, Tung and Chang (2011) assert that such dynamic increases participative decision-making and knowledge sharing, thus drastically reducing stress (Dulebohn et al., 2012; Lorinkova & Perry, 2017). "Effective leaders encourage followers to speak their minds; they don't expect mindless obedience," said in an assessment of the leadership style of Donald Trump on a program on television "The Apprentice". In addition to creativity, leaders have the opportunity to determine whether the beliefs of their followers and their own values are in harmony. This is related to the 'alignment of values' component of this incorporated description. The leader might not like receiving criticism from subordinates, but in a case where followers are encouraged to voice their opinions; organisational flaws can be identified and corrected.

Several studies agree with the complications of leadership theory and therefore suggest that effective leaders simplify the procedure of comprehension (Pye, 2005) and facilitate progress by making room for innovative problem-solving and fresh character designs (Fairhurst, 1993; Plowman et al., 2007; Kapucu & Van Wart, 2008). Followers should be comfortable with varying functions constantly in an unpredictable and ever-transforming environment, which is referred to as "permanent whitewater." If the employee's relations are a part of the environmental variable, then work-family conflicts begin to be recognizable as systems issues.

Stettner (2000) argued that there is the need for leaders to have morals. It is important to note here that leaders need to first possess morals and then highlight morals

so as to improve the level of genuineness. Northouse (2004) took a similar approach. "Transformational leadership is a process that alters and transforms persons," he explained. "Emotions, values, ethics, standards, and long-term goals are all addressed, as well as assessing followers' motivations, meeting their wants, and respecting them as entire human beings." (p. 169). Interestingly Bass (2000) contends that "while transformational leaders seek to improve and influence the followers, the leader's motive is to be of benefit the organisation, in servant leadership theories the leader's motive is to be of benefit the follower (Mathushan & Gamage, 2021). Servant leaders mostly are on the lookout for what will benefit their subordinates even if it is at the expense of the organisation (Patterson, 2002; Winston, 2003) together with the emotional and physical well-being of the subordinate.

Researchers have consistently identified twenty servant-leadership features that are described by Russell and Stone (2002). Owing to their regular importance in scholarly work, their first list consists of functional attributes. Servant-leaders have the following functional attributes and can be witnessed within particular characters at the workplace: "1. Vision 2. Honesty 3. Integrity 4. Trust 5. Service 6. Modelling 7. Pioneering 8. Appreciation of others 9. Empowerment. The remaining characteristics are identified as accompanying attributes of servant leadership: 1. Communication 2. Credibility 3. Competence 4. Stewardship 5. Visibility 6. Influence 7. Listening 8. Encouragement 9. Teaching 10. Delegation"

Much of leadership literature is an attempt to understand the leader as an entity with distinguishing characteristics and occupying an inactive status position in relation to those who are not obviously tied to him. In reality, the leader arises as a result of a group's demands and the nature of the circumstances in which that group is seeking to function.

Following a thorough literature review, it is concluded that leadership is neither a passive stance nor a collection of attributes. It is more of a working connection between team members where the leader gains prestige via vigorous engagement and proof of his ability to do supportive duties.

According to Samson (1998), as referenced by Abbas and Asghar (2010), "organisational leadership is described as management's ability to obtain and protect corporate benefits by recognizing employees' needs and company targets and bringing them together to work in a better environment to achieve common goals".

Leadership Styles

To be able to attain organisational objectives, a leader seeks out the cooperation of subordinates to accomplish social influence. In general, the term "leader" refers to someone who directs or influences others to accomplish specific goals. In today's enterprises, effective leaders who have a strong comprehension of the difficulties that come with fast-changing global environment are crucial. A highly structured task and a good leadership relationship will result in high employee effectiveness (Le et al., 2021).

Leadership effectiveness and responsibility are important in terms of performance, leadership behaviours, and attitudes. Behavioural complexity and dynamics appear to have an impact on perceptions of leadership, as high leadership indices are associated with better performance and organisation reputation. A machinery of "leadership styles" on group invention was investigated at isolated study centres, looking at the link between a variety of leadership styles and group innovation, as well as the moderating influence of information distribution and group communication (Ismail et al., 2021). Leadership behaviour can affect trust and satisfaction of employees to an organisation and

organisational citizenship behaviour further enhances the relationship between leadership style and organisational commitment directly. Transactional leadership is considered as the subordinates' rewards through their efforts and performance (Bans-Akutey & Tiimub, 2021). Transformational leadership theory is deemed to enhance the performance of subordinates by changing the employees' motives and values.

Leadership styles can be grouped into transformational leadership and transactional leadership (Bans-Akutey & Tiimub, 2021). Transformational leadership is characterised by "individual influence, spiritual encouragement and intellectual stimulation". Transformational leaders mostly give priority to individuals, institute vision and objective internally, build an exposed culture, have confidence that employees will attain set objectives and in their employees' potential. Transactional leadership concentrates on employees' "basic and external demand, the relationship between leaders and subordinates is based on the contract". Transactional leaders achieve organisational objectives by assigning job roles and work design. The fundamental objective of transactional leaders is to preserve a steady business organisation.

Transformational leadership styles focus on the growth of subordinates together their necessities. "Managers with a transformational leadership style concentrate on the growth and development of the value system of employees, their inspirational level and moralities with the preamble of their abilities" (Bans-Akutey & Tiimub, 2021). The basic objective of transformational leadership is to "transform" individuals and organisations in a word for word sense - to change them emotionally and mentally. "Enlarge vision, insight and understanding, clarify reasons, make behaviour congruent with values, concepts and brings about changes which are permanent, self-perpetuating and momentum building (Tiimub et al., 2021). Transformational leaders motivate subordinates to see challenges

from an innovative viewpoint, offer help and reassurance, share a vision, and arouse passion and empathy.

Wang et al. (2011) established that "transformational leadership and individual-level follower performance are positively linked". Additionally, the research showed that transformational leadership and group performance at business organisational level are positively related. "Performance is the function of skills, abilities, knowledge and motivation which is directed towards a prescribed behaviour" (Xu & Wang, 2010). In their study, they showed that transformational leadership improves the whole improvement of subordinates. Subordinates of transformational leaders identify with a "self-defining and satisfying relationship" when working as individuals or in a team. "The idealized and behavioural charisma of transformational leaders motivates the followers to identify with the leader" (Jyoti & Bhau, 2015). The custom-made rapport established by transformational leaders cultivates an environment where staffs feel joyful and thus, their entire output is improved. It can therefore be said that "transformational leadership and organisational performance are positively associated" (Jyoti & Bhau, 2015; Sofi & Devanadhen, 2015).

According to Bans-Akutey & Tiimub (2021), "transactional leadership relies more on exchanges between the leader and follower by which followers are compensated for meeting specific goals or performance criteria". The transactional leader initially validates the association between "performance and reward and then exchanges it for an appropriate response that encourages subordinates to improve performance". Transactional leadership in business organisations plays a "trade" role between leaders and followers. Transactional leadership is comprehended to be the give-and-take of payments and objectives between staffs and managers. Transactional leaders stimulate followers by using contingent

payments, remedial engagements and law application. These contingent reinforcements could be either "positive contingent reward or the more negative active or passive forms of management-by-exception" (Bans-Akutey & Tiimub, 2021). These leaders stimulate subordinates through exchanges like completing tasks in exchange for payments, rewards or preferences.

Longe (2014) exposed that transactional leadership tends to have a positive impact on organisational performance. This is because it helps to create and sustain the setting within which the business and human abilities are taken full advantage of as followers are continuously capable of achieving both the physical and intangible payments. This style of leadership typically aids in generating a setting that is ideal for work as well as articulating the convincing vision that improves the entire performance of the organisation (Longe, 2014). Sofi and Devanadhen (2015), on the other hand found that transactional leadership does not have a direct effect on organisational performance. "This leadership style does not encourage creativity and innovation among the employees and hence, the employees do not perform as per the expectations of the organisation".

Another style of leadership considered in this study is the Charismatic leadership style. This is "considered to be one of the most successful leadership styles, where charismatic leaders develop a vision and the followers are asked to follow and execute the vision" (Kumar & Provodnikova, 2021). Charismatic leadership attracts "innovation and creativity and is considered to be motivational for employees". However, the main disadvantage of this leadership style is the fact that the subordinates are completely reliant on the leader and the moment that leader exits the company, they lose direction. This even worsens since the charismatic leader does not train their followers to replace them in their absence. "This leadership style results in happy followers, but few future leaders". It can

therefore have a lasting undesirable influence on the performance of the business (Germano, 2010). Ojukuku et al. (2012) found comparable outcomes in their study. In a quantitative study on the employees of twenty banks which were based in Nigeria through a survey questionnaire, they found that "charismatic leadership bears a negative relationship with organisational performance" (Ojukuku, et al., 2012).

According Choi (2006), charismatic leadership adopts three major mechanisms: "envisioning, empathy, and empowerment". He debated that "a charismatic leader's envisioning behaviour influences the followers' (employees) need for achievement, the leader's empathetic behaviour stimulates the followers' need for affiliation, and the followers' need for power is enhanced by a charismatic leader's empowerment practices". Michael (2010) suggests that charismatic leadership offers productive environment for originality and inspiration, and extremely motivational. Zervas and David (2013) specified that in a charismatic leadership, leadership is attained through example setting, as opposed to giving instructions or deliberate employee improvement, institution of extraordinary principles, and enthusiasm impartation. They argued that "people follow a charismatic leader because of what they believe the leader can do, not by his leadership skill".

This offers credibility to the declaration by Stephen (2013) that subordinates of charismatic leaders see them to possess potentials which not found in other leaders. He further states that "this perception of the charismatic leaders' qualities motivates the followers to higher levels of commitment and task performance than would otherwise be the case. Employees generally feel better about themselves and their circumstances when working with charismatic leadership". This is owing to the fact that charismatic leadership is capable of helping an organisation improve above performance that is not satisfactory and in-house traditional limitations to advance a positive boundary with its working

situation (Stephen, 2013). Zervas and David (2013) also indicated that charismatic leaders mostly develop coerciveness when a follower does not live up to potentials or in the face on challenges.

Alan (2013) explains that "charismatic leaders believe more in themselves than in their teams". He emphasizes that this "attitude" is able to create the danger that a task or project or even an entire organisation might fail if the leader quits. House and Howell (1992) referenced in Stephen (2013) expose that "the behaviour of a charismatic leader can introduce instability and uncertainty into the management and decision-making process, and can increase the risk levels of the organisation". In the perspectives of O' Connor et al. (1995), employees can be exposed to manipulation and dishonesty by charismatic leaders. Conger (1990) and Bryman (1993) referenced in Stephen (2013) also emphasized that "charismatic leaders are unlikely to be able to enforce the positive characteristics of their leadership into the organisation to continue beyond their incumbency". They suggest that it is not common for charismatic leaders to be successfully replaced by other leaders with the same capacity.

If a business organisation wants to keep its critical and most talented personnel, blended charismatic leadership is encouraged. This is because an efficient blended charismatic leader can transform an organisation and motivate staffs to improved performance (Stephen, 2013), as opposed to the custom-made charismatic leader who concentrates on his own development and concern. "The feeling of invincibility by the personalized charismatic leader can easily breed frustration, revolution and apathy among the most talented employees, thereby ruining the employees' interest and organisational goals. This in turn can hamper performance and instigate employees' turnover in the organisation".

The next leadership style to consider is the Democratic leadership style. Tannenbanum and Schmidt (2012) define "democratic leadership as the leadership in which decision-making is decentralized and is shared by all the subordinates". In the democratic leadership style, there is a high potential for weak implementation and reduced decision-making. Nonetheless, democratic leadership is also identified as inspiring subordinates to accomplish better, since their opinions and views are appreciated. A challenge however, is the supposition that everybody has an "equal stake in the decision-making with a shared level of expertise" (Rukmani, et al., 2010). A research by Elenkov (2002) showed that democratic leadership has a positive effect on organisational performance. Democratic leaders allow subordinates to participate in decision-making while sharing them with the team and the management. "In this type of leadership style, praises and criticism are given objectively and a sense of responsibility is also developed among the employees" (Elenkov, 2002).

According to the findings of Bhargavi & Yaseen (2016) who also analysed the impact of democratic leadership on organisational performance, democratic leadership positively impacts the performance of the organisation since it offers prospects for personnel to exhibit and execute their imaginative thoughts and participate in the decision-making process. This style of leadership also tends to prepare successors and aids the organisation in the long term. Choi (2007) also indicated that democratic leadership concentrates on team interactions and participation and hence positively impacts the output of the subordinates. This therefore implies that, democratic leadership can be useful for increasing organisational performance and efficiency. Hence, it can be concluded that democratic leadership affects organisational performance positively (Elenkov, 2002).

Ushie et al., (2010) indicate that with the democratic leadership style, managers delegate their power to followers while keeping final accountability. Zervas & David (2013) and Iheriohanma et al. (2014) agree that democratic leadership styles foster accountability, flexibility, and great confidence that in turn results in better workers' performance. They further explain that a democratic leader increases workers' drive and inspiration while fostering workers' identification with and retention in the organisation. They added that since workers are involved in the "decision-making, delegation and planning in the organisation, there is a tendency for them to be more realistic about organisational needs; which suggests that under democratic leadership, employees feel comfortable with the trust posed in them as it gives them the confidence to build strong cooperation, team spirit, high morale and expunge any element that will bring in espionage".

In spite the advantages connected to a democratic leadership style, in it are embedded some disadvantages. Donna (2011) pointed out that democratic leadership is associated with some downsides that need to be overcome to guarantee effectiveness in an organisation. He exposed five fundamental challenges: "competency, crises, consensus, pseudo-participation, and adherence". He explained that overcoming the challenges will allow organisations to completely benefit from this leadership style in the form of higher employee performance, satisfaction and better retention rates. A workplace with democratic leadership style offers opportunities for "workers' empowerment, creativity, initiative, participation, career growth and development and succession, and also provides for a safe future with the organisation".

The autocratic leadership style is also briefly analysed. Autocratic leaders are definitive and domineering. They expect their followers to perform according to their

dictates. Normally, autocratic leaders reserve the decision-making rights (Obiwuru, et al., 2011). They coerce their subordinates to implement plans and strategies according to their narrow mindset. Iqbal et al., (2015) performed a research to examine the effect of leadership styles on organisational performance. The study showed "autocratic leaders are less creative and only promote one-sided conversation which severely affects the motivation and satisfaction level of the employees". This leadership style is nonetheless, acknowledged as being effective only in the short term. Autocratic leaders restrict workplace interaction and discussion which are necessary for excellent organisational performance. Autocratic leadership also results in organisational conflicts which impact negatively on the general performance of the organisation (Iqbal, et al., 2015). Bhargavi and Yaseen (2016) found that "the autocratic leadership style has a positive impact on organisational performance. This leadership style is more suitable when the projects are to be completed within provided deadlines" (Bhargavi & Yaseen, 2016). Igbaekemen and Odivwri (2015) in a study on the effect of leadership styles on the performance of organisations; they specified that "an autocratic leader is the one who determines the activities, techniques and policies for the employees and expects the employees to follow the same. In addition, such leaders do not have much faith in their followers".

According to Zervas and David (2013) "an autocratic leader accomplishes ends through imparting a clear, compelling vision, sees to it that the vision is built into strategic planning, and that it guides action throughout the organisation". They emphasize that autocratic leaders give clear instructions, observe growth thoroughly, and influence followers regarding management's position. Gordon (2013) pointed to the fact that "organisations with an autocratic style of leadership have instances of employee absenteeism and unusually high turnover". Some problem employees have with autocratic

leadership include knowing that managers do not trust them; that managers mostly use chastisement or threats as forms of motivation; and the fact that subordinates' input is usually not appreciated. She additionally emphasized that "autocratic leadership often has a negative effect on employees' morale and that when talented employees are confronted with an autocratic leader, they become more passive, aggressive, and often tend to leave the organisation". Sometimes, subordinates tend to feel aggrieved and explore ways to implicate their managers resulting in paranoia on the manager's part. Pugh (1971) referenced in Ushie et al., (2010) in agreement with this, explain "that an autocratic leadership style creates two types of behaviour. It makes workers to be either aggressive or apathetic and withdrawn".

In spite of these downsides of autocratic leadership, Swarup (2013) debated that "autocratic leadership is not all bad since sometimes it is the most effective style to apply in situations when: new and untrained employees who may not be acquainted with the tasks to perform or are confronted with the problem of which procedure to follow, effective supervision can be provided only through detailed orders and instructions, in circumstances where employees are averse to any other leadership style, there are high-volume production needs on a daily basis, there is time constraint to make a decision, a managers' power is challenged by an employee, the workplace is ineffectively managed, and when work needs to be coordinated with another department or organisation". He nevertheless, recommended that autocratic leadership need not be used when: "employees become tensed, fearful and resentful, employees expect to have their opinions heard, employees begin depending on their managers to make all their decisions, and there is low employee morale, high turnover and absenteeism and work stoppage".

In the entire examination of the features of the autocratic leadership style, it is shown that an organisation which practices this style of leadership may experience high levels of subordinates' dissatisfaction, which will result in low performance and employees' turnover in the business organisation. This is owing to the fact that in this modern knowledge-based economy, workers desire organisations which give them the chance to be creative and innovative so as to showcase their hidden capacities and skills. When workers are given such opportunities at work, they tend to work in their best level and remain in such organisations.

Bureaucratic leadership style is the next to be considered. Bureaucratic leaders impact their subordinates by making them follow the laid down policies and procedures they have designed. Here, leaders are dedicated to processes and procedures not people; the reason why they seem to be indifferent. This style of leadership is not considered effective because it does not result in the growth and inspiration of the workers and leaders only concentrate on subordinates finishing up tasks in a particular way (Germano, 2010). Ojukuku et al. (2012) also found that "bureaucratic leadership has a negative impact on organisational performance as bureaucratic leaders do not induce the employees of their organisation to work in the expected manner which can lead to improved organisational performance" (Ojukuku, et al., 2012). Sougui et al. (2015) also found similar outcomes which stated that "the bureaucratic leadership style does not impact the employee as well as organisational performance significantly. This method is beneficial only when the tasks are to be done in longer time following a mentioned procedure" (Sougui, et al., 2015).

Michael (2010) debates that in bureaucratic leadership; "policies drive execution, strategy, objectives and outcomes in the organisation and that since bureaucratic leaders are usually committed to procedures and processes instead of people (employees), they

often times appear aloof and are highly averse to change". Swarup (2013) explained that bureaucratic leaders can be effective when: "employees are performing routine tasks over and over again, employees need to understand certain standards or procedures, employees are working with dangerous or delicate equipment that requires a definite set of procedures to operate, safety or security training is being conducted, and employees are performing tasks that require handling cash". He further noted that bureaucratic leaders may be unproductive when: "work habit forms are hard to break, especially if they are no longer useful, employees lose their interest in their jobs and in their fellow workers, and employees are complacent about organisational policies and standards".

The superseding consequence of bureaucratic leadership in organisations is that it disregards the role leaders to inspire and grow employees, because policies are not enough to motivate and develop employees' dedication at the workplace. Policies are in themselves not bad, but short-term and selfishly established and recklessly implemented policies can discourage workers and disturb anticipated results. This has the potential of hindering performance and causing high employees' turnover in the organisation.

The next leadership style to be considered in this section is the Laissez-Faire Leadership Style. Laissez-Faire originates from French which means "leave it be". "It describes leaders who allow their people to work on their own" (Alan, 2013). Laissez-faire was initially used comparative to mercantilism, and "explained in economics and politics as an economic system that functions best when there is no interference by government, and is considered a "natural" economic order that procures the maximum well-being for the individual and extends to the community" (Ronald, 2011). The laissez-faire leadership style is also referred to as the "hands-off style"; where the manager gives little or no instruction and provides workers with all the freedom available (Swarup, 2013). "With this

style of leadership, all authority or power is given to the employees and they must determine goals, make decisions, and resolve problems on their own" (Swarup, 2013).

Johari (2008) refers to laissez-faire leadership as "a light-weight leadership style". He states that with this style, leaders restrict their participation with team members. Kendoa (2013) explains that laissez-faire leadership entails allowing team members make decisions. Muhammad and Usman (2012) expose that the laissez-faire leaders provide more opportunities and the minimum guidance possible to workers. They emphasize that the main idea behind this leadership style is that "the leaders perceive that employees perform extraordinarily when they are accorded the chance to respond to responsibilities and duties in their own ways". Ronald (2011) describes laissez-faire leader as "one who believes in freedom of choice for the employees, leaving them alone so that they can do what they desire". He claimed that the foundation for this style of leadership comes in two forms: the first is a solid confidence that workers know their occupations very well, so they should be left unaided to perform their jobs. The second is that, the leader may be in an election-based political position and therefore would not like to wield authority and control for dread losing a re-election. He further states that a laissez-faire leader gives fundamental but very little information and resources; while emphasizing that there is effectively no input, participation, or communication inside the staff. The comprehension of the work necessities, rules, and processes are usually swapped from worker to worker in laissez-faire leadership workplace. As a result of this, many procedures are uncontrollable in management the staff in the organisation.

Alan (2013) indicated that laissez-faire leaders are effective if they monitor performance and provide regular feedback to group members. They are most effective when individuals in the team are "experienced, highly skilled, trustworthy, motivated and

capable of working on their own" (Alan, 2013; Kendra, 2013; Stogdill, 1974; Swarup, 2013). Laissez-faire leadership style should not be used when: "it makes employees feel unsure at the unavailability of a manager, the manger cannot provide regular feedback to let employees know how well they are doing, managers are unable to appreciate employees for their good work, and the manager does not understand his responsibilities and is hoping that the employees can cover for him" (Swarup, 2013).

The laissez-faire leadership style has been critiqued for the negative effect they have on organisational performance. Alan (2013) disclosed that "the leadership style can be damaging if the team members do not manage their time well or if they do not possess the knowledge, skills, or motivation to do their work effectively". Ronald (2011) debated that laissez-faire leadership style can lead to mayhem, anarchy, and incompetence. Despite these known disadvantages; some helpful part has also been spotted by Alan (2013). He postulates that "the main benefit of laissez-faire leadership style is that it gives team members much autonomy; it can lead to high job satisfaction and also increased productivity in the organisation". This implies that if workers experiencing laissez-faire leadership sense satisfaction with their work, it befits that such leadership style can advance workers' performance and increase their long stay in the organisation.

Finally, the situational leadership style is considered. "The concept of situational leadership was first developed by Paul Hersey and Kenneth Blanchard in 1969" (Richard, 2013). It was initially presented as "life cycle" theory of leadership and then renamed situational leadership theory in 1972 (Mwai, 2011). In 1985, the model was redefined and named the situational leadership model (Qin, 2011). The situational style of leadership is founded on the hypothesis that every occurrence of leadership is unlike any other and therefore entails a distinctive blend of leaders, followers, and setting (Richard, 2013).

Scholars of situational leadership explain that a leader has to appropriate his leadership to the individual necessities of a particular situation. This implies the leader's behaviour needs to be dependent on the circumstances (Peng-Hsian et al., 2008). The theory of situational leadership affirms that "there is no one style of leadership that pertains to all given workplace situation; rather, effective leaders change their leadership styles to fit the situation (Rotimi, 2013). Therefore, there is a change in a leader's style when the situations change or when the environment experiences a change. "It holds that managers must apply different leadership styles depending on the various leadership situations that they face" (Rotimi, 2013). This means the situational leadership style permits leaders to assess the requirements of particular situational problems and use the most suitable leadership style to solve them.

As stated by Peng-Hsian et al. (2008), "the situational leadership model provides that an effective leader must be flexible and quick to adapt their leadership style to the current needs of the followers". They expose that effective leaders need to discern and identify the stages of enthusiasm in his subordinates and subsequently adjust these changing stages. This means the leader needs to recognize when and how to make use of the suitable style to help and inspire workers.

The "situational leadership model" has two constituents that work together to guarantee its efficiency. These are "development level" and the "leadership style". The development level refers to the subordinate's level of competency and dedication (Qin, 2011). "The competence is referred to here as the knowledge and skills a follower brings to a specific goal or task, while dedication is the follower's motivation and confidence on the goal or task" (Mwai, 2011). The leadership style is described in two ways; thus the supportive and directive. "The supportive is perceived as people-oriented behaviour which

entails a bi-directional interaction and concentrates majorly on provision of emotional and social support; while, the directive behaviour is regarded as task oriented behaviour which focuses on goals to be achieved and actions to be taken" (Qin, 2011). An assessment of situational leadership style indicates that it gives support and encouraging setting for workers in the organisation based on their requirements; thus making use of this leadership style can increase morale among workers and produce conducive environment that reduces employee turnover.

Job Satisfaction

Job satisfaction is generally described as a positive or attractive emotional state from the assessment of an individual's job or experience; suggesting that workers form their behaviour in the direction of their jobs by considering their feelings, opinions and behaviours (Akehurst et al. 2009; Locke, 1976; Robbins, 2005). Spector (1985) established that "if the employees find their job fulfilling and rewarding, they tend to be more satisfied with their jobs". Workers' gratification is mostly observed as a significant constituent for the success of an organisation. According to Galup et al. (2008), most organisations that excel have employees who are satisfied while the opposite is also true (Cranny et al., 1992; Friday & Friday, 2003). It is affected by several reasons such as managers' shows of nonverbal proximity (Madlock, 2006; Richmond & McCroskey, 2000), humour (Avtgis & Taber, 2006), communication satisfaction (Hilgerman, 1998), effects of gender (Madlock, 2006), and managers' communication style (Richmond et al., 1980). Lee & Ahmad (2009) concluded that "job satisfaction affects levels of job dissatisfaction, absenteeism, grievance expression, tardiness, low morale, high turnover, quality improvement and participation in decision-making". These consequently influence the total performance of the organisation

(Klein Hesselink, Kooij-de Bode, & Koppenrade, 2008; Page & Vella-Brodrick, 2008; Pitts, 2009; Riketta, 2008; Scroggins, 2008).

Intrinsic and Extrinsic Job Satisfaction. Kalleberg (1977) proposed that job satisfaction consists of two components: intrinsic and extrinsic job satisfaction. Hirschfield (2000) specified that "intrinsic job satisfaction denotes how people feel about the nature of the job tasks themselves whereas extrinsic job satisfaction refers to how people feel about aspects of the work situation that are external to the job tasks or work itself". Leadership influences both the intrinsic and extrinsic job satisfaction of workers which also directly affects the performance of an organisation (Shim et al., 2002).

Summary of Literature Review

Determinants of Organisational Excellence

Summarily, the accomplishment of continuously excellent performance by an organisation is referred to as organisational excellence. An organisation is in this condition when it is able to regularly meet or exceed the expectations of its stakeholders, consumers, and staff. Organisational greatness is a journey rather than a destination. It is an ongoing process of innovation and progress. There are numerous ways to define organisational excellence. However, the majority of definitions have some things in common. Organisations that excel have clients in mind. They constantly work to better understand their clients' demands and fulfil them in a way that goes above and beyond the clients' expectations. They also focus on continuous improvement. Continuous improvement is a concept that organisations that excel at what they do, are committed to doing. Organisations that exhibit organisational excellence have an innovative culture. They reward staff for

their contributions to improvement and promote creativity and taking risks. High-performing workforces contribute significantly in organisations that exhibit organisational excellence. The workforce is motivated, skilled, and engaged. They have the authority to decide what to do and how to do it in order to advance the organisation.

When organisations show excellence, consumers are more satisfied because organisations that achieve organisational excellence are constantly able to meet or surpass their consumers' expectations. Customer satisfaction rises as a result, which may boost revenue and earnings.

A rise in employee morale is a result of organisations achieving organisational excellence. In companies that prioritise innovation and continual development, workers are more engaged, motivated, and productive, resulting in cost savings and increased market share. When organisations achieve excellence, they are able to eliminate waste and inefficiency, as well as cut expenses. By automating their procedures and business activities, organisations also increase their effectiveness, draw in new clients and keep hold of old ones while growing profits and market share.

Effects of Technological Development on Organisational Excellence

The organisational excellence of Ghanaian businesses has been significantly impacted by technology improvements in recent times. The introduction and widespread use of mobile phones have completely transformed Ghana's telecommunications sector. It has made it possible for firms to serve more people and locations that weren't previously served. Several companies' growth and earnings have benefited greatly from this expansion.

The development of internet connectivity has significantly changed how Ghanaian firms operate. Broadband and 4G/5G network expansion has made it possible for quicker and more dependable internet access, allowing telecommunications providers to provide their clients with a variety of data services. The result has improved revenue streams and increased customer satisfaction.

Ghanaian firms adopted digital transformation in order to optimise their operations and boost productivity. Numerous technical solutions, including automated procedures, invoicing systems, and customer relationship management (CRM) systems, have been put in place. The delivery of services has been improved, expenses have been decreased, and organisational performance has generally increased.

The launch of mobile money services and mobile banking has had a significant effect on almost all Ghanaian firms. Ghanaian telecommunication companies have teamed up with financial institutions to offer mobile banking services, allowing customers to effortlessly transact financial business. This has increased revenue sources and produced new growth prospects.

Telecommunications firms have broadened their product lines by offering value-added services. These include e-commerce platforms, streaming content, digital entertainment, and mobile apps. These services take advantage of technological improvements to satisfy clients' changing requirements and preferences, thereby fostering customer satisfaction and loyalty.

Ghanaian telecommunications firms have made considerable investments in network infrastructure development that offers better calling experience and faster data

speeds, thus enabling them to increase their coverage, improve their networks, and introduce new technologies which assure dependable service delivery.

Technological developments have made it possible for telecommunications providers to provide better customer experiences. To offer speedy and effective customer support, businesses have developed self-service solutions like chatbots and online account management. Additionally, to improve customer happiness and loyalty, data analytics and artificial intelligence have been used to personalise services, analyse user behaviour, and give targeted discounts.

Role of E-Leadership in Adapting to Technological Development

E-leadership in firms is essential for fostering technological change and adaptation. They offer strategic direction, encourage innovation, improve consumer experiences, make use of data analytics, cultivate talent, guarantee regulatory compliance, and place a priority on cybersecurity. E-leadership helps firms maintain competitiveness, fulfil customer expectations, and achieve organisational excellence in a field that is changing quickly. This is done by successfully guiding the organisation through technological improvements.

It is the responsibility of e-leaders to develop and carry out a technological strategy that is in line with the aims and objectives of the business. They identify new technologies that are pertinent to a specific sector and evaluate how they might affect the organisation. E-leaders offer strategic direction in deciding which technologies to employ and how to do so in a way that will increase the company's competitiveness and promote innovation.

By spotting possibilities to use technology in numerous areas of the business, e-leadership propels the digital transformation of firms. They take the helm of projects to automate procedures, streamline operations, and modernise infrastructure. E-leaders steer

the company through its transformation process and ensure a seamless switch to digital systems and procedures.

E-leadership encourages an innovative culture within firms. They push the creation of cutting-edge services and solutions and promote the investigation and use of new technology. E-leaders actively look for opportunities to provide value-added services that can create new revenue streams and satisfy changing client demands, such as digital entertainment platforms, IoT solutions, or cloud-based services.

E-leadership is essential for utilising technology to improve the customer experience. They identify and execute digital tools and platforms, like self-service portals, mobile apps, and tailored communication channels, that can enhance consumer interactions. E-leaders make sure that technical innovations are applied to provide clients with smooth, effective, and customised experiences.

E-leadership encourages organisations to adopt a data-driven decision-making strategy. They supervise the deployment of business intelligence and data analytics programmes to glean information from market trends, network performance indicators, and customer data. These insights are used by e-leaders to promote innovation in service offerings, optimise operations, and influence strategic decisions.

E-leaders understand the value of creating a trained workforce capable of adjusting to technology advancements. By offering training and development opportunities to improve digital skills throughout the organisation, they support a culture of lifelong learning. To promote information exchange and innovation across several departments, e-leaders also promote collaboration and cross-functional teamwork.

E-leadership sees to it that telecommunications firms abide by laws governing the use of technology, the protection of personal information, and network security. To protect sensitive data, network infrastructure, and consumer information, they build strong cybersecurity protocols and safeguards. E-leaders keep a close eye on technological advancements in the regulatory environment and modify business practises as necessary.

Challenges of E-Leadership as a Result of Rapid Technological Development

Numerous challenges are encountered when organisations adopt e-leadership owing to the rapid growth of technology. Due to the rapid rate of technology change, it can be difficult for e-leaders to be informed and aware about new developments. However, making informed judgements about the adoption and use of technology needs ongoing learning and observation of market trends.

As technology develops, organisational culture, methods, and systems frequently need to be drastically altered. Employee resistance to change may affect e-leaders who may already be at ease with current working practises. It can be difficult to get people on board with new technology and digital transformation initiatives.

In most cases, the workforce's current skills and capacities lag behind the rapid advancement of technology in the performance of routine activities. E-leadership needs to therefore address the skill shortages and make sure that the workforce has the digital know-how and abilities needed to properly use new technology. Initiatives for reskilling and upskilling become crucial to close these gaps.

E-leadership faces difficulties integrating and maintaining compatibility between current systems and new technological solutions as a result of the introduction of new technologies. The seamless integration of new technologies might be hampered by legacy

systems, infrastructural constraints, and compatibility problems, necessitating careful planning and implementation strategies. It also increases the hazards associated with data privacy and cybersecurity. Cybersecurity measures must be given top priority, strong protocols must be established, and data protection laws must be followed. In the face of rising cyber threats, protecting consumer data, network infrastructure, and sensitive information becomes a serious problem.

Putting new technology into use frequently requires substantial financial investments. The expenses of adopting new technology, such as those related to infrastructure upgrades, training, and continuous maintenance, must be carefully considered by e-leadership. They must make sure that the anticipated return on investment supports the expense and is consistent with the strategic objectives of the organisation.

E-leaders must strike a balance between supporting innovation and upholding stability while embracing technological changes. Uncertainties and hazards can be introduced by rapid technological progress. To minimise disturbance and guarantee the stability and dependability of crucial systems and activities, e-leaders must carefully manage the deployment of new technologies.

As technology develops, e-leadership must grapple with issues of privacy, data usage, algorithmic bias, and the effect of automation on the workforce. These ethical issues must be addressed, ethical standards must be established, and technology must be used ethically and in a way that benefits both the organisation and society.

E-leadership must be flexible, proactive, and nimble in their decision-making and tactics to overcome these difficulties. To successfully negotiate the complexity of rapid technological development and promote digital transformation within organisations, it

requires a strong focus on change management, constant learning, cooperation, and effective communication.

CHAPTER 3: RESEARCH METHOD

Introduction

The methods used to examine how technological advancement affects the organisational productivity of telecommunications companies in Ghana were the main focus of this chapter. The issue is that some customers of the telecommunications industries are so technology savvy that whenever a new technology, gadget, or upgrade is released, they migrate to it. Individual customers and business organisations that use the services of telecommunication companies frequently experience this. Customers' unquenchable desire to use the newest technology places the telecommunications industries under undue stress as they work to achieve excellence and satisfy customers.

Numerous organisations, including those in the telecommunications sector, that have excellence as one of their strategic goals are being forced to do business in a continuously changing state of affairs with events that are not stable but rather constantly changing in the field of technology (Saha et al., 2017). These organisations must be adaptable if they are to thrive despite the rapid change (Mousavi, 2009). Due to these external changes, businesses are required to adapt to the market by constantly putting the needs of their customers first (Chung et al, 2012; Dunlop-Hinkler et al, 2011).

These telecommunications sectors are forced to perpetually adjust and adapt to using the new technologies as soon as they are introduced considering the fact that they do not want to lose their customers to the competition. Ghana's telecommunications

industries are under pressure to keep up with the rapid advancements in technology in order to achieve client satisfaction, operational excellence, and competitive advantage. Other areas, such as annual budgetary allocations and the effective use of other resources, suffer in the quest to achieve excellence from the perspective of the client.

Recent technological developments are generally dispersed in several areas of practice. Ghobakhloo (2018) gives a summary of a variety of technological applications within the concept of "smart factory" in a manufacturing context. These include internet of things (IoT) that explains the independent interaction of physical tangible devices; big data, the method of analysing large volumes of data in order to be able to forecast the effects of tactical, operational, strategic and administrative actions; blockchain as the foundation of self-sustaining, conspicuous, safe and reliable transactions carried out by either equipment or human beings; and cloud computing which is a workable internet based space that helps to manage operations concurrently (Cascio & Montealegre, 2016; Ghobakhloo, 2018; Okeke et al., 2021).

In a study by Beer and Mulder (2020), he exposed that the effect of technological development on employees depend on long term decisions that are most suitable for the environment of the organisation; such that when operational unpredictability is too high, technology is used to improve on the ability of employees to adapt to the changing environment so that the organisation aims at remaining competitive on the market. On the other hand, when the level of unpredictability decreases, organisational procedures are standardised to improve workflow and account for output. This means the effects of technology is largely dependent on how unpredictable and competitive the external environment of the organisation is, thus increasing or decreasing the flexibility and chances for making decisions and self-

organising (Burns & Stalker, 1994). Contingency theories therefore suggest that through technology, unpredictability is reduced and competitiveness increased from the employees' point of view (Burns & Stalker, 1994; Cherns, 1976; Liker et al., 1999; Parker et al., 2017). They do not consider how developments in technology affect other parts of an organisation's resources. It must be emphasized here that employees are very important assets of every organisation; however technological impact on an organisation goes beyond the impact on its employees.

Only a small amount of research has been done related to the "impact of technological advancement and the function of leadership on organisational excellence, with the majority of previous studies focusing on human resources, skills, abilities, initiatives, and actions as crucial assets that facilitate such excellence" (Dove, 2015; Shayan & Ghasemizad, 2015; Stifayi, 2014; Teimouri, Jenab, Moazeni & Bakhtiari, 2017). "Although there is little research on how technology and leadership affect an organisation's operational excellence, the excellence theory includes these two factors as crucial pillars that support organisational excellence" (Lal, 2017). The ability of the telecommunications companies to attain organisational excellence through e-leadership must therefore be examined in light of the effects of technological advancement.

Vitez (2019) explores how technological change affects the activities of a business organisation. According to him, technology has levelled up the playing field for small, medium and large organisations. Through the use of technology, some small enterprises are born global; delivering for themselves competitive advantage on the economic markets. The use of technology helps organisations to reduce operational costs; create safe environments where sensitive confidential information can be securely stored; improve communication with stakeholders; improve employee

productivity by increasing their output; and allow organisations to reach new markets; enable businesses to outsource parts of their management functions to other local or international organisations. In as much as these benefits that come with the use of technology are all positive, the effect of rapid regular changes in versions of technology being used by organisations is not known as very few or no studies have been done in that field. It is therefore not known how the rate of development of technology affects organisational excellence.

Barley (1990, 2015) asserted that the use of technology can alter the role of workers as well as how these roles are carried out by workers. An alteration in the role of workers and how they perform those roles in turn influence people, equipment or robots with whom they interact with regularly. This implies that any change in the role network affects the social network; any change in technology has a way of altering the work system. Therefore, if a manager, in performing a leadership role, makes use of ICT tools, it impacts on the employee-employer network as well as the company-customer network. If the work system of an organisation is altered with any change in technology, it is worth finding out how this affects organisational excellence. Therefore, this study explores how e-leadership plays a mediating role in how technological advancement affects organisational excellence.

The research specifically aims to "identify the components of organisational excellence for telecommunication businesses in Ghana; examine how different technological advancements have affected the organisational excellence of Ghanaian telecommunication companies; examine the role of e-leadership in adapting to technological developments in Ghanaian telecommunication industries; and examine challenges presented by e-leadership in Ghanaian telecommunication".

This chapter presents a discussion on the research approach and design, study population and sample, materials and instrumentation of research tools, operational definition of variables, study procedures and ethical assurances, data collection and analysis. In order to accomplish the research goals and provide answers to the research questions, this study used a mixed methods approach.

Research Philosophy and Approach

The research philosophy or paradigm simple refers to the basic frameworks which guide how a particular research is conducted (Clandinin & Rosiek, 2019). This current study is guided by the pragmatism research philosophy, which combines both elements of positivism and interpretivism. The researcher, in answering the research questions, was open to the use of both quantitative and qualitative methods as required by the study.

Research Approach

The pursuit of knowledge and truth is research's true essence. In a formal sense, it is a methodical investigation into a problem that is pursued by a deliberate strategy that starts with choosing an approach to creating a blue print (design), then acts on it by creating research hypotheses, methods, and tools, choosing or designing tools for data collection, analysing the data, explanation, and presents relevant outcomes to the problem (Bans-Akutey & Tiimub, 2021). Depending on the approach, the scope of the solutions can vary and they can be inferred on the "entire population, a sample, a small population, or a single person".

The research approach thus describes study protocols and plans that encompass anything from fundamental presumptions to particular techniques for data collection, analysis, and interpretation. "Which method should be used to study a subject is the

ultimate decision. The philosophical presumptions that an approach brings to the study, the treatment plans of inquiry (research designs) that the chosen approach necessitates, and the specific data collection, analysis, and interpretation techniques that the design directs, all contribute to the decision-making process".

Many different classifications exist for different types of studies. Some common ways to categorize research are: "Analytical or Descriptive Research; Fundamental or Applied Research; Qualitative or Quantitative Research; and Empirical or Conceptual Research". The quantitative and qualitative approaches seem to be the most common. In the former, quantitative data must be gathered in order to be subjected to a formal, strict quantitative analysis. The three main categories of this research methodology are "inferential, experimental, and simulation approaches". Generating a database from which "to infer population features or associations is the aim of an inferential research approach. In determining the subsequent elements of the study, the researcher makes a selection of research approaches. To explore an area of interest, the initial stage in the research process is to identify the kind of research approach to use" (Clandinin & Rosiek, 2019).

Mayer (2015) emphasized that within the qualitative research technique, the inquirer is part of the subject to be investigated for an extended time, declaring numerous essential components while addressing how to ensure "validity and reliability of the research". He went on to mention that" the researcher needs to be aware of the study topics for the reason that the main objective is to seize every subject`s precise voice". He additionally argued the need to begin writing early, reporting thoroughly, and taking accurate subject notes. Furthermore, the researcher needs to be open and sincere about his or her point of view at all times. As a result, qualitative researchers, in line with Mayer

(2015), strive "to now no longer get it absolutely wrong", and with this in mind, it is assumed that qualitative studies is straightforward or reliable because of the complete facts, dynamic techniques and the entire qualitative research technique (Bans-Akutey & Tiimub, 2021). Some scholars have proposed different ways to ensure the quality of qualitative research. First, the focus is on long-term involvement and observation in the field where researchers collaborate with people daily for long periods of time. Part of this process is building trust with participants, learning about culture, and checking for misunderstandings and misinformation.

Researchers use many different data sources for triangulation (Bans-Akutey & Tiimub, 2021). This method correlates evidence from multiple sources to reveal a topic or perspective. The researcher refines the working hypothesis as the investigation progresses in light of negative data in negative case analysis (Johnson et al., 2020). When searching for negative evidence, the researcher deliberately seeks out evidence that contradicts what she or he believes to be true. Throughout this phase, the researcher revisits the working hypothesis until no dis-confirmation is found. The researcher asks the study subject about the credibility of the findings and interpretations in related checks, and this technique is regarded as "the most crucial technique for establishing credibility". This technique sends data, analysis, interpretations, and conclusions back to survey participants so that they can assess the accuracy and reliability of their accounts (Bans-Akutey & Tiimub, 2021).

To comprehend one's behaviour, thoughts, and reasoning, you must look at the environment, social, cultural, and institutional contexts in which they work. In the context of sociocultural theory, this concept is reiterated. Like many other qualitative researchers, it has been stressed that the importance of thorough explanations in qualitative research is

necessary against the backdrop of social interaction as well as the network. Qualitative research is also described to be a humanist or ideal method, while qualitative research concentrates on comprehending research requirements. It generates non-numeric data. However, the quantitative approach is a more reliable strategy since it is founded on computations and processes which can be objectively formulated and disseminated through some other studies. The views of people, their experiences, their attitudes, their behaviours and personal interactions are examined with the use of the quantitative approach.

Research methods that combine both qualitative and quantitative studies are becoming more popular in a variety of disciplines. Once believed to be philosophically unmatched with empirical research, qualitative research has gained recognition for its capacity to add a fresh perspective to quantitative research that cannot be obtained by focusing solely on measuring variables. Researchers inverted to qualitative research when they discovered it was difficult to quantify human behaviour. Since then, a number of fields have made use of qualitative research. Qualitative methods aid in the deeper analysis of data and the enhancement of clinical trials through user participation.

Most researchers have "concentrated on the narrative approach as a method of research, which is a qualitative or interpretive research kind. Others argue that the narrative approach is a framework of reference in the research process where the story is considered the creator and communicator of reality rather than the method" (Heikkinen, 2012). The narrative approach is a frame of reference, how to reflect the entire survey, how to research, and how to explain the research. Owing to this, the narrative approach (Mueller, 2019) is both a process and a strategy, a confusing and overwhelming concept.

As already mentioned, the narrative approach belongs to qualitative or interpretive research method. Researchers who take a qualitative approach to their field of study examine things in the natural environment with the aim of understanding and interpreting events in relation to the meaning that is attached to them. Through the results of these qualitative studies, the concept of voice becomes important. This voice has been referred to by many educators as the voice of interest. But in the narrative approach, more and more scholars recognize that they are stories., Using the term voice instead of language, is partly an individual story, shaped by the knowledge, experience, values and emotions of the people who tell them. They are also collective stories shaped by the recipient and the "cultural, historical and institutional contexts" in which they occur (Polletta et al., 2011).

Adam (2017) identifies "three research approaches: the quantitative, the qualitative, and the mixed approaches. The qualitative and quantitative approaches can also be sub-grouped into inference approaches, experimental approaches, and simulation approaches to carrying out research". The intention of the inference research approach is to develop a collection of information that can infer the features or connections of the population. This often represents a research study in which the "sample of a population is investigated (interviewed or observed) to examine its features and it is extrapolated that the population shares the same features".

The research environment can be much better controlled using the experimental approach, where some variables are changed to see how they affect others. The simulation method entails creating an artificial environment that can produce pertinent data and information. This enables controlled observation of the system's and its subsystems' dynamic behaviour. In the context of economic and social science applications, the term

"simulation" refers to the manipulation of a numerical model that depicts the architecture of a dynamic process. Run the simulation to see how the process behaves over time using the initial conditions, parameters, and extrinsic variables as your starting point. The simulation method also aids in the creation of models for understanding future circumstances.

The qualitative research methodology involves evaluating attitudes, opinions, and behaviours from a subjective perspective. In these circumstances, research depends on the perception and insight of the researcher. These research methodologies either produce non-quantitative results or results that cannot be subjected to a strict quantitative analysis. Techniques for focus group interviews, projection techniques, and in-depth interviews are frequently employed.

A deductive approach in which a theory or hypothesis explains the direction of variables, goal statements, and narrowly defined research questions is useful for quantitative methods (Pearl, 2014). The goal of quantitative research is for researchers to objectively project their findings to a larger population. Researchers can make generalizations or assumptions based on the data obtained. This is often done through surveys conducted on samples or subsets of the entire population. Results are then analysed to estimate the likelihood that the sample results can be replicated in a wider population. Conclusions are drawn from the collected data and measurements from statistical analysis (Oakes, 2017).

After a quantitative and qualitative approach, the mixed method is called the "third methodological movement" (Teddlie & Tashakkori, 2011). Many explanations of mixing methods put them in the context of a more established tradition, stating that the

"quantitative and qualitative paradigms cannot and should not be mixed, hence the incompatibility theory".

According to Muskat et al. (2012), "a mixed methods study combines the collection and analysis of quantitative and qualitative data into a single investigation. The data are gathered concurrently or sequentially, prioritized, and integrated at one or more points throughout the research procedure". In other words, "the method enables the researcher to respond to inquiries that cannot be addressed solely through qualitative or qualitative methods. By noting trends and generalisations as well as in-depth knowledge of participants' perspectives, mixed methods offer a more complete picture". Multimethod techniques (Ahram, 2013), on the other hand, may contain multiple quantitative or qualitative research but not necessarily both.

According to Bryman (2017), combining both "quantitative and qualitative" research approaches results in a "mixed research method" in the sense of broad and deep understanding and confirmation. This particular approach is considered the most suitable for this research due to its high level of authenticity for a number of reasons, including the belief that fusing the two categories of research approaches can produce comprehensive and trustworthy results. Interpreting and exploring data gathered using both quantitative and qualitative techniques is the focus of mixed methods research. There might be several research stages in the mixed methods approach. In general, qualitative research would be preferable in the first stage of the process to identify and investigate a problem in order to uncover key themes; quantitative research would be preferable in the second stage of the process to measure various connections between the themes. Based on the extensive

literature review that was done for this study, both qualitative and quantitative were carried out concurrently.

Justification for the Use of Mixed Research Approach

Generally, the mixed method research approach can be defined as "a study in which researchers collect and analyse data, integrate results, and draw conclusions in a single study using both qualitative and quantitative approaches or methods" (Muskat et al., 2012). Surveys are not constrained with the usage of conventional data collection approaches, but are guided by the underlying base of the survey activity. Although mixed method research involves qualitative and quantitative aspects, it is often difficult for researchers to clarify how the two factors are related.

There are disagreements and several debates among researchers about what makes up a mixed methods research. Some interpretations consider the mixing technique to be "the gathering and analysis of both quantitative and qualitative data. More modern scholarship in this area wanted to better understand the significance of fully combining the two approaches" (Guetterman et al., 2015).

Dumbili (2014) argue that research on "mixed methods is still evolving, so discussions about what it really is should remain open. Similarly, it is suggested that the definition of mixed method research changes over time as this research approach continues to grow". The majority of authors advise researchers to combine qualitative and quantitative methods in order to make even the inherent shortcomings of each method. There is still interest in using the mixed method approach because of the advantages and disadvantages of a single design.

As mentioned earlier, mixed methods studies tend to provide more accurate results than using qualitative or quantitative data collection and analysis methods alone. For most social problems, direct variables or quantitative or qualitative research approaches cannot be used to directly measure or calculate accurately. For example, the amount and level of human capital within an organisation. This is the sum of the individual qualifications, skills, education, and abilities that a company owns as well as can be used by the company to achieve its strategic goals.

"It is strongly advised that researchers situate their work within a chosen paradigm". A paradigm is described by Kivunja and Kuyini (2017) as "the set of beliefs and practises that guide a field, and it can be used to summarize the viewpoints of researchers". In the world view, terms like "theoretical lens and paradigm are all used in literature interchangeably". A paradigm is a "way of thinking that is characterised by various components, such as epistemology (the way we come to know what we know), ontology (the nature of reality), axiology (values), and methodology (the process of research)".

In other words, paradigm shifts affect our knowledge, reality interpretation, values, and research methodology. The questions that researchers ask and the approaches they use to find answers are influenced by their paradigm. "The positivist (quantitative) paradigm, naturalistic, or constructivist (qualitative) paradigm that the researcher identifies with has a significant impact on their worldview. Philosophers would contend that because these paradigms are distinct from one another, it is impossible to combine them".

Philosophical presumptions that inform mixed method research enable a blend of qualitative and quantitative methods throughout the research process (Harrison & Reilly,

2011). Pragmatism is a school of thought that promotes the idea that outcomes are more significant than methods and that, as a result, ends justify means. It is eclecticism and a "needs-based or accidental approach in choosing research methods and concepts" to give researchers the freedom to decide the best way research questions are to be answered. Practical research approaches are known by the belief that the practicality of research cannot be entirely driven by just theory or data, and the process of combining is recommended and can move between induction and deduction through pre- and post-processes (Teddlie & Tashakkori, 2011) recognized that the area of mixed method approach to research far outweighs the quantitative and qualitative discussions but rather recognizes the need to use both paradigms; thus using the two approaches together in one study to complement each other.

Researchers also considered four new concerns when using the mixed method, as suggested by Ostlund et al. (2011) be it the qualitative or quantitative aspects of the research: Decisions regarding the premiums given, data collection schedules, the combining or merging of collected data, and the conceptual perspectives that guide the overall design. Quantitative data researchers use qualitative tools (interviews) to find answers to relevant topics and questions that were not adequately covered in the questionnaire replies to validate findings (Bryman, 2017).

According to Loos et al. (2016), the mixed-method research technique aids in answering problems which cannot be solved by solely relying on quantitative or qualitative methods. The quantitative method will be used to ask the same questions to all participants in the same order. Because the investigators are in direct contact with the respondents, interviews will occasionally be given priority (qualitative approach). This will allow the

researcher to seek for further responses given by the participant at the time of the interview. The qualitative research approach will also be used to collect data through interviews. Participants will be given the chance to present their personal perceptions, stories and comprehension of the impact of technology development on the effectiveness of the organisation and to convey the role of electronic leadership among selected telecommunications companies in Ghana.

According to Cooper and Schindler (2011), the use of mixed studies in this study is justified since it increases the study's perceptual quality, especially if the qualitative investigation comes after the quantitative study and supports the findings. It will be completed. Researchers have been able to combine two types of data by layering one (quantitative) on top of the other (qualitative) in mixed method research. The researchers will be able to overcome or minimize the limitations, faults, and biases of individual methodologies by integrating them for this study.

Mixed methods research designs serve five functions, according to Teddlie & Tashakkori (2011). "These are triangulation, complementarity, development, commencement, and expansion". Creswell (2011) listed 16 reasons for pursuing studies that use mixed methods in a later analysis of 232 social science mixed methods papers. Many of the rationales found by Creswell (2011) are comparable to those discovered by Teddlie & Tashakkori (2011), although they are more thorough. However, several academics have expressed reservations regarding how the idea of mixed methods research is used and interpreted, particularly in terms of data validation, sampling, and data merging. Despite these reservations, mixed method research remains the most suited method of investigation for this study.

Research Design

There is more to a research plan than a list of tasks. The research plan outlines the steps that must be taken to finish the project and is based on the research design for it. A research design aims to make sure that the data collected enables answers to the original question to be given as clearly as possible. In other words, the study's design decides how the necessary data will be gathered, how it will be analysed, and how it will be applied to answering the research question (Grey, 2014). According to Tetnowski (2015), "there are three different types of research designs: exploratory, descriptive, and explanatory. The classification system is based on the research area's goals because each design has a distinct end goal".

Toshkov (2016) asserts that research design addresses the logical issue rather than the logistical difficulty. "The type of building that is required, its intended use, and the needs of the tenants must all be determined before a builder or architect can design a construction plan or place a material order". The work plan comes into play here. Similar issues with sampling occur in social science. The question of what evidence is required comes before the method of data collection (such as survey, observation, or document analysis), as well as the formulation of questions.

The vast majority of the time, researchers don't think about what data they'll need to gather before developing questionnaires or conducting interviews. Without paying attention to these study design issues from the beginning, the conclusion will typically be unconvincing and fall short of answering the research questions. Study designs serve as guidelines for establishing data collection and analysis procedures in a way that tries to strike a balance between the significance of the research goal and procedural economy.

Since research observation is planned and designed, it differs from other types of observation. People use their daily observations to interpret the world. "The critical role that research design plays in serving as a link between the research question and its execution. Research can be thought of as a five-stage process: Defining the research question, designing the study, collecting data, analysing the data, and writing the research report".

Some researchers compare research designs to architectural blueprints by emphasising a model of research as a progressive series of events (Osanloo & Grant, 2016). This understanding holds that research designs are (a) fixed and specified before implementation and (b) determined by technical considerations. According to this interpretation of research, designs are created using civil engineering principles to guarantee that the construction is sound, just as one wouldn't alter an architectural blueprint once construction has begun. Similar to this, research designs should be created in accordance with scientific principles to guarantee that the results will withstand scrutiny and external criticism.

Roller and Lavrakas (2015) describe research design as "a framework, structure, and technique of investigation devised to achieve answers to research questions while controlling variance." A study's design acts as a blueprint, providing the researcher with a detailed framework or plan for gathering and analysing data. The term "research design" refers to the overall method used to logically and cogently combine the various study components. This is done to make sure that the research problem is effectively addressed. The blueprint or map for the collection, measurement, and analysis of data is the research

design. The research design is also described as a strategy of investigation that was created with the goal of obtaining answers to research questions.

Similar to other types of research, social research requires a plan or structure before data gathering and analysis can begin. A research design is more than just a work plan (a work plan outlines the steps that must be taken to complete the project, but the work plan will result from the research design of the project), as it also guarantees that the evidence collected will allow the researcher to respond to the original question as clearly as possible. Specifying the type of evidence required to address the research question, test a theory, assess a programme, or adequately describe a phenomenon is a necessary step in gathering relevant evidence.

The creation of such a design makes it easier for research to produce the most information while being as efficient as possible. In other words, the goal of research design is to make it possible to gather pertinent data with the least amount of work, expense, and time. But how all of this can be accomplished largely depends on the goal of the research. Four categories of research goals can be made: "(i) exploration; (ii) description; (iii) diagnosis; and (iv) experimentation. If the goal of the research study is exploration, a flexible research design that offers the chance to consider many different aspects of a problem is thought to be appropriate". However, "when the goal is to accurately describe a circumstance or an association between variables, the best design is one that reduces bias and increases the reliability of the data that is gathered and examined".

The testing of hypotheses can be done experimentally or non-experimentally. The researcher must choose one of two types of experimental designs for his own project: "an informal design (such as before-and-after without control, after-only with control, or

before-and-after with control) or a formal design such as completely randomised design, randomised block design, Latin square design, simple and complex factorial designs". When creating a research design that is appropriate for a given research problem," the following factors are typically taken into account: (i) the methods for gathering information; (ii) the researcher's availability and the skills of staff, if any; (iii) an explanation of how the methods chosen for gathering information will be organised and the considerations that went into the selection; (iv) the time available for research; and (v) the cost factor related to research".

There are several research designs, including "grounded theory", "experimentation", "action research", "case studies", "ethnographic studies", and "survey designs" among others. This research used the survey design. Survey designs use questionnaires, interviews, and/or observations to collect data from a sample of people through answering questions (Cooper & Schindler, 2011). According to Wahyuni (2012), "quantitative surveys can provide appropriate information and explanations at the level of meaning while acknowledging that survey research has not always been excellent at tapping the subjective dimension of action".

A survey is an orderly method to collect data from a sample of an entity so as to build a quantitative descriptor of the attributes of the larger population to which the entity belongs. Surveys are conducted to collect data that show the posture, characteristics, beliefs and opinions of people who cannot be observed directly. By adopting the survey design in this study, the researchers will be able to obtain detailed information from various respondents of selected telecommunications companies in Ghana. Similarly, the researcher will be able to gather information from the customers' perspective on the level of

organisational excellence of the services they use. The study also allows researchers to collect data on how e-leadership mediates the effect of rapid technological development on organisational excellence.

In addition, the generalisation potential of surveys within populations has been found to be very good and makes it an ideal choice for this study. As Creswell (2011) points out, survey studies can be used in research to examine the consistency of relationships between different subgroups. It has been proven that survey studies provide a fast, efficient, convenient, and accurate way to access respondents' data. The high expression of survey studies makes it easier for researchers to find statistically significant results than with other study designs. In addition, the anonymity of respondents in the survey will allow them to provide more honest and valid responses. It provides a way to an honest and clear answer than other types of research design. Therefore, the researcher used the survey design for this study.

Population and Sample of the Research Study

Generally, inferential statistics is used in studies which make use of the quantitative approach to research. As a result of this, "research is conducted on a small sample, and the findings are extrapolated to encompass the entire population of the targeted subjects. In research, this group is referred to as a population. Before beginning research activities, the researcher must decide on and precisely define the population. A clearly defined population aids the researcher in choosing a sample that is representative of the entire population and is of the right size". The sample is largely responsible for the success of the study and the validity of the findings.

According to Cochran (1977), "in any field of science, there is a lack of resources to study more than fragments of phenomena that can increase knowledge." From the definition, "fragments" refer to samples and "phenomena" refer to populations. It is very difficult if not impossible to collect data from all respondents related to a particular study, unless from just some of the respondents. The process of choosing a fraction is what is referred to as sampling. Sampling design describes the process of joint selection and estimation. In the early years of the 19th century, researchers sought to examine the whole population. Nevertheless, in the 21st century, researchers only look at a subset or sample of the population, from which they derive population inferences and generalise the results (Creswell, 2011). This section focuses on the demographic and sampling methods used in this study.

Population Size

All the units to which the survey results can be applied are generally referred to as the population. In other words, the population is a collection of all the units that can generalise the results and have variable properties under investigation. In statistics, the word "population" has a slightly different meaning than it does in common usage. It needs not be restricted to just people or animals, such as the Ghanaian or canine populations. A statistician's definition of a population of items, events, actions, or observations can include things like how much lead is in one's urine, visiting the doctor, and having surgery. Consequently, a population is a grouping of things, cases or organisms.

A large group of individuals or objects that are the focus of a scientific investigation is referred to as a research population. The general public benefits from the research that is conducted. However, because populations are so large, it is frequently impractical for

researchers to interview each and every member of the community because it would be too expensive and time-consuming. For this reason, researchers rely on sampling techniques. A clearly defined group of individuals or things that are known to share similar traits constitutes a survey population. All individuals or objects in a population frequently share similar or defining traits (Bans-Akutey & Tiimub, 2021).

Statisticians are expected to correctly characterise the population they work with, but they may not be able to accurately count it. For instance, Ghana's population means the number of people who live within the Ghanaian border as counted by the recently held population census. However, doctors may conduct a study to find out the number of people within the Ghanaian territory who tested positive for Covid-19 during the peak of the pandemic. However, who exactly is the "Ghanaian" in this context; because not all Ghanaians live in Ghana, and people living in the Ghana may have different social and genetic backgrounds. Researchers therefore need specific background information about such situations so that they can draw meaningful conclusions from the samples examined for the population under consideration. Statistics derived from the population, such as mean and standard deviation, are called population parameters.

Population is defined by Krieger (2012) as all individuals who belong to a specific group of individuals, occasions, or physical entity. This implies that "each entity, group, or set that constitutes a population must share at least one trait or quality with the others. As a result, the population of studies represents the study's target population, as determined by its objectives. The target population is typically too big for researchers to study". With their limited resources, researchers might not be able to cover all the topics. It's possible that the geographical area or area is too large to cover in the short time allotted for research. It can be very challenging to survey the entire population because of barriers like cost, time,

and other restrictions. It will be essential, useful and practicable to survey a part of the population called a sample.

The term "population" in research refers to the researcher's specified group of interests; "this is the group to which the results will be extrapolated. The target population and the accessible population are separated into two categories. The accessible population is the portion of the population that the researcher fairly approaches; it can be a subset of the target set. The target population is the entire group of people or subjects to which the researcher seeks to generalise the research findings".

This study's intended audience is Ghana's whole telecommunications sector consisting of both employees and clients. The study's population includes three telecommunication businesses with a combined workforce of about 6,380 people. These telecommunication firms are: MTN (1915 employees), AirtelTigo (465 employees), and Vodafone (4000 employees). As regards the telecommunications customer base, this study will also be taking a view at the experience from the customers/ subscribers of each telecommunication companies thus; MTN with a customer base in excess of forty-one million, AirtelTigo with a customer base in excess of seven million subscribers to its network and Vodafone with a customer base in excess of eight million subscribers according to Benemara (2022). The actual figures are quoted in the table below.

Table 1

Telecommunication Firms in Ghana

Telecommunication Companies	Employee Size	Customer Size
MTN	1,915	41,017,822
AirtelTigo	465	7,691,205
Vodafone	4,000	8,035,817
Total	**6,380**	**56,744,844**

Note. Adapted from *NCA Releases Telecom Industry Trends in Ghana During January 2022* by Benemara, A. (2022)

Sampling Technique

A research population mostly comprise too many people to accurately research, but research is normally "restricted to one or more samples obtained from that population. A well-selected sample contains most of the information about a particular population factor, but the relationship between the sample and the population allows for a valid population" estimate from the sample (Bans-Akutey & Tiimub, 2021). is needed. Therefore, the first basic characteristic of a sample is that it must be known that every individual in the population from which the sample is selected has a non-zero probability of being included in the sample. It is logical to assume that these odds must be equal.

It is important to select samples from the community under study, as researchers cannot study the entire population. Random samples are used because it is not possible to test everyone in the population. It is also done to save time, money and effort during the investigation process. It is to be noted here that testing all participants is an ideal case for reliable, valid and accurate results. However, sampling is used only when it is not possible to test everyone in the population. Population sampling must be done correctly, as errors can lead to misleading data. The results of the study can be generalised or depending on the context.

Probability sampling and non-probability sampling are the two main sampling techniques (Gottlieb, 2018). In order to select samples from the population using the random principle, probability sampling techniques are used. When each member of the sample has an equal chance of being chosen, sampling is said to be random. This is due to

the fact that researchers have some idea of the likelihood of representing an interest population. The likelihood that a sample will select an item that accurately represents the entire population from which it was drawn is increased by random sampling. The idea is to give people a way to gauge their chances of success. It includes probability theory, which serves as the foundation for the probabilities at play.

Random, systematic, stratified, quota, cluster, or multi-stage sampling are all examples of probability samples (Singh & Mashuku 2014; Tashakkori & Teddlie, 2010). In this study, random sampling was employed. In a simple random probability sampling technique, the researcher randomly selects individuals from the population to participate in the study (Creswell, 2011). The researcher chose employees and customers from Ghana's telecommunication companies using a straightforward random sampling technique.

Sample Size

The number of participants or observations included in a study is referred to as the sample size. The precision of the estimates and the study's ability to make inferences or effectively generalise are both influenced by the sample's size. Research is the systematic study of things with the goal of advancing knowledge (Bans-Akutey & Tiimub, 2021; Krieger, 2012). It is a technique for gathering large amounts of data using an established experiment design. These consist of questionnaires, exams, tests, lists, scoring systems, scorecards, inventories, interviews, and more. From a sizable number of cases, they are used to ascertain the phenomenon's nature. Most of the time, the population is too large to manage. Therefore, it's important to use the right sampling method to obtain a proper representation of the population.

It becomes necessary to take a sample from the study population when it is too large to conduct a full census, in order to conduct an effective study. Taking any subset of a population or universe as representative of that subset or universe is sampling, according to quantitative research studies (Bans-Akutey & Tiimub 2021). A representative sample of the population must be used for a quantitative study to be efficient and credible. This would allow for a trustworthy generalisation of the results.

A sample is a group of people or participants chosen for a survey from a larger population. A sample is a collection of comparatively fewer individuals chosen from a population for the purpose of research. The need to choose an appropriate sample size is demonstrated by the importance of an optimal sample for reducing the cost of sampling error.

On the other hand, the appropriateness of sample size in qualitative research depends on the intended qualitative outcome; it is not a matter of judging a sample as being neither small nor large, but rather as being too small or large for the intended purposes of sampling. Ten (10) participants may be deemed insufficient for some homogenous or critical case sampling techniques, too few to capture the full range of a complex phenomenon or to develop a theory, or too many for some narrative analyses. In contrast, sample sizes might be too large to support assertions that thorough data analyses have been performed, particularly the microanalysis required by some narrative and observational study types. A high priority is still given to identifying the particularities or idiosyncrasies presented by each piece of data, even in qualitative projects intended to explicate regularities across pieces of data.

Unlike qualitative analysis, which is case oriented rather than variable oriented and may involve what are thought of as large sample sizes (over 50), quantitative studies

generally aim to maximise understanding of the one in all diversity. Accordingly, any sample size that interferes with the qualitative research's case-oriented focus can be deemed excessive. In this study, both quantitative and qualitative approaches will be used in a way that balances out the shortcomings of each approach (Bans-Akutey, & Tiimub, 2021)

A table is suggested by Meyer (1979) and Fox, Hunn, and Mathers (2009) to aid in choosing the appropriate sampling sizes for large population distributions. The table is displayed in Table 2 below.

Table 2

Population and approximate sample sizes

Population Range	Approximate sample size
Infinity	384
500,000	384
100,000	383
50,000	381
10,000	370
5,000	357
3,000	341
2,000	322
1,000	278

Note. Adapted from *Sampling and Sample Size Calculation*. by Fox, N., Hunn, A., & Mathers, N. (2009)

In order to enable the drawing of meaningful and generalised conclusions, the sample size should be carefully calculated. It is necessary to have specific information on the issues being looked into in the population being studied in order to determine an appropriate sample size. Additionally, investigatory analysis, variation, precision, availability, and cost are required by the subcategories of the sample. A pre-designed timetable or questionnaire should be used to record the data that was gathered from samples

throughout the study. The objectives of the study and the scope of the analysis guide the design of the questionnaire.

One of the most important aspects of sampling is determining the most appropriate sample size. Large sample sizes are more representative but more expensive, while small sample sizes are more convenient but less accurate. The validity and reliability of most study results and conclusions are determined by sample size. According to studies, a sample size of 10% is sufficient to produce accurate and reliable data, especially for the large population. Cochran (1963) also recommends increasing the sample size by 10% to calculate the margin of error. This is equivalent to 10% of the total population.

Considering the fact that this study is a mixed methods research and not a purely quantitative research, the table proposed by Meyer (1979) and Fox et al. (2009) was used to select the total sample size for this study; consisting of both employees and customers of Ghanaian telecommunication companies who were randomly selected. Since the questionnaire was administered online, the researcher aimed for a minimum of 384 respondents.

The sample size could also be determined by the use of the formula for sample size calculation. In determining the sample size for an infinite population or a population that exceeds 500,000 with a confidence level of 95%, the sample size is determined by:

$$n = (Z^2 * \sigma^2) / (E^2)$$

Where:

- n represents the required sample size.

- Z is the Z-score corresponding to the desired confidence level. For a 95% confidence level, the Z-score is approximately 1.96.

- σ is the estimated population standard deviation.

- E is the desired margin of error or maximum allowable error in estimation.

It is crucial to note that determining the population standard deviation σ for an infinite population can be difficult due to the inaccessibility of the entire population. In such instances, researchers frequently estimate using pilot studies, historical data, or past study. After estimating the value of and determining the appropriate margin of error (E), these values can be plugged into the formula to determine the required sample size (n). The estimated population parameters will have a 95% confidence interval based on the sample size. This method, however, is based on a simple random sampling technique in which each element in the population has an equal probability of being chosen. Additional considerations may be required if the researcher makes use of a sampling technique which is different from simple random sampling. Making use of the formula confirms the sample size quoted by Meyer (1979) and Fox et al. (2009) in their table that helps determine sample size.

Reliability and Validity of the Study

Drost (2011) explains reliability as "the extent to which measurements are repeatable when different people perform that measurement on different occasion, under different condition, supposedly with alternative instruments which measure the construct or skill". It can also be described as the consistency or dependability of a construct's measure. According to Bajpai and Bajpai (2014), reliability and validity are two psychometric properties of measurement scales that are crucial for determining the sufficiency and accuracy of scientific research procedures. In terms of time, instruments, and respondent groups, reliability means consistency and reproducibility. A technique is said to be reliable if it consistently yields the same result when used on the same subject.

Whether a measurement of a phenomenon yields a consistent and stable result is a matter of reliability (Mohajan, 2017). The repeatability of an event is another concern of reliability. For instance, if repeat measurements taken using a scale or test under the same conditions yield the same result, it is said to be reliable. Reliability refers to the consistency between a measuring instrument's components, so testing for reliability is crucial. The items of a scale are said to "hang together" and measure the same construct if it has high internal consistency reliability.

The Cronbach Alpha coefficient is the internal consistency measure that is most frequently used. It is thought to be the most suitable reliability indicator when Likert scales are used. Although there are no unbreakable rules for internal consistencies, most people agree that a minimum internal consistency coefficient of 0.70 is necessary. It is recommended that reliability for an exploratory or pilot study be at least 0.60. Four reliability cut-off points have been suggested by Hinton et al. (2004): excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70), and low reliability (below 0.50). (0.50 and below). Although reliability is crucial for research, it is insufficient without validity. In other words, in order for a test to be valid, it must also be reliable.

Validity explains how well the data is representative of the subject under investigation (Ghauri & Gronhaug, 2005). To measure what is intended to be measured is to say something is valid. There are different types of validity, including reliability, face, content, construct, and criterion validity. A subjective assessment of how well a construct has been operationalized is called face validity. Face validity measures how closely a measurement resembles a particular construct in the eyes of non-experts like test-takers and legal professionals. In other words, a test has face validity if the content merely seems

relevant to the test-taker. It assesses the questionnaire's visual appeal in terms of its viability, readability, consistency of style and formatting, and the use of clear language. To put it another way, face validity refers to researchers' subjective evaluations of how the measuring instrument is presented and relevant, specifically whether the items in the instrument appear to be relevant, reasonable, unambiguous, and clear (Oluwatayo, 2012).

The dichotomous scale can be used with the categorical options "Yes" and "No," which denote a favourable and unfavourable item respectively, to examine the face validity. A favourable item is one that can be positively categorized under a given thematic category and is objectively structured. The face validity of the instrument is then assessed using Cohen's Kappa Index (CKI) analysis of the collected data. In fact, many would argue that face validity is not a form of validity in the strictest sense of the word because it is arguably the weakest type of validity.

The degree to which items in an instrument reflect the content universe to which the instrument will be generalised is referred to as content validity (Bans-Akutey & Tiimub, 2021). Application of content validity is strongly advised in the area of information systems (IS) while the new instrument is being developed. In general, content validity involves reviewing a new survey instrument to make sure it contains all the necessary items and omits any that are not relevant to a particular construct domain. Reviewing relevant literature is the first step in the judgemental approach to establishing content validity, after which expert judges or panels will evaluate the results. For this procedure to facilitate validation, researchers must be present with experts. However, it is not always feasible to gather a large number of subject matter experts in one place. When experts are spread out over different regions, this limits the validity of a survey instrument. If a relationship is causal, the researcher essentially wants to look at the specific behaviours or constructs that

cause and are caused by the relationship. Construct validity describes how well a concept, idea, or behaviour that is a construct is operationalized—transformed into a working, operational reality (Bans-Akutey & Tiimub, 2021).

The degree to which a measure is connected to an outcome is known as criterion validity or concrete validity. It gauges how accurately one measurement forecasts the results of another. If a test can accurately predict a subject's performance or behaviour in a different setting, it has this type of validity (past, present, or future). An alternative viewpoint that downplays the conceptual significance or interpretation of test results is criterion validity. Users of tests might only want to use them to distinguish between groups of people or predict future outcomes (Oribhabor & Anyanwu, 2019).

The basis for assessing the validity of research results is the validity question (Creswell, 2011). A study's strength is gauged by its validity. It is applicable to both the study's design and its methodology (Bans-Akutey & Tiimub. 2021). The results are accurately representative of the phenomenon the researcher is trying to measure, according to the validity of the data collection.

Both quantitative and qualitative data were gathered and analysed for this study. Theoretical foundation based on Creswell's (2011) understanding that when the two types of data are combined, they become relevant to capture the trends and specifics of this situation, resulting in a more thorough and complementary analysis.

In mixed methods research, validity and reliability are evaluated using a variety of criteria. As with qualitative research, validity is important in quantitative research, according to Bush (2012). By using an interview guide with the same sample of questions for each interviewee, the researcher ensures that reliability is attained. Similar to that,

respondents would receive questionnaires containing the same questions. This consistency contributes to the accuracy of the data that has been gathered.

Research validity, according to Price et al. (2015), refers to an empirical measure that accurately captures the true significance of the concept under consideration. This suggests that the research evaluation tool that was created to gauge specific aspects of organisational performance, does indeed gauge them. In this study, the researcher first develops the study's goals. These are followed by pertinent research questions that align with the outlined goals of the study. By starting the research project, the researcher makes sure that the tools are functioning as intended. It follows from earlier research that this article will illustrate how cause-and-effect relationships interact. Its primary importance is the fact that the same study will produce the same results if it is performed again by another person using the same methodology and even within any organisation.

Materials/Instrumentation of Research Tools

Survey Data Collection Instrument (Questionnaire)

Research validity, according to Price et al. (2015), refers to an empirical measure that accurately captures the true significance of the concept under consideration. This suggests that the research evaluation tool that was created to gauge specific aspects of organisational performance, does indeed gauge them. In this study, the researcher first develops the study's goals. These are followed by pertinent research questions that align with the outlined goals of the study. By starting the research project, the researcher makes sure that the tools are functioning as intended. It follows from earlier research that this article will illustrate how cause-and-effect relationships interact. A questionnaire consists of both questions and answers. It is frequently used to study people and social interactions.

Questions and answers may be submitted orally or in writing. When oral responses are offered, the interviewer, also known as the enumerator, must record these responses, which constitute the data. Written questions might be online or delivered in person by the interviewer. Both systems have advantages and disadvantages. The following are some of the advantages of a postal questionnaire: The respondent can take their time filling out the surveys without the interviewer bothering them excessively; In matters of confidentiality, he is more likely to cooperate; and finally, it is less costly. However, there are certain drawbacks to using the online questionnaire. Respondents sometimes feel reluctant to fill the questionnaire when the researcher is not physically present. This was one major limitation in this study as it was administered online.

Questionnaires are survey tools that consist of a series of questions and other prompts to gather information from respondents (Hooper et al., 2011). Surveys can be either open, closed, or mixed (mixed closed and open questions). Alhojailan (2012) claims that the researcher must be able to match the study issue to the proper technique. Open-ended surveys are the most useful for exploratory research, according to this scholar. This viewpoint is consistent with that of other researchers, who stated that it is beneficial "to ask questions that open up the issue and allow respondents to develop answers in conjunction with the listeners, in ways that they find relevant." In this survey, only closed questions were used. The researcher developed the questionnaire following the in-depth literature review. The self-developed questionnaire was approved by research supervisor prior to administering to participants.

Closed-Ended Questionnaire. Closed surveys can provide ordinal data (which can be ranked). Closed-end questions are used to examine Type A personalities and assess life events that can cause stress (Desai & Reimers, 2019) and attachments. Closed surveys have

questions that restrict respondents' options from a list of possible or suggested responses. A five-point structured, pre-coded Likert type order / interval scale was used for the majority of the closed-ended questions in the survey's questionnaire. Additionally, some closed-ended questions had the options Agree, Yes, and I Disagree, No. The research objectives were the main focus of the questions posed, and they helped to address the study's research questions.

The pre-coded Likert scale was chosen because it is a crucial and well-liked tool for measuring a large number of factor variables that are very closely related to one another; it is the best at measuring opinions, perceptions, beliefs, and attitude; it can be used as an interval scale to enable data transformation; it enables finer discrimination to be made between the measured factors; and it requires the least amount of participant time.

Although Likert scales have several advantages, researchers were aware of the limitations that this type of scale could actually impose. These limitations are summarized by Nemoto & Beglar (2014) as follows: Likert scales have limited application to statistics, but have been found to allow numerical classification of at least an ordered set of variables. However, there isn't much room to account for variable weights. Despite this restriction, Chyung et al. (2017) suggest that the advantages of using the Likert scale outweigh those of other scaling techniques.

Structure and Length of the Questionnaire. Questionnaires come in two varieties: structured and unstructured. Structured questions have answers that are predetermined, concrete, and specific. The same questions are posed to each respondent in the same order, using the same language. A meticulously designed questionnaire contains detailed descriptions of every question and response, with minimal use of the respondents' own words in the comments.

In survey research, the structured questionnaire is the principal measuring instrument. Quantitative analysis and the usage of structured questionnaires are inextricably linked. The use of structured questionnaires in social research are currently widely used in quality of life research data collecting. The Census questionnaire, which collects demographic information from individuals, is an example of a structured questionnaire. Furthermore, structured questionnaires are frequently employed as a technique for assessing psychological and psychiatric testing. While, the unstructured questionnaire collects qualitative data. The questionnaire in this case has a basic structure that ensures that respondents provided a set of predetermined answers.

How long it takes a respondent to complete a questionnaire is related to its length. A survey instrument's duration could be anything from under a minute to over an hour. Because it affects response rates, survey costs, and data quality, questionnaire length matters. Longer surveys have higher data collection costs and put more of a burden on respondents, which could lead to lower response rates and lower-quality responses. However, practical experience and experimental data show that questionnaire length has little effect on response rate or data quality below a certain threshold and has little effect on survey costs. Less respondents are likely to complete a questionnaire the longer it is. All superfluous questions/items should be omitted; the question must be short, straightforward, and to the point (McLeod, 2018). That is the snippet; use straightforward, unambiguous language; verify consistency; plan how you will code the responses; provide clear instructions; make the questionnaire appealing and professional; conduct pilot testing; and the questions must satisfy the study's research objectives.

Pilot Study. A pilot study can be carried out as an internal pilot study integrated into the main study's research plan or as an external pilot study separate from the main study.

The researcher took into consideration McLeod's (2018) assertions that small-scale practice is necessary to guarantee that participants comprehend the questions when creating the questionnaire for this study. Additionally, people will be able to offer frank and thorough feedback on the questionnaire's layout. In order to "address methodological question(s) and guide the development of the research plan," a feasibility study consists of "small-scale versions of the planned study, trials of planned methodologies, or miniature replicas of the anticipated research." (Doody & Doody, 2015).

As a result of the fact that a pilot study only includes a small number of participants, it is frequently mistaken for having a small sample size and has been used to justify the lack of data in some studies. A pilot study can assess a research methodology, including a technique for gathering data and a model for recruiting participants. It can also be used to assess a planned research procedure's viability while accounting for the cultural and political context (Leon et al., 2011). Despite the value and application of pilot studies, there is a dearth of qualitative pilot research literature (Ismail et al., 2018).

As the editorial note suggests: "pilot studies are not usually eligible for publishing," this is likely one explanation for the under-reporting of pilot studies. A pilot study may not be intended to provide findings by its very nature (Moore et al., 2011). There has also been little discussion of the roles pilots play in qualitative inquiry, which is "a consequence of methodological allegiances and a predisposition to identify pilots with more positivist approaches in social sciences." Researchers have noted that there is a risk of oversimplifying the purposes of pilot studies by assuming that they only apply to the testing of research instruments; this could prevent a researcher from benefiting fully from pilot exercises. In actuality, conducting qualitative pilot studies has its own unique set of difficulties and ambiguities. There couldn't be a separate pilot study for qualitative

research. Their worry is reasonable, and it prompts a discussion of the distinctive features of qualitative research.

Collecting data and analysing them in qualitative research are frequently subject to change once implemented, because most qualitative investigations adopt an emergent design. Furthermore, as qualitative researchers may have discovered, prior episodes of interview or observation aid in the improvement of upcoming ones. Notwithstanding, this does not necessarily indicate that pilot testing are not essential for qualitative research. On the contrary, conducting pilot testing in qualitative research is beneficial for a variety of real-world reasons. Researchers can conduct a pilot study to evaluate the acceptability of an interview, an observation protocol, or both when conducting a qualitative inquiry. When developing their interview and observation techniques, beginning researchers can benefit greatly from conducting a pilot exercise. Pilot projects can also be used to assess one's commitment, readiness, and capacity as a qualitative researcher. In this way, a pilot study can be used to mentor qualitative researchers and build the stature of a qualitative investigation.

Additionally, the systematic use of pilots may make it possible to identify important ethical as well as practical issues, such as the sampling procedure, and may present a chance to resolve some problems that might otherwise impede the main project. Qualitative researchers can concentrate on, broaden, or narrow their proposed research topics through piloting. They can also gain a clear understanding of the topic's focus. The pilot exercise's final crucial role is to highlight particular methodological and epistemological problems so that researchers can confirm, clarify, or revise how to pursue and accomplish their objectives in their proposed studies.

In fact, preparing for qualitative research requires running a pilot study with the latter problem in mind. Researchers have an ethical duty to communicate methodological and practical concerns arising from studies conducted for the advancement and construction of scientific knowledge, according to Kim (2011). Reports on the issues raised and lessons learned from the pilot work could be especially beneficial and serve as an inspiration for other researchers conducting related studies. This article addresses the process and results of conducting a pilot study when a phenomenological qualitative approach is used in this context. Four identified areas of discussion are illustrated here to further this thought and to show the advantages of pilot studies.

On the other hand, the crucial element of the definition of a pilot study does specify a small-scale investigation meant to supplement a more extensive investigation (Leon et al., 2011). It implies that from the start of a proposed project to the end of the investigation, the pilot study is intentional and planned. Conducting a pilot study gives researchers the most important opportunity to alter and improve the primary study. The researcher is aware that the respondents in this study came from various service providers with various customer bases and performance metrics.

It is generally advised that the best subjects should be a representative sample, though the researcher should use those to whom the questionnaire is relevant as this serves as the researcher's guide (Creswell, 2011). In order to check for questionnaire flaws like flawed scales, unclear instructions, and the correct side of the question, the researcher also sought the opinion of an authority on research methodology. A small sample should be used for the pre-examination of a questionnaire in order to quickly identify any emerging or significant topics.

In this study, 9 respondents (three from the selected telecommunications companies in Ghana, representing two employees and one customer respondent) were selected to pre-test the questionnaire. Experimental studies have been performed. As suggested by Zimbardo & Boyd (2015), this increases the possibility of obtaining accurate and reliable measurements, including question wording, response options, question sequencing, and questionnaire design. Additionally, it is stated that prior to testing, a researcher should carefully take into account all comments and feedback from participants. This is due to the fact that they frequently offer valuable advice warns that not all comments will be useful, so the researcher is not required to accept them all. In order to capture the final actual data, the comments and flaws of the pre-tested questionnaires were considered, and where appropriate, the questions were modified.

Interviews and Observation

A conversation between two or more people in which one person (the interviewer) asks a question to elicit a fact or statement from the other (the interviewee) is described as an interview by Charmaz & Belgrave (2012). A popular technique for gathering data is the interview, which involves a conversation between the subject and the researcher. Interviews are frequently used in survey designs, as well as exploratory and descriptive research. An interview can be completely unstructured, where the subject is free to discuss anything they want, or it can be highly structured, where the subject is only allowed to respond to direct questions.

Both the interview's design and the interviewer's skill will affect the calibre of the data that is gathered during an interview. For instance, an interview that is poorly planned

may contain questions that are leading or that the subject does not understand. Poor interviewing techniques may unintentionally or consciously sway the subject's answers. Both scenarios will have a negative impact on the research findings. The same questions can be asked to each respondent in the same way during structured interviews. It is common practise to use a quantitative data analysis tool while using a well-structured set of questions, much like a questionnaire. The questions and likely answers are frequently predetermined in many organised interviews. Pre-coded responses are essential for comparing responses across all respondents. It is customary to record or write down all responses on the questionnaire.

The length of time required for coding and content analysis is substantially decreased when the quantity of open-ended responses is kept to a minimum, and the data is frequently entered straight into a computer for analysis. The term "structured" is widely used, but "standardized" as it appears in Qu et al. (2011) is also used. Structured interviewing is where the interviewer asks the respondent a set of pre- established questions, allowing for a limited number of answer types.

Similar to structured interviews in that the topics or questions to be asked are pre--planned, semi-structured interviews use open-ended questions as opposed to closed ones. Semi-structured interviews are useful when collecting attitudinal data on a large scale or when there isn't enough information on the topic to come up with a list of appropriate pre-codes. Contrarily, because coding frames must be created and a lot of interviews must be subjected to content analysis, semi-structured interviews take a lot longer than structured interviews. The interviewer has two options for recording the responses: on tape or in writing.

With semi-structured interviewing, the open-ended nature of the question identifies the subject under investigation but also gives the interviewer and interviewee the chance to go into greater detail on some subjects. The interviewer may use cues or prompts to encourage the subject to consider the matter further if the interviewee has difficulty responding to a question or provides a brief response. In a semi-structured interview, the interviewer has the choice to press the subject for more information about the opening statement or to follow up on a line of questioning that the subject has raised.

Qualitative interviews, also referred to as unstructured or in-depth interviews, get their name from the lack of a structure in them. The interviewer approaches the interview with the intention of exploring a small number of topics, possibly just one or two, and frames subsequent questions based on the interviewee's prior response. There are only one or two themes presented, but they are thoroughly explored. Additionally, the analysis method is different from in-depth interviewing in that no effort is made to compile and quantify the interviewees' responses. Instead, the objective is to speak with every participant in-depth in order to obtain a "whole picture" of what is happening in a situation. As a result the researcher took into consideration each of the responses got from all participants.

Consequently, the researcher decided to use both a structured interview guide with a list of questions prepared and distributed in advance to the interviewees, as well as observation. The interview schedule was used because it allowed participants time to prepare their responses before the interview began. Additionally, it fosters a collaborative dialogue between the researcher and the interview subjects, enables the researcher to conduct a well-structured interview, and helps the researcher avoid asking the same questions repeatedly. The interview enables the researcher to get comprehensive and in-

depth data/information, explore topics further, and pose more challenging and delicate questions.

The researcher recorded the interviews with the participants' consent. During the interview, notes were also taken. To avoid potential errors and inconsistencies in certain steps of the interview process, this is compared to what has been recorded. The researcher can examine and examine respondents' attitudes, perceptions, and motivations using the face-to-face method. Interviewing faces the same bias issue as other data collection methods. The validity and reliability of some of the answers gathered during the interview are likely to be impacted by this. This can be prevented by making sure the interviewer does not overreact to suitable or unsuitable responses.

Triangulation of methods and results

According to Takhar-Lail (2014), triangulation is a tool for analysis in multimethod research designs. Many research projects use a variety of data collection techniques, which produces a large number of datasets. Datasets might be obtained from participant observation or a quantitative survey, for instance. The findings from each dataset are examined separately, but they must also be contrasted with one another. How they are compared is determined by the methodology used. A method for combining datasets that fall into one of three categories—convergence, complementarity, or divergence or dissonance—is called triangulation. Each of these three varieties of triangulation are thus examined in more detail below.

The term "triangulation," which was borrowed from surveying, describes the process of locating a position on a map by assembling several compass bearings, usually three. There is no predefined number of datasets that must be compared in research, though

most researchers will use two core datasets. Convergence, complementarity, and divergence of the datasets are compared. If the results lead to the same conclusions, the methodologies are said to be complementary. Some researchers will utilize triangulation to validate their findings by comparing the findings of multiple observers of the same phenomena. It is, in other words, a type of cross-checking.

According to Noble & Heale (2019), research triangulation is a technique that enhances the reliability and validity of research. In other words, the objective of research triangulation is to validate a study's findings. In order to validate research findings, triangulation occasionally employs mixed methods. On the other hand, triangulation is not the same as mixed-methods research. Triangulation refers to how the researcher uses all of the study's multiple approaches to extract the necessary information and critically analyse findings, thereby establishing validity and credibility (Social Sciences Research Laboratories, 2018). Mixed methods research combines quantitative and qualitative research approaches to address research questions. In research, the term "validity" refers to how well a method measures something and how well the findings match the values or concepts being investigated. It demonstrates whether or not the findings of a specific study can be believed.

In order for a study's findings to be applicable to a range of geographical jurisdictions, populations, settings, conditions, and times, validity is also crucial. It might be constructed, internal, or external. The presence of internal validity ensures that the researcher is free from any bias that might impede the research findings (Fiona, 2019). Population validity and ecological validity are the two subcategories of external validity. The former ensures that the sample used in the study is representative of the population under study, while the latter guarantees that the results are transferable across time and

space. Construct validity ensures that indicators related to the concept or characteristic under investigation are properly matched to the study's method of measurement (Middleton, 2019).

Researchers use the triangulation technique to ensure the validity and credibility of their studies. According to Social Sciences Research Laboratories (2018), this can be accomplished through six different methods, including methodical triangulation, data triangulation, investigator triangulation, theoretical triangulation, environmental triangulation, and multiple triangulation. Methodical triangulation in a study can be done "across method" or "within method," and it can be done both ways. Triangulation in practise is also known as mixed methods research (Bekhet & Zauszniewski, 2012). Data triangulation in a study makes use of various data sources. Investigator triangulation involves using a large number of researchers, interviewers, investigators, data analysts, or observers in a study (Bans-Akutey & Tiimub, 2021). Combining multiple theories to analyse a phenomenon is known as theoretical triangulation (Hales et al., 2010). Environmental triangulation uses a variety of contexts to validate study findings. Combining two or more types of triangulation is known as multiple triangulation (Social Sciences Research Laboratories, 2018). The researcher will need to invest more time, effort, and money as a result of all these methodological, data, investigator, theoretical, and environmental triangulation. Additionally, the researcher must be aware of how to use these effectively. Although implementing research triangulation requires more resources from the researcher, the advantages outweigh the difficulties. These benefits include facilitating the validation of research results, enhancing the credibility and validity of findings, and fostering a deeper comprehension of the concept under study (Guion et al.,

2011). Researchers can lessen or balance the effects of one research method's limitations with the strengths by employing systematic triangulation.

To obtain trustworthy data and accurate results, this study uses the data triangulation method. The triangle concept is predicated on the idea that any bias present in one set of data sources, tools, or methods will be balanced out by the use of other data sources (Creswell, 2011). By combining these tools, it is possible to compare the advantages of each method's strengths and disadvantages, as well as to confirm the accuracy of the results and build a detailed profile of how technology development has impacted society.

Additionally, the researcher categorised the data collection tools and discovered that they work best when used together. The idea of combining them into one study is heavily based on prior discussions of combining (qualitative and quantitative) methods, linking approaches, and combining study designs in all phases of the study. Triangulation is used not only to compare and contrast results but also to gather a rich set of data that enables the researcher to make well-founded and thorough conclusions about the impact of technological development on organisational performance in Ghanaian telecommunications companies.

Secondary Data Sources

Data are facts or numbers that provide information from which conclusions can be drawn. Information must first be obtained and sorted before it can be presented and interpreted. In the same way that trees serve as the raw material for making paper, data can be thought of as the source from which information is derived. In its broadest sense, the term "data" refers to the fact that some knowledge or information already in existence has

been represented or codified in a way that makes it simpler to use or process. After being collected and analysed, data is transformed into information that can be used to inform decisions in some way (Creswell & Piano Clark, 2011). Data can be gathered from a primary source where the researcher receives the information for the first time; or a secondary source where the researcher obtains information that has already been gathered by another source, such as information that has been published in a scientific journal (Mesly, 2015).

On the other hand, secondary sources refer to data that has already been gathered by someone else. The term "secondary data" refers to information gathered by a third party unaffiliated with the research project, who did so for a different purpose and at a different point in the past (Creswell, 2011). If the researcher makes use of these data, they become secondary data for current users. Books, journal articles, government publications, and internal documents all contain secondary data. The internal and external secondary data are the two main categories of secondary data (Bans-Akutey & Tiimub, 2021).

Data that is already present within the organisation where the research challenge arises is referred to as internal (secondary) data. For instance, salespeople regularly record and report their sales in many organisations (Bans-Akutey, 2019). Examples of secondary data include sales records, budgets, advertising and promotion costs, earlier marketing research studies, and similar reports. The marketing manager can use secondary data to analyse the effects of different marketing mix components, create marketing plans, allocate budget and sales territories, and make general managerial decisions (Verd, 2022).

Information gathered by a source outside of the company is referred to as external (secondary) data (whose major purpose is not the solution of the particular research problem facing the firm). Three categories of external data are distinguished: 1.

Governmental publications and sources 2. Information sourced from businesses and 3. Business enterprises (Creswell & Piano Clark, 2018). Sources for secondary data include both private and public documents. Individuals record personal documents. These contain opinions, ideas, and issues that the person has that are unknown to them but may be important for a study or research.

Life history, diaries, letters, and memoirs are sub-categories of personal documents. Public documents are distinct from personal ones in several respects. Public documents are documents that deal with a variety of topics. These are divided into two categories: published documents and unpublished documents (Bans-Akutey, 2019). Unpublished documents provide access to public concerns that are not available in a published format. Meeting minutes, notations on files, and notes, for example, are fully off-limits to the public. The public has access to published documents for research and study. This category includes survey reports, survey inquiries reports, and other similar materials. Some people believe the data in these documents is quite reliable because the collecting agency understands how difficult it will be to test it, while others believe that if the data are to be published, the collecting or publishing agency does some window dressing, as a result of which the accuracy is sometimes postulated (Bans-Akutey & Tiimub, 2021).

The majority of the information about social problems now available to citizens and scholars comes in the form of reports (Morse & Cheek, 2014). The reports issued by the government are thought to be more reliable. Some people, on the other hand, believe that reports released by certain individuals and organisations are more trustworthy and reputable such as the Journals and Magazines, Newspapers and other sources.

Journals and magazines are essential public sources that contain a wide range of data that might be valuable in social research (Moser & Korstjens, 2018). The majority of

such data is mostly trustworthy. Letters to the editors, which appear in a variety of periodicals and journals, are a valuable source of information. Newspapers publish news, debates on current issues, meeting and conference reports, essays and articles on current subjects, and letters from readers to the editors. All of this is a valuable source of information for various types of social study (Creswell & Piano Clark, 2018). Aside the aforementioned public papers, other essential sources of information include films, television, radio, and public speeches, among others. They provide helpful information — on current concerns. The investigator, on the other hand, should be able to sift out the trustworthy information from the untrustworthy information provided by these sources.

Using proper search phrases, the researcher gathered secondary data from published records such as reports from telecommunication companies in Ghana. Secondary data was employed in this study because it provides significant contextual information needed for technology development and organisational performance in telecommunications organisations. Secondary data were used as an additional source of information to help put meaning to findings of the study. They have also been utilized to provide information about the role of e-leadership in the performance of an organisation.

Operational Definition of Variables

Organisational excellence, technological advancement, and e-leadership are the main study variables, as was already established in chapter 2 of the literature review. Organisational excellence basically refers to the concept of achieving the highest levels of performance, efficiency, and effectiveness within an organisation, in this context, telecommunication companies. It encompasses a range of practices and strategies that are aimed at optimizing an organization's operations, processes, and results. It is often

associated with the pursuit of continuous improvement and the attainment of superior results in various aspects of an organisation's functioning.

Technological development refers to the process of creating, improving, and applying technology for various purposes in an organisation. It involves the advancement of knowledge, tools, techniques, and systems that result in the development and application of new or improved technologies. These improved technologies in turn optimise the organisation's operations, processes and results.

E-Leadership denotes the practice of leading and influencing individuals or groups in a digital or virtual environment. E-leadership has become increasingly important with the rise of remote work, virtual teams, and the digital transformation of organisations. It encompasses a range of leadership skills and strategies tailored to the unique challenges and opportunities presented by online or digital settings.

Consequently, organisational excellence is the dependent variable (DV), technological development is the independent variable (IV), and e-leadership is the mediator (M).

Figure 1

Relationship between Mediator, Independent and Dependent Variables
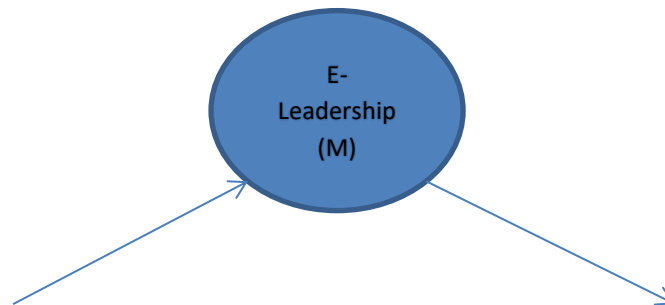
In order to achieve the main objective of the study, this study tries to answer four main research questions. These are what constitutes organisational excellence for telecommunication businesses in Ghana? How have various technological advancements impacted on the organisational excellence of Ghanaian telecommunication companies? What is the role of e-leadership in adapting to technological developments in Ghanaian telecommunication industries? What are the challenges of e-leadership in Ghanaian telecommunication businesses as a result of technological development?

For the first research question, what constitutes organisational excellence in Ghanaian telecommunication companies was measured. Organisational excellence focused on how motivated employees are at the workplace, quality of the network operations, career development, cost of subscription, customer service and customer support. The administered questionnaire treated this as a continuous variable and had respondents selecting either 'Yes' or 'No', based on their perception of the level of the existence of that determinant of organisational excellence

The second research question focused on technological development and organisational excellence. It measured technology's effect on employee performance and work output, communication between customers and employees, job satisfaction, response to demands, task completion rates, career development and training as well as knowledge of improved technology on an ordinal scale. The 5-point Likert scale was used

in measuring this construct where (1) represented 'Strongly Disagree'; (2) 'Disagree'; (3) 'Neither Agree nor Disagree'; (4) 'Agree'; and (5) Strongly Agree.

The third research question focused on the role of e-leadership in adapting to technological development. It measured how e-leadership has influenced in-person meetings, organisational use of social media, the use of virtual teams, usage of virtual workspaces, support for virtual team members and communication among team members. This construct also made use of the 5-point Likert for measurement.

The final research question which focused on the challenges of e-leadership in Ghanaian telecommunication companies also made use of the 5-point Likert scale in measuring variables. Specifically, it measured how e-leadership exposes the lack of technical skills which results in job insecurity, the risk of unsecured network, limitation in employee awareness, quality of assessment, error in time stamp during working hours, continual learning and the issue of trust.

Study Procedures and Ethical Assurances

This study as part of its requirements obtained approval from the Unicaf Research and Ethics committee (UREC) prior to data collection. The study of ethics is a subfield of philosophy that deals with organising, defending, and suggesting theories of right and wrong conduct. Applying the moral standards required for many different types of research, including scientific research, is what ethics in research is all about considering the fact that the researchers may face a variety of challenges. The UREC Policy on Research Ethics served as a guide for this investigation.

The researcher has the right to conduct interviews in order to gather data, but they must not compromise the interviewee's right to privacy. Researchers should refrain from

conducting secretive or covert research, according to the policy. To prevent tainting the research process, the study made sure the following ethical considerations were taken into account. The study took into account the following ethical concerns: encouraging participation, study planning, accountability, private information, and honesty. Encourage involvement: In mixed method research, the ideas of relationship and power between participant and researcher were present.

The willingness to share knowledge is what determines whether someone wants to take part in a research study. Individuals were free to participate in this study without restrictions and with their consent. Coercion of participants, whether direct or indirect, as well as improper provocation on the part of the study, were avoided. The researcher explained the study's objectives to the participants, who were also made aware that participation in the study was optional.

Research planning: To avoid reporting false results, the researcher correctly drafted and carried out the study plan. Additionally, precautions are taken to safeguard the participants' and those' dignity who might be impacted by the study's findings.

Responsibility: UREC mandates that researchers uphold the respect and welfare of their subjects. This entails safeguarding participants during the research process from unwarranted harm, risk, and potential mental or physical discomfort. The participant's privacy and dignity were protected, according to the researcher. A secure setting was used for the interviews.

Personal Information: UREC mandates that researchers uphold the respect and welfare of their subjects. This entails safeguarding participants during the research process from unwarranted harm, risk, and potential mental or physical discomfort. The

participant's privacy and dignity were protected, according to the researcher. A secure setting was used for the interviews.

Honesty: The participants were informed of the study's goals and advantages, and the study was carried out in an honest, fair, and transparent manner. To avoid bias, participants will be chosen at random when filling out the questionnaire. As was mentioned earlier, each participant signed an online Consent and Briefing Letter expressing their written consent to participate in the study. Sample members were also asked to sign a Debriefing and Withdrawal Letter at the same time. Online letters were written with the intention of assuring participants that their participation in the research was entirely voluntary and that they could revoke their consent at any time and for any reason.

Data Collection and Analysis

To answer the research question, test the hypothesis and evaluate the outcomes, data collection is the process of compiling information from all pertinent sources. To answer stated research questions, test hypotheses, and assess results, data collection is the process of gathering and measuring information on variables of interest in a systematic and established manner. All academic disciplines, including the humanities, social sciences, business, and natural and applied sciences, share the data collection component of research. Although techniques differ depending on the discipline, the importance of ensuring accurate and truthful collection does not change (Verd, 2022).

The aim of all data collection is to gather high-quality evidence, which can then be used to conduct rich data analysis and create a solid case for answering a given question (Creswell & Piano Clark, 2011). Accurate data collection is crucial to preserving

the integrity of research, regardless of the field of study or preferred method for defining data (qualitative or quantitative). Errors are less likely to occur when the right data collection tools are chosen (whether they are already available, modified versions of them, or brand-new ones). The two types of data collection techniques are secondary data collection techniques and primary data collection techniques (Verd, 2022).

Information that has already been published in publications like books, newspapers, magazines, journals, and other online resources is referred to as secondary data. These websites offer a wealth of information on your business studies study topic, almost regardless of the topic's nature. As a result, selecting secondary data for the study with the right set of criteria is essential for improving the validity and reliability of the research (Creswell & Piano Clark, 2018). These factors include—but are not limited to—the text's publication date, the author's credentials, the reliability of the source, the calibre of the discussions, the breadth of the analyses, the extent to which the text advances the field of study, and others. The review of related literature delves deeper into secondary data collection. There are many benefits to using secondary data collection techniques, including the ability to save time, effort, and money (Verd, 2022). For this study being carried out, the secondary data was not considered as being current. The data might not have been gathered for long enough to identify trends. One significant restriction is that the research objectives must be developed based on the variables that are present in the data set. On the other hand, some observations might lack certain details. Analysis will be biased if such missing information is not found and corrected for. There could be a variety of biases, including dropout, source selection bias, and sample selection bias.

Primary data, on the other hand, consists of fresh information (Creswell, 2011). The term "primary data" refers to the initial results of your study. Primary data collection

and analysis typically require more time and effort than secondary data analysis. Primary data collection techniques come in two forms: quantitative and qualitative. Numerous formats of mathematical calculations serve as the foundation for quantitative data collection techniques. Closed-ended questionnaires, correlation and regression techniques, mean, mode, and median, among other quantitative data collection and analysis techniques, are descriptions (Verd, 2022).

Quantitative methods can be implemented more quickly and at a lower cost than qualitative approaches (Morse & Cheek, 2014). Additionally, it is easy to compare results because of the high level of standardisation in quantitative procedures. On the other hand, quantitative research methodologies don't rely on figures or calculations. Qualitative research is fundamentally based on words, sounds, feelings, emotions, colours, and other non-quantifiable elements. To ensure a deeper level of depth of understanding, interviews, questionnaires with open-ended questions, focus groups, observation, games or role-playing, case studies, and other qualitative data gathering methods are used (Creswell & Piano Clark, 2018).

Unpublished sources are data that can be found in files, logs, books, registers, etc. and include information such as the birth rate and fatality rates in a particular area, the names of tax payers in a particular area, the ages of schoolchildren in a particular country, and so on. Governmental or non-governmental departments include ministries, schools, churches, and hospitals. It takes a lot of work, time, and money to gather data from different sources (Moser & Korstjens, 2018).

The primary sources of data are, however, published data. Prior to gathering data, researchers must plan and choose the appropriate tools, as well as how to analyse the information once it has been gathered and how to identify the study's population and

sample size (Moser & Korstjens, 2018). By doing this, researchers can avoid having unreliable data collected using the wrong tools for the job, which could have a negative impact on the study's findings and ultimately produce false conclusions. According to Cooper and Schindler (2011), research utensils are instruments for data collection. A measuring device is one that is used to gauge a person's attitude and level of knowledge. Using a variety of data acquisition tools, information was gathered from both primary and secondary sources. With the aid of questionnaires, interviews, and observation, primary data was gathered. From libraries, information centres, archives, websites, databases, journals, and Internet sources, secondary data about already published works or subject matter was gathered.

Qualitative and quantitative data analysis have some differences. Finding common patterns in responses and critically evaluating them are key components of data analysis in qualitative research that uses interviews, focus group discussions, and observations (Creswell, 2011). On the other hand, quantitative data analysis involves a critical evaluation and interpretation of facts and figures as well as an effort to identify the rationale behind the advancement of significant discoveries. Comparisons between the results of primary research and the findings of the literature review are important for both qualitative and quantitative investigations.

Data analysis techniques can include finding common patterns and conflicts in secondary data that is directly related to the research field in the absence of primary data collection. Of all the stages of a qualitative study, data analysis is without a doubt the most difficult and confusing, and it receives the least attention in the literature (Verd 2022). Many of the methods for collecting data that are used in a qualitative investigation may be comfortable and familiar to new nurse researchers. On the other hand, building a

database is insufficient for carrying out a qualitative investigation. To produce findings that turn unstructured data into novel knowledge, a qualitative researcher must engage in active and demanding analytic processes throughout the research process. Comprehending these procedures is thus useful not only for conducting qualitative research, but also for reading, comprehending, and interpreting it (Moser & Korstjens, 2018).

In order to use criteria and actions to explain what occurred, data analysis requires defining and approving them. To turn gathered data into knowledge that makes sense or to provide answers to research questions, data analysis is done (Creswell, 2011). Data analysis findings have sparked the creation of theories and models that advance existing knowledge or establish new theories. The questionnaires and interviews were examined using a mixed analysis technique since the researcher used a mixed research method to gather the data. The use of both qualitative and quantitative analysis methods, either concurrently or sequentially, is one of the fundamental tenets of mixed analytical techniques, according to Morse and Cheek (2014). The next step is the data collection. Gather data from which interpretations are performed in parallel, integrated or repeated.

Survey Data Analysis

The proper execution of a survey and the subsequent performance of a rigorous analysis are challenging tasks that call for in-depth expertise in survey design, sample selection, survey fielding, and, ultimately, the proper and methodical analysis of the collected data. In other places (Fricker et al., 2012), we have concentrated on specific analytical methods. The type of study that produced the data affects the techniques for inferring causal relationships from quantitative data. By using one or more types of

experimental controls, the researcher in experimental studies can reduce the impact of significant external causative factors on the dependent variable. The remaining unintentional causative factors can be eliminated if subjects are randomly assigned to the experimental "treatments.".

The effects of the independent variables under study and the effects of random assignment and other random phenomena, such as measurement error, should be the only two potential sources of variation for the dependent variable, according to theory. But in survey research, neither random assignment nor experimental control are readily available (or "observational research," as statisticians term it). The objective of survey analysis is to separate, after data collection, the effects of the independent variables from the impacts of the additional causal factors linked to them.

Survey analysis frequently works with entire populations as opposed to statistical analysis of sample surveys; even when the data for survey analysis comes from a probability sample, the usual statistical challenges of parameter estimation and hypothesis testing are secondary considerations. Survey analysis also differs from demography in terms of the source of its data and, consequently, the operations it performs on it, despite having roots in the earliest work in demography (Creswell, 2011). In contrast to survey analysts, who typically create their own tables from individual questionnaires or interviews, demographic analysis previously mainly relied on modifying already published census and vital data tables. The census data analyst can create any tables he wants using these samples. More national censuses will provide their data in this format as time goes on, and demographic analysis will more closely resemble survey analysis (Creswell & Piano Clarke 2018; Verd, 2022).

The causal emphasis of survey analysis sets it apart from more purely descriptive approaches. It differs from a "social survey," which, at least in the United Kingdom, has historically been a statistical representation of urban life, particularly among the poor (Creswell, 2011). While survey analysis uses tabular presentation, just like census reports, market research, and opinion polls, it differs from these fields in that it aims to connect its data to a body of theory (Creswell & Piano Clark, 2011). The theory might be as simple as the notion that numerous communications have swayed public opinion. It might also include a clear set of variables, as in evaluations of why people choose to do something over another. Any large-scale survey's analysis is likely to include the following steps: (1) survey weight calculation; (2) data reduction; (3) univariate and multivariate analysis and modelling; and (4) result presentation (Creswell & Piano Clark, 2018).

Weights must be used for almost all surveys with complex sampling designs in order to correctly infer sample size from population size (Creswell, 2018). In essence, survey weights account for the possibility that each respondent's probability of being sampled could vary in complex sampling. The sheer volume of survey questions is frequently too much to analyse. As a result, it may be desirable to combine the findings from various questions into a single measure, either because one wants to or is required to do so in order to reduce the dimensionality of the raw survey data into a dataset that is more manageable from an analytical standpoint or because the population characteristics of interest are best measured using various questions. The survey objective determines whether univariate techniques, multivariate techniques, or a combination of the two should be used to analyse a particular survey (Creswell & Piano Clark, 2018). Whatever the method, it's crucial that it's done correctly because, with complex sampling, both

typically call for the use of survey weights and specialised software to determine the proper standard errors.

For this study Microsoft Excel and IBM SPSS Statistics 24 were the software that was used to analyse the collected quantitative data. Survey analysis is as much an art as it is a science, and it is in this final stage where the art shines. For, as exciting as multivariate analysis may be for the analyst, an inability to communicate thoughtful insights to the decision maker in a logical and concise manner has the potential to negate all the hard work in conducting the survey. Key to this is communicating to the decision maker how the survey data address the original objective. In the formation of formal theories, whether they involve explicit mathematical relations or are just implicitly mathematical, as in computer simulation, survey analysis plays a role (Verd, 2022). However, survey analysis as stated above normally focuses on discovering variables that are significant enough to be incorporated in formal theories.

Three main stages of survey data analysis were used in this study. The data must be prepared as a first step. It involves classifying, stacking, and organising data. The data is made "understandable" for the researcher to read, correct, comment on, code, and analyse by being prepared (Moser & Korstjens, 2018). The analysis itself comes as the second step. The purified (prepared) data was encoded by the researcher before being used for analysis. Coding involves two main steps. The first step is to extract the codes and terms that the respondents themselves used from the data. The coding gives a platform for recognising similar trends in the questionnaire responses. The completed questionnaires will then be examined for errors in the responses and to determine which questions remain unanswered (Verd, 2022). Advanced analytics is used for the occurrence of patterns, trends, and themes.

When analysing the data, the researcher searches for instances that either confirm or refute the study's original theoretical framework (Creswell, 2011). There were tables, pie charts, bar graphs, frequency distributions, and percentages used to present descriptive statistics. To make the analysis easier to understand, tables, charts, and graphs were used. The percentage of respondents who selected various answers was also calculated using the percent frequency distribution. The percentages reflect the varied responses to the questions posed by the respondents. The analysis of the data is the last step. The emphasis is on proving what has been discovered through research, and the data has been given meaning in this instance. Recommendations were made after a summary of the information from the data analysis and interpretation.

Qualitative Data Analysis

Recorded online interview was analysed using content analysis. This kind of survey, according to Moser & Korstjens (2018), divides the gathered data into topics and subtopics so that they can be compared. The main benefit of content analysis is that it can reduce and simplify the information gathered while delivering quantifiable outcomes. Additionally, content analysis enables researchers to organise the qualitative data they have gathered in ways that support their research objectives. The risk of misinterpreting the information gathered by researchers, on the other hand, makes human error a significant factor in content analysis, leading to conclusions that are unreliable and inaccurate. The researcher minimised the level of human error by accurately transcribing the recorded data.

Interview recording is usually the first step in analysing qualitative interview data. To get these transcripts, the researcher needs to take very good notes during the interview,

or even better, record and post the session. Copying an interview means playing a recording, inserting all the spoken words, and recording who said what. In general, the best option is to accurately reflect what was said in the transcription or recorded interview (Creswell, 2011). It is also advisable to include non-verbal answers in the interview's writing record whenever possible (if the interview is conducted face-to-face or other forms of visual contact are maintained, such as via Skype). All notes about when, when, and how the respondent's gestures, intonation, and spoken language were emphasized should be recorded (Creswell & Piano Clark, 2018).

In order to arrive at specific deductions, lessons, or conclusions, analysis generally aims to reduce enormous amounts of data into more manageable, understandable chunks of information. Data from qualitative interviews are frequently analysed inductively (Creswell, 2011). Inductive and deductive reasoning are the two primary methods used in qualitative analysis. There are also two techniques for inductive qualitative analysis. Narrative analysis and subject content analysis are two research methods that call for unstructured methodologies. The goal of subject content analysis is to increase overall awareness of the data and remove bias. In order to find recurring themes, researchers naturally explore resources rather than approaching the data from a pre-configured structure. Their objective is to find universally applicable data collection patterns. Contrarily, narrative analysis entails deciphering a range of interviewee stories. To draw attention to important aspects of the audience's sympathetic story, qualitative data analysis is used. Observe the significant themes that are present in other sections of the study as well (Verd, 2022).

The researcher used interviews to gather data, and while doing so, took notes and recorded the interviews. Concatenating models and developing explanations were the

primary techniques for qualitative data analysis used in this study. Sorting and organising the information gathered during the interviews serves as the first step in this study's qualitative analysis (Creswell & Piano Clark, 2018). Transcribing, analysing, and categorizing the data from recorded interviews was done. The sections deemed crucial for the study were transcribed from the recorded interviews. In interviews, written notes are complemented by notes. A method known as "open coding" has been used to dissect, classify, and compare issues and concepts to find similarities and differences.

The researcher then checked for any omissions or additions by comparing the recorded data with the researcher's notes made during the interview. Thematic content analysis was then used to integrate the data. When the researcher read all the records to find the themes, content analysis is used. Once the researcher is certain that the topics and categories used to summarise and describe the counter-intuitive findings accurately reflect data, the content analysis process was used to review the data and revise the data categorization.

Models were examined to identify common properties, which have gone a long way in understanding the data. Analysis of transcribed data entered into the database after recording, transcription, and encoding as suggested by some researchers. Next is data cleaning. This allowed the researcher to identify some common and visible errors and correct them as needed.

Chapter Summary

The various research methodologies that were employed to carry out the investigation and meet the study's objectives were discussed in this chapter. The study's methodology and design, as well as the methods used for population and sample

selection, data processing, and data collection tools, were all examined. The study's large and geographically dispersed participant population necessitated the use of a survey research methodology by the researcher.

The concurrent mixed methods triangulation approach was employed for this study as this makes up for the deficiencies in the use of just the quantitative approach or the qualitative approach. It also tends to provide more accurate results. The survey design was also selected for this study owing to the fact that results from surveys can be generalised. The survey design has also proven to be fast, efficient, convenient and a more accurate way of accessing respondents' data.

The study's intended population comprised telecommunication companies in Ghana, made up of employees and customers of the three main telecommunication companies in Ghana. A simple random sampling technique was used to select 443 respondents for quantitative data collection; while purposive sampling technique was used to select 12 participants for the collection of qualitative data. Instrument for quantitative data collection was a structured questionnaire with closed ended questions grouped according to research objectives. A structured interview guide was used for both interviews and observations. Cronbach Alpha coefficient was used to test for internal consistency of the questionnaire and the various constructs. Also the data collection tools were pretested to ensure that ambiguity had been removed and errors eliminated. For the trustworthiness of qualitative data, the researcher tried to achieve credibility by reporting accurately all data that was collected. To ensure transferability, data was collected from multiple sources. For dependability, the researcher ensured that data collection technique was rigorous. The

researcher also eliminated all form of bias by basing all discussions on the data in order to attain confirmability.

Secondary data was gathered from published records in the form of reports from telecommunication companies in Ghana. This helped to provide contextual information in the area of technological development and organisational performance of telecommunication organisations. For this study, organisational excellence was the dependent variable, technological development as the independent variable and e-leadership was the mediator.

Prior to administering the questionnaire, approval was obtained from UREC. Participants were encouraged to take part in the study but were not forced to participate. They were assured of anonymity and data confidentiality. All participants were informed about the study's goals after which online consent was sought. Microsoft Excel and IBM SPSS Statistics 24 were the software used to analyse the quantitative data through both descriptive and inferential statistical techniques. Simple linear regression was used to analyse the direct effects – thus the effect of technological development on e-leadership; the effect of e-leadership on organisational excellence; and the direct effect of technological development on organisational excellence. Multiple linear regression was used to examine the mediation role of e-leadership with respect to the effect of technological development on organisational excellence.

CHAPTER 4: FINDINGS

Introduction

The main purpose of this study was to examine the effect of technological development on organisational excellence of Ghanaian Telecommunication Companies as mediated by e-leadership. This chapter presents the results obtained from both quantitative and qualitative data collected, as well as evaluation of the results obtained. It starts by discussing the trustworthiness, reliability and validity of data.

Trustworthiness of data

The usefulness or otherwise of every study depends on how trustworthy the collected data is. It is very important to indicate how the data was put together as well as elaborate on the data credibility, transferability, dependability and confirmability (Salmon et al., 2022). In this study, the researcher ensured that validity and reliability scores were within acceptable levels. The initial areas of consideration were content validity and face validity. Content validity ensures that all the distinct characteristics, factors, behaviours and skills are adequately measured. The research instrument was approved by thesis supervisor and Unicaf Research Ethics Committee (UREC) before administering to respondents. Both quantitative and qualitative instruments - thus questionnaire and interview guide were approved for use. Based on feedback received

from reviewing by the experts, the instruments were modified to factor in all recommended changes. Malfunctioning and non-effective questions were all eliminated.

Internal validity involves how related the findings of the study are with reality as well as how best the researcher measures the main constructs being studied (Patino & Ferreira, 2018). To attain internal validity, the researcher made use of triangulation, long term observation and researcher's bias. The researcher collected data through a variety of sources with the use of a questionnaire, an interview guide and long term observation of research participants in order to enhance the study's validity. Observation of participants continued until saturation was attained. While at this, the researcher ensured that personal beliefs, views and opinions were not imposed on the study's results. The researcher tried to be as transparent and non-judgemental as possible. Results were analysed and reported with all honesty.

The utility criterion denotes the extent to which the results of the study are useful for managers, administrators, directors and other stakeholders, stressing on the applicability of the research findings. If the study's findings provide enough information that helps decision makers to take informed decisions, then the utility criterion has been attained (Salmon et al., 2022). In view of this, the researcher ensured that all stakeholders in the Ghanaian telecommunication industry received enough and appropriate evaluation to facilitate future industry decision making and policy setting.

The credibility, reliability, confirmability, and transferability of the research findings are all important aspects of trustworthiness in qualitative research. Increasing the credibility of qualitative data improves its overall quality and validity. In order to improve on the credibility of the study results, the researcher established rapport and trust with

participants in so as to encourage open and honest responses. Multiple data sources and data collection methods (triangulation) were used to corroborate finding. The researcher engaged in prolonged engagement and persistent observation to gain a deep understanding of the research context and conducted member checking, where participants review and verify the accuracy and relevance of the findings.

To improve dependability, the researcher made sure to promote transparency and replicability, clearly describe research methodologies, data collection methods, and analysis processes. An audit trail of decisions, revisions, and interpretations made during the research process were kept. Peer debriefing end external review were conducted to check the research procedure and conclusions.

To improve confirmability, all biases connected with the researcher were recognised and documented, like the researcher identifying as a customer of one of the telecommunication companies in Ghana. An explicit and transparent research process was also employed. Varied views during data analysis and interpretation were used to ensure that multiple points of view were taken into account.

To improve transferability, full descriptions of the research environment, participants, and processes were given so that readers can assess their own applicability. The characteristics and demographics of the participants. Detailed descriptions of the facts, including quotes and narratives were made available, so that readers can assess the transferability. Furthermore, adopting rigorous data collection and analysis procedures, guaranteeing transparency in reporting, and engaging in peer review and feedback processes all contributed to the qualitative data's reliability.

Validity and Reliability

Reliability in quantitative studies is quite straight forward owing to the fact that data is collected in numeric form and analysed statistically. This is however not the case with qualitative studies. Reliability describes dependability, consistency and replicability of the study (O'Connor & Joffe, 2020). The researcher ensured that the processes used to collect both qualitative and quantitative data made the findings dependable and consistent. Most researchers make use of Cronbach Alpha to evaluate internal consistency or how closely related the items on the questionnaire are (Amirrudin et al., 2021). Cronbach Alpha was used to check if the items on the scale were consistent and can be utilised as a trustworthy measure of the underlying concept. It is worth noting that for this study, owing to the fact that some questions on the questionnaire were negatively worded, during coding, such questions were reverse coded to ensure they were all aligned in the same direction. From the study, Cronbach Alpha value was 0.756 for the 43 items that measured all the four constructs. According to the rule of thumb, Cronbach Alpha value above 0.6 is considered an acceptable reliability index. For the respective individual constructs, Cronbach Alpha values recorded were 0.77 for 20 items, 0.84 for 9 items, 0.80 for 6 items and 0.77 for 8 items. All values obtained for each of the constructs were above the acceptable reliability index.

According to Shrestha (2021), Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy measures how suitable a particular data is for factor analysis. It helps to examine if the sample size for a particular study is adequate. The KMO value ranges from 0 to 1. When KMO values fall between 0.8 and 1, they are considered as adequate. For this study, an index of 0.825 was recorded. As stated earlier, this is considered as good and acceptable for the KMO Measure of Sampling Adequacy. Bartlett's test of Sphericity,

which helps to examine whether the correlation matrix is an identity matrix, showed .000; which is less than 0.05 and therefore significant. This implies that the correlation matrix is not an identity matrix. The two requirements have therefore been satisfactorily met.

Results of Quantitative Survey

Following two months of data collection, thus from August 10 to October 6, 2022, results of data collected have been presented in the sections which follow. In all, a total of 443 respondents participated in the survey. Out of these 443 participants, 297 customers of the various telecommunication companies participated as against 146 employees. Customers represented 67% of participants while employees represented 33% of the participants in the study. 12 participants filled the questionnaire as being both employees and customers representing 2.7% of total respondents. The questionnaire design was such that all 443 participants responded yes to informed consent statement before having access to the form thus constituting 100% of respondents. For participants who did not complete the questionnaire, the structure of the form made it impossible to submit. This ensured that incomplete forms were not submitted.

Demographic Data

Of the 146 employees who participated in the study, 88 employees representing 60.27% were females while 58 employees representing 39.73% were males. From the customer side, out of the 297 participants, 164 customers representing 55.22% were female, 102 customers representing 34.34% were male while the rest, 31 customers representing 10.44% preferred not to say. This indicates that for the entire study 252 participants representing 56.88% were female, 160 participants representing 36.12% were

males and 31 participants representing 7.00% preferred not to say which gender they belonged to. This is illustrated in Table 3.

Table 3

Gender of Research Participants

Participants	Frequency	Percentage
Employees		
Male	58	39.73
female	88	60.27
Prefer not to say	0	0
Total Participants	146	100.00
Customers		
Male	102	34.34
Female	164	55.22
Prefer not to say	31	10.44
Total Participants	297	100.00
Respondents in total		
Male	160	36.12
Female	252	56.88
Prefer not to say	31	7.00
Total Participants	443	100.00

Data collection officially began on August 10, 2022 and ended on October 6, 2022. After the cut-off date, link was deactivated. Table 4 indicates how responses were compiled. During 4 days of data collection, responses of just 1 person was recorded per day representing 0.2% of total participants for each of the four days. The highest daily entries recorded was 53 representing 12% of total responses received for the study.

Table 4

Data Collection Overview

S/N	Date of entry	Frequency	Percent	Valid Percent	Cumulative Percent
1	10-Aug-22	10	2.3	2.3	2.3
2	11-Aug-22	3	0.7	0.7	2.9
3	12-Aug-22	1	0.2	0.2	3.2
4	25-Aug-22	2	0.5	0.5	3.6
5	26-Aug-22	2	0.5	0.5	4.1
6	1-Sep-22	3	0.7	0.7	4.7
7	2-Sep-22	1	0.2	0.2	5.0
8	7-Sep-22	1	0.2	0.2	5.2
9	11-Sep-22	9	2.0	2.0	7.2
10	12-Sep-22	11	2.5	2.5	9.7
11	13-Sep-22	47	10.6	10.6	20.3
12	14-Sep-22	42	9.5	9.5	29.8
13	15-Sep-22	29	6.5	6.5	36.3
14	16-Sep-22	53	12.0	12.0	48.3
15	18-Sep-22	19	4.3	4.3	52.6
16	19-Sep-22	21	4.7	4.7	57.3
17	20-Sep-22	25	5.6	5.6	63.0
18	21-Sep-22	10	2.3	2.3	65.2
19	22-Sep-22	6	1.4	1.4	66.6
20	23-Sep-22	11	2.5	2.5	69.1
21	26-Sep-22	22	5.0	5.0	74.0
22	27-Sep-22	40	9.0	9.0	83.1
23	28-Sep-22	19	4.3	4.3	87.4
24	29-Sep-22	36	8.1	8.1	95.5
25	30-Sep-22	17	3.8	3.8	99.3
26	5-Oct-22	1	0.2	0.2	99.5
27	6-Oct-22	2	0.5	0.5	100
	Total	443	100	100	

Respondents were asked to state their age as at the time of data collection Figure 2 and Figure 3 show the age distribution of employees and customers who participated in the study respectively. Employees' ages ranged between 22 years and 51 years with most

employees being 38 years and followed by 39 years. For customers, most of the respondents were 25 years old and 30 years being the next highest. The youngest customer was 18 years while the oldest was 66 years old. For this study, the youngest and oldest respondents were all customers. About 99.3% of customers who participated in the study were 50 years and below while for the employees, 98.2% were 50 years and below. None of the employees who were interviewed had attained the retirement age which is 60 years. On the other hand, 1 customer representing 0.2% was older than the retirement age.

Figure 2

Age of Employees
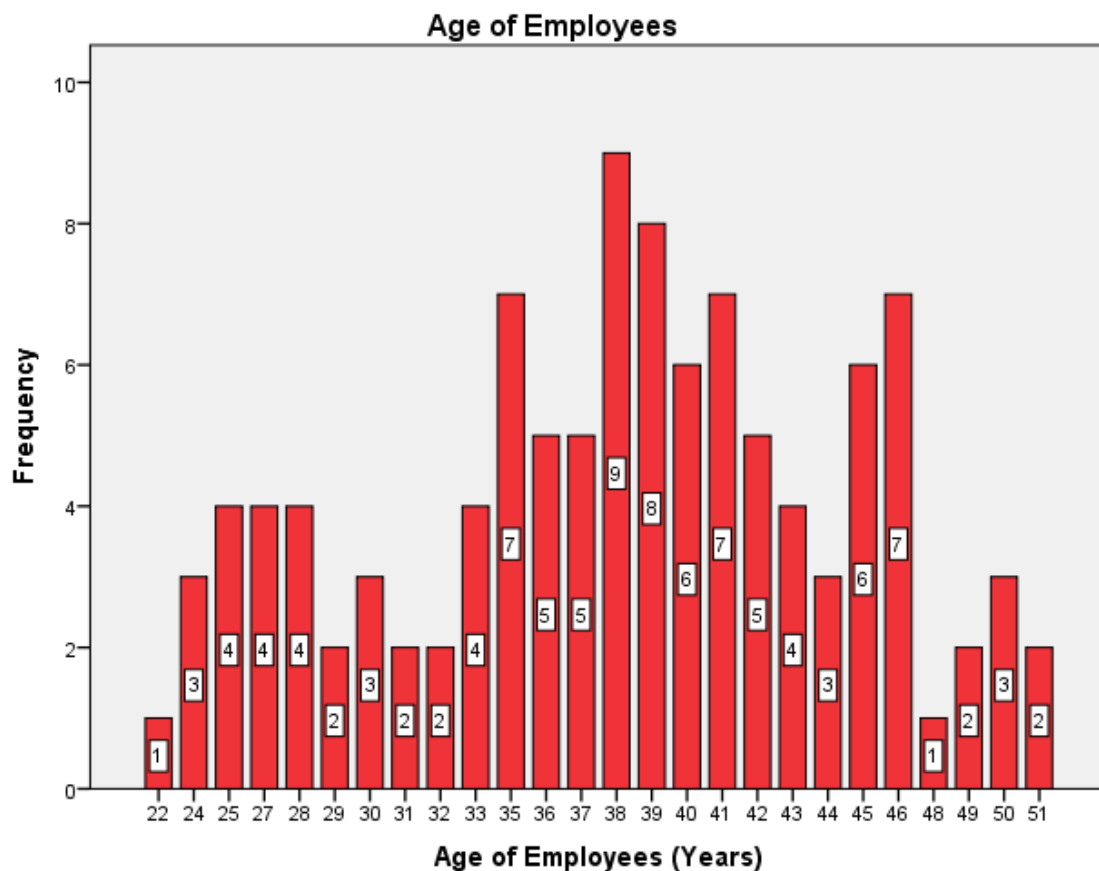
Age of Employees

Figure 3

Age of Customers of Telecommunication Companies
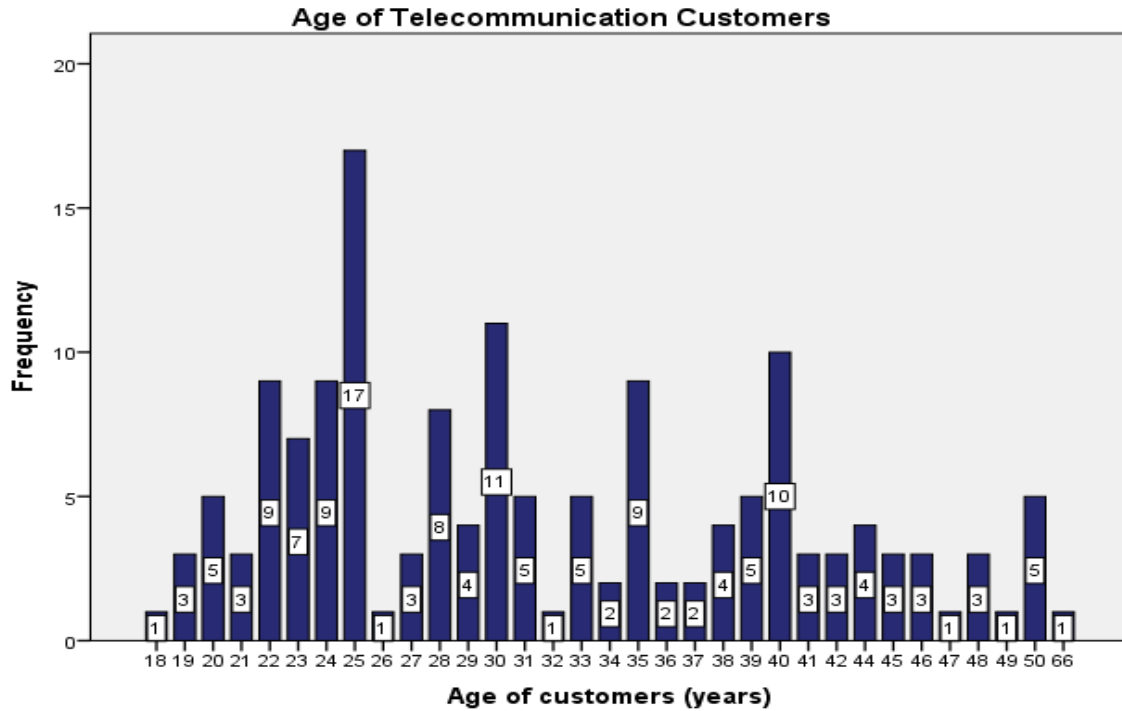
The highest level of education of both customers and employees were collected. These are shown in Table 5 and Table 6. For employees, most of the participants representing 62.3% had attained a second degree. This was followed by those who had attained a first degree accounting for 27.4% of employees. Only one (1) employee representing 0.68% was working with a secondary school certificate. More than 89% of the telecommunication workforce had acquired at least a first degree. The rest, representing less than 11% were working with a diploma, HND or secondary school certificate.

Table 5

Educational Level of Employees

Level of Employee Education	Frequency	Percent	Cumulative Percent
BSc / BBA / BA / BTech	40	27.40	27.40
Diploma	9	6.16	33.56
HND	2	1.37	34.93
MSc / MBA / MA / MTech	91	62.33	97.26
PhD	3	2.05	99.32
Secondary	1	0.68	100
Total	146	100	

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For customers, results showed that most of the participants representing 37.37% had attained a first degree; followed by 22.22% who had attained the master's degree level. The least group, representing 1.01% had acquired a PhD. More than 60% of customers had attained either a first degree or higher while less than 40% had acquired HND, Diploma or secondary school certificate.

Table 6

Educational Level of Customers

Level of Customer Education	Frequency	Percent	Cumulative Percent
BSc / BBA / BA / BTech	111	37.37	37.37
Diploma	47	15.82	53.20
HND	40	13.47	66.67
MSc / MBA / MA / MTech	66	22.22	88.89
PhD	3	1.01	89.90
Secondary	30	10.10	100
Total	297	100	

Putting together the level of education for both employees and customers, results indicate that just about 1.35% of participants for the study had attained a PhD. This was

followed by those who had just a secondary school certificate representing 7% of participants. More than 70% of the participants for the study had at acquired least a first degree while less than 30% of participants were working with HND, Diploma or secondary school certificate. These are shown in Table 7.

Table 7

Educational Level of Study Participants

Level of Education	Frequency	Percent	Cumulative Percent
BSc / BBA / BA / BTech	151	34.09	34.09
Diploma	56	12.64	46.73
HND	42	9.48	56.21
MSc / MBA / MA / MTech	157	35.44	91.65
PhD	6	1.35	93.00
Secondary	31	7.00	100
Total	443	100	

Telecommunication employees were asked to specify who their employers were at the time of data collection. More than half of the respondents worked with MTN while less than half of the respondents were split between Vodafone and AirtelTigo. Details are indicated on Table 8.

Table 8

Telecommunication Organisation that Employees Work With

Telecom organisation	Frequency	Percent	Cumulative Percent
AirtelTigo	39	26.71	26.71
MTN	75	51.37	78.08
Vodafone	32	21.92	100
Total	146	100	

Customers were also asked to disclose which telecommunication operator they subscribe to. Results indicated that an insignificant number of respondents subscribed to a network which was not considered in this study, namely Glo. A few other respondents recorded that they have subscribed and are affiliated to more than one telecommunication operator. 2 people, representing 0.67% were affiliated to both MTN and AirtelTigo and MTN and Vodafone each. 3 people representing 1.01% were affiliated to all three networks namely AirtelTigo, MTN and Vodafone. MTN had the most subscribers with a frequency of 157 and a percentage of 52. 86 of customers. The next was Vodafone with a frequency of 100 and a percentage of 33.67%. The least network that customers subscribed to was AirtelTigo with a frequency of 32 and percentage of 10.77. These details are shown in Table 9.

Table 9

Network Subscribed by Customers

Network subscribed	Frequency	Percent	Cumulative Percent
AirtelTigo	32	10.77	10.77
AirtelTigo & MTN	2	0.67	11.45
Glo	1	0.34	11.78
MTN	157	52.86	64.65
MTN & Vodafone	2	0.67	65.32
MTN, Vodafone & AirtelTigo	3	1.01	66.33
Vodafone	100	33.67	100
Total	297	100	

Telecommunication employees were asked their current role at work. Responses showed that most of the employees who participated in the study were team members with a frequency of 63 representing 43.15%. They were closely followed by Team leaders who recorded 53 representing 36.30%. The least category of employees who participated in the

study were top level managers with a frequency of 3 and percentage of 2,05%. Supervisors

and middle level managers accounted for frequencies of 18 and 9, representing 12.33% and

6.16% respectively. These are detailed in Table 10.

Table 10

Position of Employees at Work

Position at work	Frequency	Percent	Cumulative Percent
Middle level manager	9	6.16	6.16
Supervisor	18	12.33	18.49
Team leader	53	36.30	54.79
Team member	63	43.15	97.95
Top level manager	3	2.05	100.00
Total	146	100	

Similarly, customers of the various telecommunication companies were asked their

occupation. Results indicated that 115 customers representing 38.72% were employees of

various organisations. 67, representing 22.56% were self-employed while 55 customers,

representing 18.52% were students. About 29 customers representing 9.76% were

unemployed at the time of data collection while 31, representing 10.44% would rather not

say what they do or the work they were involved in, shown in Table 11.

Table 11

Occupation of Customers

Occupation	Frequency	Percent	Cumulative Percent
Employee	115	38.72	38.72
Student	55	18.52	57.24
Self employed	67	22.56	79.80
Unemployed	29	9.76	89.56
Rather not say	31	10.44	100.00
Total	297	100	

Employees of telecommunication companies were asked how long they have been working at their current places of work. Results indicated that more than half of the employees, representing about 55.47% have been working for 7 years or less. 25 employees representing 17.12% have been working for exactly 7 years. Only 3 employees, representing 2.05% have been working for 1 year and below. About 4 employees, representing 2.74% have been working for 20 years. Details have been illustrated on Table 12.

Table 12

Years of Work of Employees

Years of work	Frequency	Percent	Cumulative Percent
1	3	2.05	2.05
2	6	4.11	6.16
3	16	10.96	17.12
4	4	2.74	19.86
5	10	6.85	26.71
6	17	11.64	38.35
7	25	17.12	55.47
8	8	5.48	60.95
9	9	6.16	67.12
10	8	5.48	72.60
11	7	4.79	77.39
12	9	6.16	83.56
13	4	2.74	86.30
14	5	3.42	89.72
15	4	2.74	92.46
16	4	2.74	95.20
17	3	2.05	97.26
20	4	2.74	100.00
Total	146	100	

Customers on the other hand were asked how long they have patronised their current network service provider. About 168 customers accounting for more than 52% have used their preferred network for more than 10 years. 3 people representing 1.01% have used the network for 1 year and 24 years respectively. About 4 people representing 1.35% have used the network for 30 years. This is shown in Table 13.

Table 13

Years of Use of Preferred Network

Years of use of preferred network	Frequency	Percent	Cumulative Percent
1	3	1.01	1.01
2	11	3.70	4.71
3	10	3.37	8.08
4	20	6.73	14.81
5	27	9.09	23.91
6	15	5.05	28.96
7	21	7.07	36.03
8	12	4.04	40.07
9	10	3.37	43.43
10	13	4.38	47.81
11	14	4.71	52.53
12	12	4.04	56.57
13	16	5.39	61.95
14	14	4.71	66.67
15	26	8.75	75.42
16	16	5.39	80.81
17	10	3.37	84.17
18	8	2.69	86.87
20	22	7.41	94.28
21	6	2.02	96.30
23	4	1.35	97.64
24	3	1.01	98.65
30	4	1.35	100.00
Total	297	100	

Study participants were asked their monthly net income. Results indicated that 149 people representing 33.63% earned between 2001 and 3500 Ghanaian Cedis. This was closely followed by 143 people representing 32.28 who were earning between 500 and 2000 Ghanaian Cedis. 73 people representing 16.48% earned between 3001 and 5000 Ghanaian Cedis. 46 people representing 10.38% earned 500 Ghanaian Cedis and below while 32 people representing 7.22% earned above 5000 Ghanaian Cedis. This has been shown in Table 14.

Table 14

Monthly Net Income of Study Participants
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Employee Income (Cedis)	Frequency	Percent	Cumulative Percent
500 and below	8	5.48	5.48
501 - 2000	48	32.88	38.36
2001 - 3500	61	41.78	80.14
3501 - 5000	27	18.49	98.63
Above 5000	2	1.37	100.00
Total	146	100	

Customer Income (Cedis)	Frequency	Percent	Cumulative Percent
500 and below	38	12.79	12.79
501 - 2000	95	31.99	44.78
2001 - 3500	88	29.63	74.41
3501 - 5000	46	15.49	89.89
Above 5000	30	10.10	100.00
Total	297	100.00	

Study Participant Income (Cedis)	Frequency	Percent	Cumulative Percent
500 and below	46	10.38	10.38
501 - 2000	143	32.28	42.66
2001 - 3500	149	33.63	76.29
3501 - 5000	73	16.48	92.77
Above 5000	32	7.22	100.00
Total	443	100.00	

Customers were asked how much they spend on monthly subscriptions. Results showed that most of the customers (94, 31.65%) use between 101 and 200 Ghanaian Cedis worth of credit each month. This was followed by 89, 29.97% of customers whose monthly subscription is between 51 and 100 Ghanaian Cedis. This implies that more than half of the customers (183, 61.62%) make use of monthly subscriptions between 51 and 200 Ghanaian Cedis. 3 customers representing 1.01% make use of monthly subscriptions above 500 Ghanaian Cedis while 13 customers representing 4.38% purchase between 0 and 20 Ghanaian Cedis worth of credit each month. The last group (66, 22.22%) of customers purchase between 21 and 50 Ghanaian Cedis worth of credit each month. This is shown on Table 15.

Table 15

Monthly Customer Subscriptions

Amount of Subscriptions (Cedis)	Frequency	Percent	Cumulative Percent
1 - 20	13	4.38	4.38
21-50	66	22.22	26.60
51-100	89	29.97	56.57
101-200	94	31.65	88.22
201 - 500	32	10.77	98.99
Above 500	3	1.01	100.00
Total	297	100	

Employees were asked how many customers they attend to on a daily basis. Findings showed that most of the employees (71, 51.37%) attend to not more than 50 customers per day. This was followed by those who meet between 51 and 150 customers daily numbering up to 55 and representing 37.67%. This implies that more than 89% of the employees interact with clients reaching up to 150 on a daily basis. One employee,

representing 0.68% recorded meeting between 201 and 300 customers on a daily basis.

This is shown in Table 16.

Table 16

Daily Number of Customers Attended to

Average daily customer service	Frequency	Percent	Cumulative Percent
50 and below	75	51.37	51.37
51-150	55	37.67	89.04
151-250	7	4.79	93.84
251-300	1	0.68	94.52
Not applicable	8	5.48	100.00
Total	146	100	

Employees were made to rate the level of satisfaction of their customers as very

satisfied, satisfied, dissatisfied or very dissatisfied. One (1) employee representing 0.68%

indicated that clients were very dissatisfied with the services that are received while 4

employees representing 3.42% indicated that customers were dissatisfied. 96.56% of

employees disclosed that their customers were very satisfied or satisfied with the services

they receive. Actually more than 52% of employees indicted that customers were very

satisfied with their services. This is illustrated in Figure 4.

Figure 4

Satisfaction of Customers
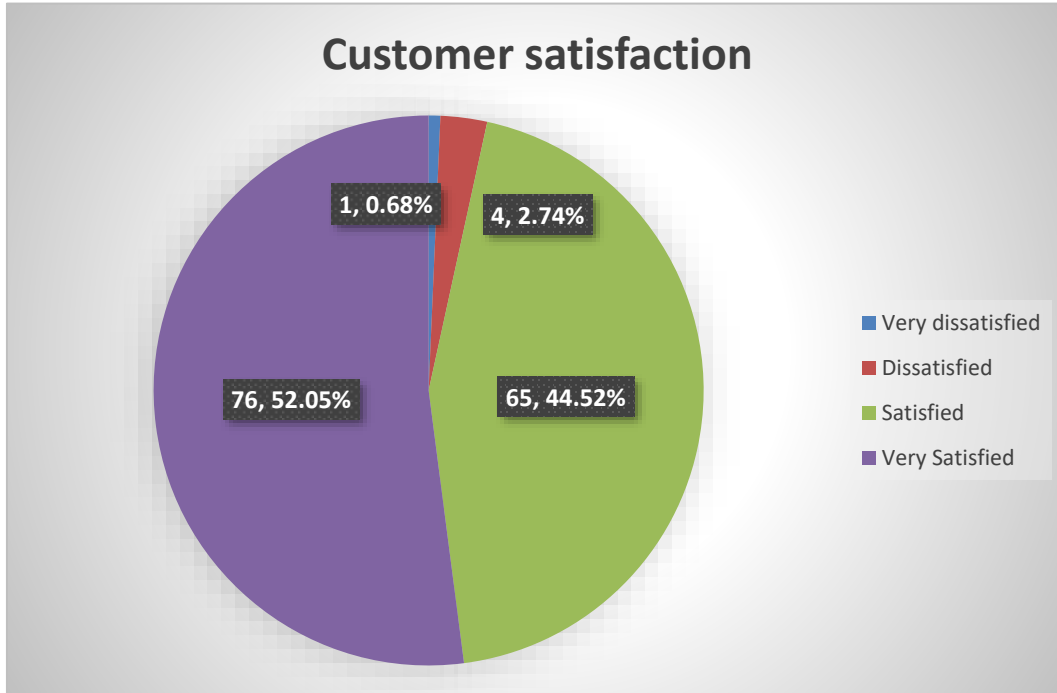
Telecommunication employees were also asked to rate how satisfied they are as employees with the performance of the telecommunication companies they work with. 60 employees representing 41.10% said they were satisfied with the organisation's performance while 67 employees representing 45.89 said they were very satisfied with organisational performance. While 18 employees representing 12.33% mentioned that they were not satisfied with the organisation's performance, just 1 employee, representing 0.68% was very dissatisfied with the organisations performance. A total of a little over 13% of employees were either dissatisfied or very dissatisfied with the performance of their employer. Figure 5 further illustrates this.

Figure 5

Employee Satisfaction with Organisational Performance

Employees of telecommunication companies were asked how frequent new technology is introduced on the market to their customers. 57 employees which represents 39.04% said new technology is introduced daily. This was followed by 43 employees, representing 29.45% who stated that new technology is introduced every week. It was then closely followed by those who stated that technology is introduced on monthly basis, numbering up to 40 employees and representing 27.40%. Those employees who stated that new technology was introduced twice in a year, once in a year and once every two years numbered up to 3 (2.05%), 2 (1.37%) and 1 (0.68%) respectively. In all, about 95.85% of employees attested to a rapid technological development in telecommunication companies. On the other hand, about 4.15% of employees implied that though there is technological change in telecommunication companies, the change is not as rapid as it seems. Table 17 shows this.

Table 17

Rate of Introduction of New Technology

Rate of introduction of new technologies	Frequency	Percent	Cumulative Percent
Every day	57	39.04	39.04
Every week	43	29.45	68.49
Every month	40	27.40	95.89
Twice in year	3	2.05	97.94
Once every year	2	1.37	99.31
One every two years	1	0.68	100.00
Total	146	100	

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Employees were asked how satisfied customers are with the rate of introduction of new technology. 1 employee representing 0.68% of employees said customers were very dissatisfied while 4 employees representing 2.74% indicated that customers were just dissatisfied with the rate of new technology introduction. The rest of employees indicated that customers were generally satisfied or very satisfied with the rate of introduction of new technology, accounting for 67 (45.89%) and 74 (50.68%) respectively. Figure 6 shows this.

Figure 6

Customer Satisfaction with Rate of Introduction of New Technology
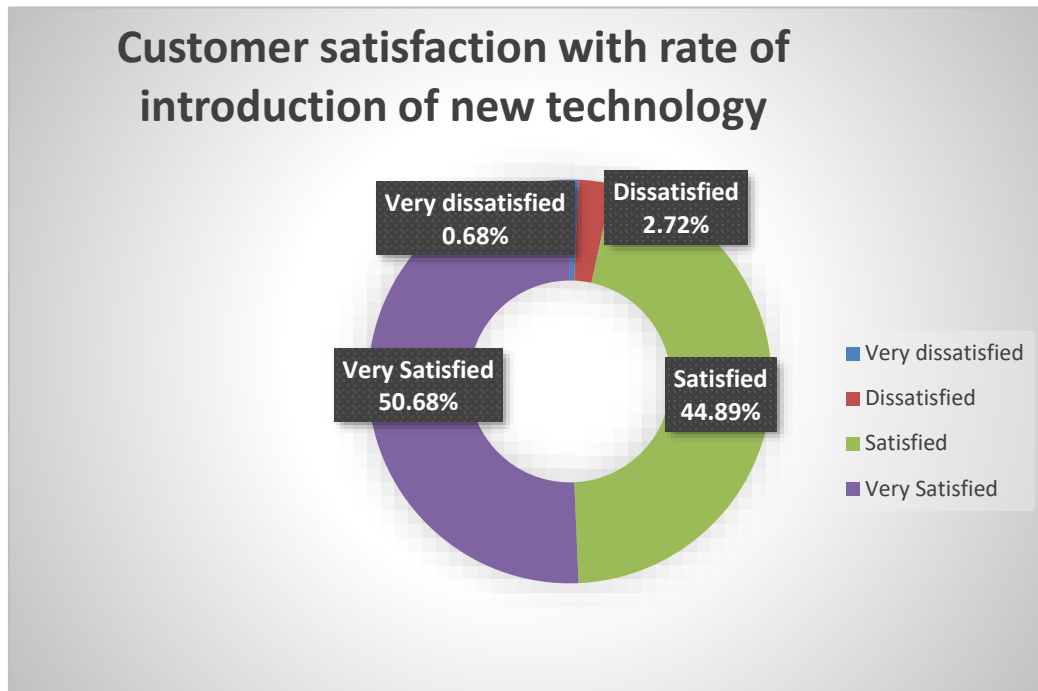
RQ1: Determinants of Organisational Excellence in Telecommunication Companies

For the first research objective, the researcher sought to determine what accounts for organisational excellence in telecommunication companies. This was achieved with responses to 20 questions answered by both employees and customers of the telecommunication companies in Ghana.

The first question ascertained whether employees are motivated at the workplace. 312 employees representing 70.4% opposed the fact that employees are motivated at the workplace while 131 respondents, representing 29.6% were in favour of the statement. According to the responses telecommunication employees are mostly not motivated at the workplace.

The second statement sought to determine if the remuneration of telecommunication employees is poor. Most respondents opposed to this statement thus confirming that telecommunication employees are actually paid well. 349 respondents corresponding to 78.8% responded "No" while the rest 94, 21.2% responded in the affirmative. Hence, remuneration of telecommunication employees is not poor.

Next was to determine whether telecommunication infrastructural facilities provide a safe and comfortable environment for both staff and customers. Results showed an overall positive response from majority of the respondents. 339 respondents corresponding to 76.5% responded in the affirmative. The rest 23.5% thought infrastructural facilities do not provide a safe comfortable environment for staff and clients. Hence the infrastructural facilities of telecommunication companies in Ghana provide a safe and comfortable environment for both staff and customers.

The researcher proceeded to ascertain if the network downtime is acceptable and manageable. Responses showed that network downtime is not acceptable. 309 respondents representing 69.8% opposed the statement that the network downtime is acceptable and manageable while 134 respondents representing 30.2% responded in the affirmative. This indicates that the network downtime is not acceptable

Next, the researcher sought to determine if there was any partiality between employees and customers in relation to the services offered by telecommunication companies. Findings indicated that there was no partiality in the services that are rendered by telecommunication companies. 335 respondents representing 75.6% responded "Yes" to the statement that "services rendered are not partial between employees and staff". 108

respondents corresponding to 24.4% responded "No". There is therefore no partiality in the services offered by telecommunication companies.

About good customer support, respondents were asked if good customer support is rewarded. 305 respondents which account for 68.8% opposed the statement while just 138 respondents accounting for 31.2% affirmed that good customer support is rewarded. The study therefore showed that good customer support is not rewarded by telecommunication companies.

287 respondents representing 64.8% responded "No" to the statement that there are enough employees to perform the work. The rest, 156, representing 35.2% responded in the affirmative and implying that there are enough employees to perform the work in telecommunication organisations. The study therefore showed that there are insufficient employees available to complete the work in the telecommunication

About career development, respondents were presented with the statement that "Career development is not a support system with your network". 351 employees representing 79.2% responded in the negative while the rest accounting for 92 and 20.8% responded in the affirmative. This implies that career development is actually a support system in telecommunication companies.

Respondents were asked to affirm or oppose the statement that "Excessive use of rigid rules controlling and monitoring mechanism hinder creativity and performance of staff". 352 respondents representing 79.5% responded "No" to this statement while 91 representing 20.5% affirmed the statement. This implies that excessive use of rigid rules controlling and monitoring mechanism does not hinder the creativity and performance of staff.

The researcher probed to ascertain whether communication among staff is poor or deficient. 347 respondents representing 78.3% responded "No" while 96 respondents representing 21.7% responded "Yes". This implies that communication among employees are efficient and effective.

Next, respondents were made to react to the statement that "Unclear performance standards have been a serious constraint to job performance". Responses showed that performance standards do not place any constraints on job performance, 346 respondents representing 78.1% responded in the negative while 97, representing 21.9% affirmed the statement. Therefore, unclear performance standards do not place any constraints on job performance.

When asked whether poor funding for projects has dented the performance of employees, majority of the respondents replied in the negative. Just about 87 respondents representing 19.6% affirmed the statement while the rest accounting for 356 respondents and 80.4% opposed the statement implying that poor funding for projects does not dent the performance of employees.

Respondents were presented with the statement that job insecurity is a threat to employee performance at work. 348 respondents indicating 78.6% opposed the statement. The other 95 employees representing 21.4% responded in the affirmative. Indicatively, results illustrate that job insecurity is not a threat to employee performance at work.

About whether work environment is most conducive, majority of respondents (302, 68.2%) responded in the negative while 141 respondents representing 31.8% affirmed the statement by responding "Yes". This implies that the work environment in telecommunication companies is not the most conducive.

About subscription costs, respondents were asked if subscription is expensive. 355 respondents representing 80.1% indicated that subscriptions are not expensive. The rest (88 respondents, 19.9%) said subscription are expensive by answering in the affirmative.

Respondents were presented with the statement that there is regular advancement or improvement in network performance. 285 respondents representing 64.3% opposed the statement. The other 158 respondents representing 35.7% affirmed. This shows that there are no regular advancement or improvement in the network performance.

When asked whether customers get more helpful information from call centre, majority of respondents (276, 62.3%) said "No". The rest (167 respondents, 37.7%) said "Yes". This implies that customers do not really get helpful information from the call centre. When the same question was asked about the application, 302 employees representing 68.2% said "No" while 141 respondents representing 31.8% said "Yes". It shows here that customers do not get helpful information from the application.

Respondents were asked if customers are informed about new services via email/messages/phone calls. 309 respondents representing 69.8% said "No" while the rest (134 respondents, 30.2%) said "Yes". This implies that customers are not informed about new services via email, messages or phone calls.

Finally, in relation with the first research objective, respondents were asked if customers love hearing from network providers once in a while, Results show that customers do not love hearing from network providers once in a while. 301 respondents representing 67.9% responded "No" while 142 respondents representing 32.1% responded "Yes". A summary of responses for the first research objective is presented in Figure 7.

Figure 7

Determinants of Organisational Excellence

Determinants of Organisational Excellence

RQ2: *Effect of Technological Advancement on Organisational Excellence*

For the second research objective the researcher set out to examine the effect of technological development on organisational excellence. This was achieved by getting responses from research participants based on 9 items measured with the Likert scale from 1 to 5 with 1 being strongly disagree and 5 being strongly agree.

The first item stated that technological advancement has increased employee performance. Majority of the respondents either agreed or strongly agreed with 180

respondents representing 40.6% and 190 representing 42.9% respectively. Only 2 people representing 0.5% were neutral. 30 respondents representing 6.8% were strongly in disagreement while 41 respondents corresponding to 9.3% disagreed. This implied that technological advancement has increased employee performance.

The second item stated that technology makes work neater and faster. 1 respondent representing 0.2% was neutral, 36 respondents representing 8.1% strongly disagreed, 59 respondents representing 13.3% disagreed, 175% representing 39.5% agreed and 172 respondents representing 38.8% strongly agreed. This confirmed that technology makes work faster.

With the third item, respondents had to indicate their level of agreement to the fact that with technological advancement, more tasks are achieved over a short period of time. 2 respondents representing 0.5% were neutral, 39 respondents corresponding to 8.8% strongly disagreed, 54 respondents representing 12.2% disagreed, 144 respondents representing 32.5% agreed and 204 representing 46% strongly agreed. This result affirmed that more tasks are achieved over a short period of time with technological advancement.

The third item sought to ascertain whether technological advancement has improved communication between customers and employees. None of the respondents were neutral. 37 respondents representing 8.4% strongly disagreed, 54 respondents representing 12.2% disagreed, 161 respondents representing 36.3% agreed while 191 respondents representing 43.1% strongly agreed. It was proven that technological advancement has improved communication between customers and employees.

Next, the researcher examined if the adoption of new technologies motivates employees. From the responses, 37 respondents corresponding to 7.7% strongly agreed, 10

representing 10.8% agreed, 156 respondents corresponding to 35.2% agreed while 205 respondents representing 46.3% strongly agreed. None of the respondents held a neutral position for this item. This confirms that the adoption of new technologies motivates employees.

The researcher proceeded to ascertain whether technological advancement improves job satisfaction. For this item, none of the respondents gave a neutral response. 37 respondents representing 8.4% strongly disagreed, 51 respondents accounting for 11.5% disagreed, 172 respondents representing 38.8% agreed and 183 respondents corresponding to 41.3%, strongly agreed. It was confirmed that technological advancement improves job satisfaction.

About whether organisations respond to demand faster with technological advancement, 1 respondent corresponding to 0.2% was neutral, 36 respondents representing 8.1% strongly disagreed, 59 respondents representing 13.3% agreed, 175 respondents representing 39.5% agreed while the rest of the 172 respondents representing 38.8% strongly agreed. This indicated that with technological advancement, organisations respond to demand faster.

The researcher tested the level of agreement of respondents regarding the statement that "with technological advancement, more tasks are achieved over a short period of time". 2 respondents representing 0.5% responded neutral, 39 respondents, 8.8% were highly in disagreement, 54 respondents, 12.2%, disagreed, 144 respondents representing 32.5% agreed while 204 representing 46.0% strongly agreed. This shoes that with technological advancement more tasks are achieved over a short period of time.

The eighth item was to examine whether technological advancement has improved career development with more experienced training. 31 respondents representing 7.0% strongly disagreed, 52 respondents corresponding to 11.7% disagreed, 175 respondents representing 39.5% agreed and 185 respondents corresponding to 41.8% strongly agreed. This confirmed that career development has improved with more experienced training.

The last item related to this objective examined whether employees have improved in their knowledge of modern technology. 2 respondents representing 0.5% were neutral, 37 respondents representing 8.4% strongly disagreed, 55 respondents representing 12.4% disagreed, 161 respondents representing 36.3% agreed and 188 respondents representing 42.4% strongly agreed. This indicated that employees have improved in their knowledge of modern technology. Findings for the second objective are shown in Figure 8 and point out to the fact that technological advancement affects an organisation positively.

Figure 8

Effect of Technological Advancement on Organisational Excellence
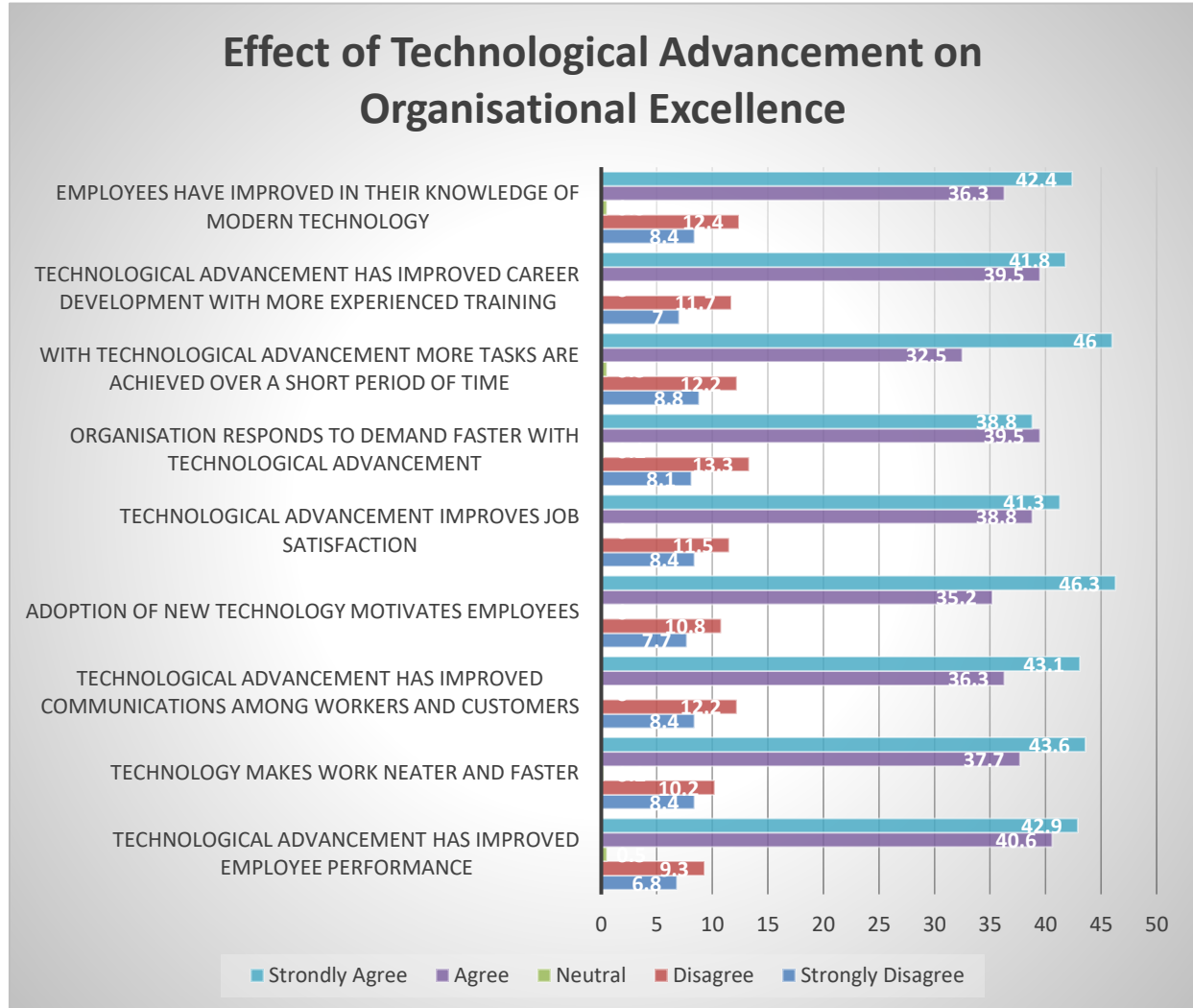
RQ3: Role of E-Leadership in Adapting to Technological Development

The third research objective sought to examine the role of e-leadership in adapting to technological development. This was done with the use of six items for that construct. The first item stated that e-leadership has discouraged face-to-face interaction. In response to this, 1 respondent representing 0.2% was neutral, 40 respondents representing 9.0%, strongly disagreed, 43 respondents representing 9.7% disagreed, 164 representing 37.0%

agreed and 195 respondents representing 44% strongly agreed. This confirmed that e-leadership has discouraged face-to-face interactions.

The second item stated that the organisation has adopted the use of social media for formal communication. 1 respondent representing 0.2% was neutral to this statement. 41 respondents representing 9.3% strongly disagrees, 61 respondents representing 13.8% disagreed, 166 respondents representing 37.5% agreed and 174 respondents representing 39.3% strongly agreed. This proved that the use of social media has been adopted for formal communication in telecommunication companies.

Thirdly, the researcher ascertained whether virtual teams are used while adapting to technological advancement. None of the respondents were neutral. 41 respondents (9.3%) strongly disagreed, 51 respondents (11.5%) disagreed, 165 respondents (37.2%) agreed and 186 respondents representing 42.0% strongly agreed. This indicated that virtual teams are used while adapting to technological development.

Next, it was examined whether e-leadership opens the organisation up to advancing in the online workspace. 38 respondents representing 8.6% strongly disagreed, 58 respondents representing 13.1% disagreed, 161 respondents representing 36.3% agreed and 186 respondents representing 42.0% strongly agreed. It was confirmed that e-leadership exposes the organisation to growth in the online workspace

The fifth item for this research objective stated that managers' readiness to offer support for team members has improved. 2 respondents representing 0.5% were neutral, 43 respondents representing 9.7% strongly disagreed, 52 respondents representing 11.7% disagreed, 172 respondents representing 38.8% agreed and 174 respondents representing

39.3% strongly agreed. This showed that managers' readiness to help team members has improved.

Lastly the researcher ascertained whether virtual teams have an improved communication channel established through virtual leadership while adapting to technological advancement. 1 respondent representing 0.2% was neutral. 50 respondents representing 11.3% strongly disagreed, 78 respondents representing 17.6% disagreed, 139 respondents representing 31.4% agreed and 175 respondents representing 39.5% strongly agreed. Results showed that virtual teams have improved communication channels established through e-leadership while adapting to technological development. This is shown in figure 9.

Figure 9

The Role of E-Leadership in Adapting to Technological Development
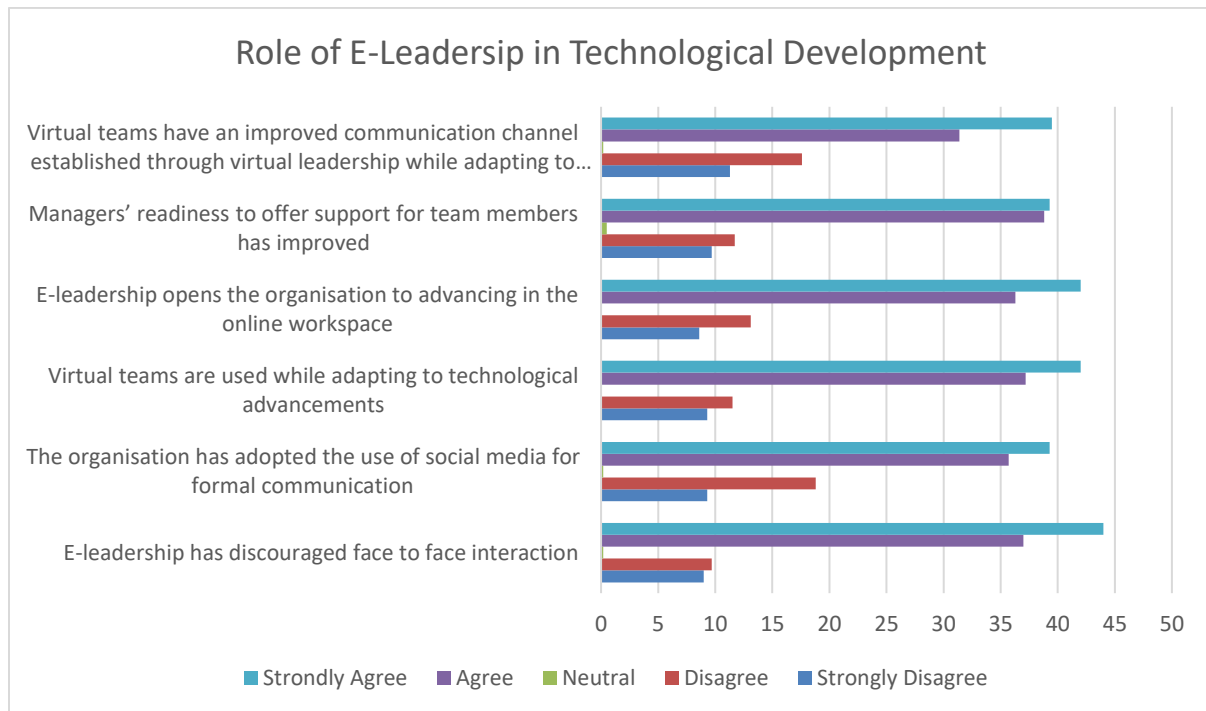
RQ4: Challenges Presented by E-Leadership

The fourth objective made use of 8 items to examine challenges presented by e-leadership for telecommunication companies in Ghana. The first item stated that lack of technical skills is exposed by e-leadership. From the results, 2 respondents representing 0.5% were neutral, 61 respondents representing 13.8% strongly disagreed, 54 respondents representing 12.2% disagreed, 161 respondents representing 36.3% agreed and 165 respondents representing 37.2% strongly agreed. Results showed that e-leadership exposes the lack of technical skills.

The second item had to do with the fact that lack of technical skills signifies job insecurity. 1 respondent (0.2%) was neutral to this statement. 54 respondents (12.2%) strongly disagreed, 44 respondents (9.9%) disagreed, 170 respondents (38.4%) agreed and 174 respondents (39.3%) strongly agreed. Findings confirmed that lack of technical skills signifies job insecurity.

Thirdly, the researcher ascertained whether an unsecured network is a risk in the adoption of e-leadership in telecommunication companies. From the responses, 2 respondents (0.5%) were neutral, 60 respondents corresponding to 13.5% strongly disagreed, 64 respondents representing 14.4% disagreed, 142 respondents representing 32.1% agreed and 175 respondents representing 39.5% strongly agreed. It was confirmed that unsecured networks are a risk in the adoption of e-leadership.

The next item stated that "employee awareness is not guaranteed through the adoption of e-leadership in the telecommunication industries". 1 respondent representing 0.2% were neutral. 66 respondents (14.9%) strongly disagreed, 60 respondents (13.5%) disagreed, 140 respondents (31.6%) agreed and 176 respondents (39.7%) strongly agreed.

Results indicated that employee awareness is not guaranteed with the adoption of e-leadership.

The fifth item stated that "quality of assessment is questioned". No respondent took the neutral grounds with this item. 56 respondents representing 12.6% strongly disagreed, 50 respondents corresponding to 11.3% disagreed, 174 respondents representing 39.3% agreed and 163 respondents representing 36.8% strongly agreed. It was found that as a matter of fact, the quality of assessment is questioned with e-leadership.

The researcher then moved on to ascertain the possibility of error in time-stamp during work hours. 3 respondents representing 0.7% were neutral. 88 respondents representing 19.9% strongly disagreed, 134 respondents representing 30.2% disagreed, 72 respondents agreed while 146 respondents representing 33.0% strongly agreed. It was proven that sometimes, there could be errors in time stamp during working hours.

With the seventh item, the researcher examined whether continual learning has reduced. 2 respondents representing 0.5% were neutral. 61 respondents (13.8%) strongly disagreed, 73 respondents (16.5%) disagreed, 157 respondents (35.4%) agreed and 150 respondents (33.9) strongly agreed. Results confirmed that continual learning has actually reduced.

The last item stated that "trust is a failed establishment in e-leadership". 2 respondents (0.5) were neutral. 62 respondents (14.0) strongly disagreed, 74 respondents (16.7%), 140 respondents (31.6%) agree and 165 respondents (37.0%) strongly agreed. It was confirmed that with e-leadership, the concept of trust has failed. A summary of this is shown in Figure 10.

Figure 10

Challenges Presented by E-Leadership

Figure: Challenges presented by e-leadership
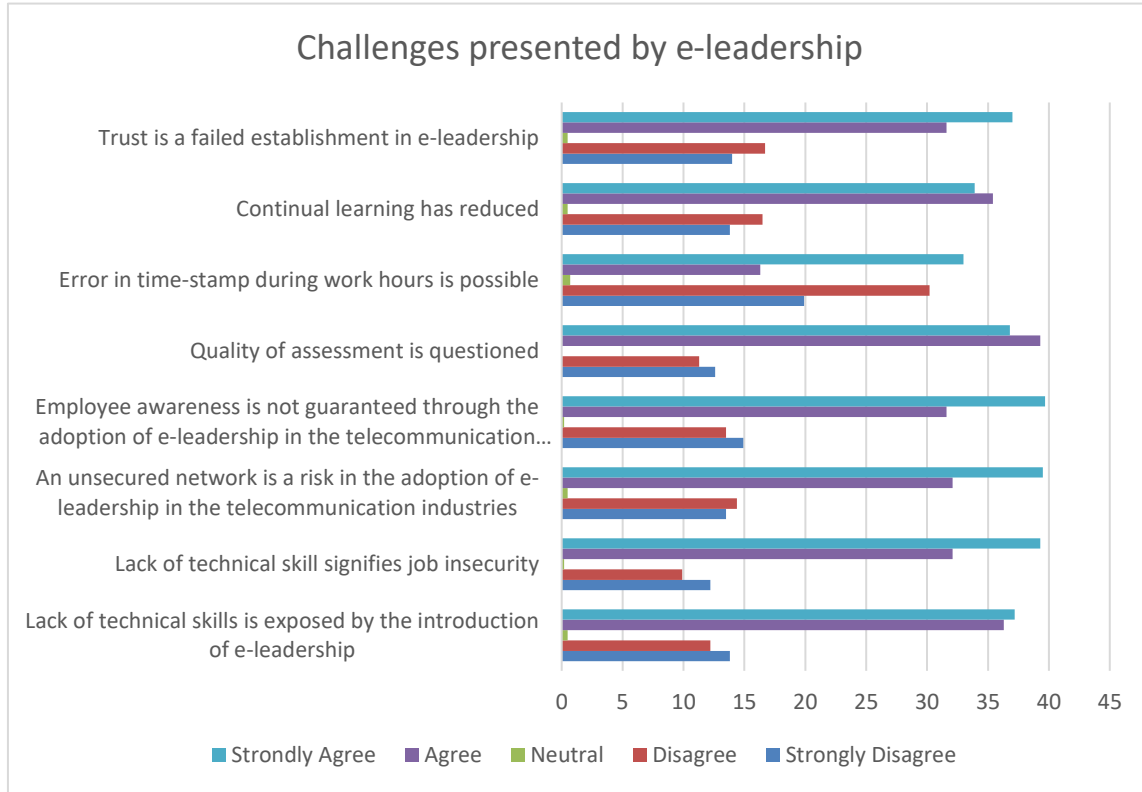
Hypotheses Results

The research was conducted to examine the effect of technological development on organisational excellence as mediated by e-leadership. It examined three hypotheses which are stated below with technological development (TD) as the independent variable, e-leadership (EL), the mediator and organisational excellence (OE) the dependent variable.

$H1_0$: Technological development does not have a significant positive effect on e-leadership.

H2$_0$: E-leadership does not have a significant positive effect on organisational excellence.

H3$_0$: Technological development does not have a significant positive mediating

 effect on   organisational excellence through e-leadership.

A series of regression analyses were performed to test the hypotheses set for the study. Results indicated that technological development positively affects organisational excellence significantly. ($B = .183$, $F = 27.671$, $p = .000$). This is shown in Table 18. It was also indicated that technological development positively affects e-leadership significantly ($B = .125$, F $= 5.519$, $p = .019$). This is shown in Table 19. E-leadership was also found to have a positive significant effect on organisational excellence ($B = .469$, $F = 427.667$, $p = .000$) as shown in table 20. It was finally proven that e-leadership significantly mediates the effect of technological development on organisational excellence. (*Indirect path B* $= 0.0586$, $F = 238.222$, $p = .000$). Table 22 illustrates this.

Table 18

Direct Effect of Technological Development on Organisational Excellence

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.243[a]	.059	.057	.60726

a. Predictors: (Constant), TD

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.204	1	10.204	27.671	.000[b]
	Residual	162.625	441	.369		
	Total	172.829	442			

a. Dependent Variable: OE
b. Predictors: (Constant), TD

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.148	.142		22.181	.000
	TD	.183	.035	.243	5.260	.000

a. Dependent Variable: OE

Table 19

Direct Effect of Technological Development on E-Leadership

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.111[a]	.012	.010	.92981

a. Predictors: (Constant), TD

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.771	1	4.771	5.519	.019[b]
	Residual	381.269	441	.865		
	Total	386.040	442			

a. Dependent Variable: EL

b. Predictors: (Constant), TD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.365	.217		15.483	.000
	TD	.125	.053	.111	2.349	.019

a. Dependent Variable: EL

Table 20 Direct Effect of E-Leadership on Organisational Excellence

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.148	.142		22.181	.000
	TD	.183	.035	.243	5.260	.000
2	(Constant)	1.610	.126		12.770	.000
	TD	.126	.025	.167	5.025	.000
	EL	.457	.022	.683	20.551	.000

a. Dependent Variable: OE

Table 20

Direct Effect of E-Leadership on Organisational Excellence

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702[a]	.492	.491	.44605

a. Predictors: (Constant), EL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.088	1	85.088	427.667	.000[b]
	Residual	87.741	441	.199		
	Total	172.829	442			

a. Dependent Variable: OE

b. Predictors: (Constant), EL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.065	.090		22.877	.000
	EL	.469	.023	.702	20.680	.000

a. Dependent Variable: OE

Table 21

Indirect Effect of Technological Development on Organisational Excellence Mediated by

E-Leadership

Model Summary

Std. Change Statistics

ANOVA[a]

Sum of

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.148	.142		22.181	.000
	TD	.183	.035	.243	5.260	.000
2	(Constant)	1.610	.126		12.770	.000
	TD	.126	.025	.167	5.025	.000
	EL	.457	.022	.683	20.551	.000

a. Dependent Variable: OE

Table **22**

Mediation effect of E-Leadership: Summary

Hypothesis	Regression Weights	Beta Coefficients	R^2	F	p-value	Hypothesis Supported
Direct Effect	TD --> OE	.183	.059	27.671	.000	
H1	TD --> EL	.125	.012	5.519	.019	No
H2	EL --> OE	.469	.492	427.667	.000	No
H3	TD -->EL -->OE	.059	.520	238.222	.000	No

Note. p<0.05, TD - Technological Development, EL - -Leadership, OE - Organisational Excellence

Presentation of Qualitative Results

In order to meet the requirements of this mixed methods study, the researcher

engaged participants in interview sessions and observation by making use of a guide to

ensure the research objectives were met. Participants were customers and clients of

telecommunication companies in Ghana. By the end of the interview the researcher had attained a level of saturation. Responses have been presented in the themes under each objective.

Determinants of organisational excellence in telecommunication companies

The main determinants of organisational excellence are High Customer Satisfaction; Ability to quickly adapt to technological development; Reliable network, high availability and improved performance; Curated marketing products to meet customers' expectation; Self-motivated dynamic marketing team; and Good governance and organisational policies.

High Customer Satisfaction. Considering the frequency at which the insatiable needs of customers do change, if a telecommunication company is able to attain and maintain a high customer satisfaction, it most definitely counts for organisational excellence. Almost all respondents for the interview, comprising of both customers and employees alike, mentioned high customer satisfaction as a determinant of organisational excellence. A participant recounted an instance when he tried to save time by getting his challenge resolved over the phone. He was however told to travel to the office to get the challenge resolved in person. That to him was not satisfactory and therefore felt his network provider did not show excellence.

Research participant stated "…. *Recently, there was a problem with my SIM card, one of the SIM cards I wanted to get resolved. I called the service centre, and you know they responded and everything but actually I finally had to make a journey to their service centre to meet someone in their office before I could have my challenge resolved fully. This is not like the biometric data thing that people had to be physically present for the challenge*

to be addressed but all the same, they requested that I went to their office to have the issue addressed. For me, it was too much because we don't have that much time on our hands to be making such visits to their offices." This means even though the problem was resolved, the customer is not satisfied and therefore concludes that his network service provider is not excellent.

It was also explained that technological development has enabled telecommunication companies to satisfy customers' need to be entertained. "*Just look at how the landscape of social media has switched. Some years back, there was nothing of that sort. But people's lives now are better off than they were so far as information is concerned. I think we are making impact in the lives of our customers and subscribers, somebody in a secluded environment needs to be entertained. Just recently during the pandemic, a lot of people were confined. Without technology, imagine how the world will be. Imagine how boring life will be. People have the passion in them they want satisfied and we are trying to help achieve them*". From the organisation's point of view, they are doing their best to ensure that clients remain entertained always.

Ability to quickly adapt to technological development. Results indicated that an organisation's ability to quickly adapt to a new technology is a mark of excellence. Employees who participated in the interview indicated that with the rate at which technology is evolving, if organisations do not adapt quickly to new technology, they will be left behind or lose their clients to competition. Adapting to technological development encompasses both the technology itself and the human resource. According to research participant, "…. *Excellence is basically being influenced by technology and that's the industry I find myself in. So you could say that we drive technology and then the technology*

in turn influences excellence. Apart from that, human behaviour management, effective human capital management also ensures excellence. So coupling the behavioural aspect of capital management and technology, these two actually drive excellence in any organisation."

Reliable network, high availability and improved performance. Most clients would stick with a network that can be trusted to deliver most of the time if not all the time. According to a study participant "*As a customer I would want to see services that are faultless so when I make calls, I expect it to go through quickly and if I use their services, I expect everything to be without hustle and maybe the coverage of the service network if I go to any remote part of the country, how easy I'm able access their services will be among the things that I would consider and excellence*". Another participant shared a similar point of view as implied by this quote "*to start with for me, for the service to be a good one, it should be with very minimum challenges. If there are challenges, the speed with which they respond to your queries and try to fix your challenges for you is also a big factor*". This implies that customers are more interested in the efficiency of the network to provide necessary services even in the remotest parts of the country with minimal interference.

Curated marketing products to meet customers' expectation. The era of mass production, where products and services were designed to suit all consumers seem to have quickly become irrelevant. An organisation that focuses on mass production may not be considered as being excellent according to the results of this study. Customers expect their service providers to offer products and services specifically tailored to meet their needs and expectations. Quoting from a participant of the study, "*I think over the years we have seen different networks, some of them changing from one to another. We've seen who's*

excelling and who's not. I think the ones that have done very well are those that are able to grow with their clients. They are those who are able to identify the various needs of their clients and by so doing, they are able to segment the offers they have for their markets so they end up with an offer for each customer segment…. They have different offers for the corporate entities, different offers for the business people and different offers for the day to day customers. I think that is what has given them the leverage they have now and the coverage they have. So basically the ability to identify the needs of your clients and segmenting the business to meet those needs helps to always be in touch with the clients and you can have an excellent business."

Another participant recounted an experience during the peak of the Covid-19 season which denotes a mark of excellence. "*We currently use two service providers for communication and an internet service provider (ISP) for the in-office network but before Covid-19 we were using just one. So Covid-19 came and then one thing I noticed was our guys were very versatile. Our service provider was able to quickly change its ways. Originally, we were buying so many gigabytes for the office usage because that is where we all lump up to work. But then they were able to say that now that you are all working from home most of the time, let's say you are paying us for 1 Terabyte for every month, let's divide it by two and then whatever is left of it, let's give you bundles so that employees who are working from home can use the Wi-Fi to work from home so that you don't end up paying more. Originally the company was paying for what we were having per the contract in the office and also buying third-party bundles for the staff to work from home as directed by the President. So then we started this but then the network guys came and slashed what we had in the office and gave us in the form of the bundles. This was*

something we didn't see coming and for us, it was a mark of excellence. They saw that we were paying for so much we didn't really need and offered an alternative." This experience confirms that when telecommunication organisations are able to tailor products and services to clients' needs, it counts for them as excellence. It makes the client know that the organisation is proactive and has the best interest of the client in mind and at heart.

Self-motivated dynamic marketing team. Modern day marketing deals with a customer that is very sophisticated and selective with several alternatives to choose from. Results showed that employees who make up the marketing team of telecommunication companies require self-motivation as in most cases the customer is too busy to listen or feels the value being proposed will not perform as is being marketed. Notwithstanding the fact that customers want to be informed about new products and services, they do not want their schedules interrupted by network service providers. As a result, if the marketing team is able to use innovative ways to get the customer informed without interfering with calls, excessive text messages and in-app adverts, it counts for the network provider as excellence.

Good governance and organisational policies. Results exposed that good governance and organisational policies play a very significant role in ensuring that employees are aligned to the organisational objectives. Considering the rate at which employees work from home in recent times, without proper governance and organisational policies being enforced at the workplace, some employees may not perform as is required. Team members are likely to slack on the job, thus affecting the entire performance of the organisation. These policies also ensure that the needs of employees are well taken care of to ensure they well motivated to perform the tasks assigned to them. Good governance and organisational

policies address both the intrinsic and extrinsic motivational needs of employees. According to a study participant, "*if everybody in the organisation is aligned with the organisational goal and culture, you don't need somebody to stand by you with a rod before you perform what is expected of you. If the systems are in place measuring your performance, you always make sure that the system analytics are getting good feedback from you to your leaders.*"

Effect of technological advancement on organisational excellence

For the second research objective, the main effects of technological advancement on organisational excellence identified were Increased productivity; Knowledge leveraging; Continuous support services, Improvement in key performance indicators (KPIs), Improvement in quality of service; Facilitates work-from-home; Facilitates e-business; and Facilitates a faceless organisation.

Increased Productivity. Results indicated that technological development increased organisational productivity. Repetitive tasks are automated to allow employees and managers to focus on other important ones. Telecommunication companies make use of big data analytics and artificial intelligence to ensure that various departments in the organisation are working as expected and producing targeted results. A participant presented a scenario of the call centre. "*Call centre will expect anyone who calls the call centre to be connected or answered in 10 seconds. 90% of the calls should be answered. That is what is called the service level agreement (SLA). So once we are able to serve all the calls initiated within 10 seconds, we have achieved the objective of the call centre. The systems have been configured to measure these and flag out instances where the SLA is not met*". It was shown that with the use of technology each department is able to set realistic

targets and the systems ensure that the set targets are met. For instance, the productivity of an employee working in the call centre is measured differently from that of an employee who is working on the complaints of customers or someone working on the back-end infrastructure. Technology makes the measurement of productivity with these variety of indicators seamless.

Though investment in technology development is initially capital intensive. With time, there is an overall reduction in operational cost as well as decrease in the time supervisors will monitor the performance of the employees. This is as a result of technology used in automation, data analytics and artificial intelligence. One of the study participants explained that "*technology complements the work of leadership and makes the work of leadership much more effective. For instance, if there is no management information system, HR managers will end up employing more people to have oversight responsibilities resulting in high operational costs*".

It was also found that the improvement in productivity that results from technological development affects both employees and customers of telecommunication companies positively. A participant explained what really happens when a client schedules a physical meeting rather than making use of the system. "*You know when you come to sit in front of me in the office, and you spend maybe 30 minutes with me and I am having a chat with you, your work may actually require just 10 minutes but because of business and normal human relationship, I may use more than 30 minutes. That personal touch of about 20 minutes or more will be for discussions related to family, friends and social stuff. However, the guy who is very busy will just log on to the internet and do something for 5 minutes and gets sorted out. So those who are very busy and adhering to technology are*

doing very well and able to manage their time. Sometimes due to approval from our end, they may have to wait for a while if there is a chain of such activities in the pipeline. So what we have done over the years is to speed up the back office work for those who don't really need to drive all the way to us so they save the time for other important things".

Knowledge Leveraging. The study also found that technological development helps employees of telecommunication organisations to leverage on the knowledge of other team members. With the use of conferencing apps, online meetings are scheduled between international companies. During these meetings, team members or employees are able to leverage on the expertise of their counterparts from sister organisations. A customer who happens to be one of the participants also explained that "*Project management team meetings on Zoom makes it possible for knowledge to be shared from experienced project team members across the world. Access to the cloud makes it possible for the project team to work on same documents from different regions of the world*". This implies that during the virtual collaboration of team members, young inexperienced team members are able to learn from the more experienced team members. This leverage in knowledge transcends cultural, ethic, social national and geographical boundaries.

Continuous Support Services. Majority of organisations rely heavily on telecommunication organisations to serve their customers as well as maintain good customer relations. There are some regular upgrades that telecommunication companies perform to ensure that service to their customers is excellent. However, sometimes during such upgrades, the customer is affected negatively. Sometimes the network remains unavailable for peak hours during the day when work is expected to be going on. This results in a short-tern inconvenience for the customers of telecommunication companies.

A study participant stated that "*The part that telecommunication companies have to play in my kind of work is with communicating with other team members so anything that influences how people communicate will have an effect on our operations. If there is a system down or an upgrade of any system that will influence communication, it will definitely affect out work*".

It was also found that in order to meet up with changes in technological development that will ensure that clients receive uninterrupted support continuously, employees of telecommunication companies receive regular training on all products and services as and when there are new upgrades. A participant mentioned that "a*s employees, we have come to understand that in the world of technology, nothing is constant. Things keep on changing in such a way that no matter what, there must always be room for upgrade. For instance, some years ago iPhone 4 was the most desirable iPhone but human needs are so complex that more devices have come to meet those needs which are also changing. The new products will definitely involve an upgrade of a system and we as employees understand this. We always make sure employees are upgraded and get them to understand that they are living in a very dynamic environment. This ensures that everybody is up to the task. When the changes come, all the you have to do is align to the overall organisational objective, departmental goal and push to achieve them. So for changes in technology, there's always room for upgrade to ensure continuous customer support*".

Results indicated that changes in technological development happens more quickly than customers notice. However, not all changes or upgrades interfere in the services customers receive. Some of the upgrades are absorbed by the system. According to one of the participants, "*Upgrades are done on a regular basis. Even when you look at the system,*

it has been designed to re-calibrate itself and does upgrade on a daily basis because we are using artificial intelligence and analytics. Our whole system is driven by data analytics so as data needs are increased on an hourly basis, daily basis, the system is analytically upgrading automatically. But when it gets to a point where our analytics have to be validated, that is when we do further upgrades and that is when the customer get some kind of information about an upgrade. Products are upgraded very regularly but we look at the market needs, deficiency of the product and how to improve on the product. These upgrades on happen when the analytics reveal there is the need for such an implementation".

Improvement in Key Performance Indicators (KPIs). Technological development helps organisations to properly set targets and monitor performance which result in an improvement of KPIs. Owing to the fact that these organisational KPIs are system generated and monitored, results are accurate and demonstrate real-time performance of individuals, teams, departments and the organisation as a whole. According to a participant "*we have objective target for every department and every person in the organisation. So there are a lot of key performance indicators that are measured. Most of them are under the control of whoever is serving the customers and some of them are system generated. The system is made to measure our performance as well*".

Improvement in Quality of Service. From the results of the study, it shows that technological development ensures an improvement in the quality of service of an organisation. As the fact the it ensures that the employees are performing the tasks assigned them and are being productive, it also measures how well these tasks are performed, the amount of raw materials or time wasted. One of the research participants explained that "*Quality of service is like a marking scheme where for any customer that calls, whoever*

serves that customer must check his performance against the scheme. You need to watch out for courtesy, whether the customer's issue has been resolved. If it was not a first call resolution, whether it has been escalated to the next level to be resolved. If all boxes are checked, then the agent is said to have done an excellent job. In the same way, when the complaint goes to the back-office, it is expected that the customer's issue is attended to within 48 hours. If this is not done, that particular agent or staff will be flagged as not providing quality service".

Facilitates Work-From-Home. Prior to Covid-19, working from home was not a regular thing for most professions taking into consideration our part of the world. However, the restrictions on movement (lockdown) pushed most organisations to experiment having their employees work from home. Results of the study indicates that even after Covid-19, some organisations have employees who still work from home. According to a participant "*Virtual teams have worked very well for my organisation especially right from Covid-19. And I could tell you that even after the Covid-19, most of the people in my organisation are still working from home. We have team meetings on Zoom and Microsoft Teams, five times in a week for 15 minutes where we get in touch with our leaders just before work or somewhere in the middle of work to have discussions. Problems are brought to the floor for suggestions from team members. The best solution is then implemented.*" Technological development makes this possible such that employees can have an office set-up in the home.

Facilitates E-Business. Results from the study showed that most businesses are either migrating or have migrated from traditional brick and mortar businesses to online businesses. This is facilitated by technological development. According to a customer,

Covid-19 fast-tracked organisational plans to implement e-business. "*I work in a field that requires people having a high inclination to technology because that is what we do. We are into service so we use communication, e-mail, everything technology will help you to do. But I think we have had to move ahead much faster where we're doing more of e-business. We had a lot of plans to implement certain things in 2023 but Covid-19 kicked in and everything was pushed much faster so I think the staff and clients have had to use a lot of e-service*".

Facilitates a Faceless Organisation. Technological development helps to facilitate a faceless organisation. It is argued that the face of an organisation depends on the face of its employees. What then happens to an organisation if its long serving employee leaves or resigns? Most organisations have had to lose clients to competition because an employee left. According to the results of this study, technology has the potential to prevent customers from getting used to one particular employee.

According to a research participant most sales persons feel that their role is diminishing because of technological development. "*Myself, a sales guy, sometimes we want to be a one stop shop where the client calls us and we will solve the problems as if we are the supermen of the organisation. Now, our influence is being reduced a bit where the organisation is saying that you can actually talk to the customer service manager or customer service person or anybody you want to talk to in the organisation via the systems. Though it may delay, you will still get your issue resolved anyway. The sales person feels response is slow as the personal touch would have produced quicker results. Sales people like the control. Even today I was having a conversation with a colleague and we miss that 'superman power' that once you come to me, go to sleep and I will come back to say it is*

done. However, for an organisation, I think it's the way to go. Make the organisation

faceless because the risk is that when the sales person leaves the organisation, they pull

too many clients. The sales person doesn't learn to handover the clients. They own the

clients and for an organisation, you do not want that. The organisation owns the client, not

the sales person".

Role of E-Leadership in Adapting to Technological Development

The role of e-leadership in adapting to technological development according to the

results were Management of change; Give supervision; and Show empathy.

Management of Change. Results indicated that e-leadership facilitates management

of change in adapting to technological development. According to participants "*E-*

leadership is leadership through the use of mostly information, communication and

technology infrastructure or software and can be achieved through online video conference

calls, mails and messaging platforms". Participants explained that it will be out of place to

have a leader who makes who makes use of only traditional leadership styles leading a

team focused on technological development. They explained it will be the case of a square

peg in a round hole. Leaders need to walk the talk in such a situation and manage the rapid

changes.

The study also exposed that due to the technological change, most employees

during working hours, are on one social media platform or another, impacting negatively

on their performance. Leadership has to ensure that employees remain productive no matter

the distraction of social media. Some leaders actually ensure that social media during

working hours are used for interactions that are related to the work being done. The use of

conferencing apps for meetings, WhatsApp for sharing official documents, YouTube for

documentaries and videos related to work, text messages and emails are all different modes of managing the change in technology and ensuring that employees remain productive.

It was also noticed that in some organisations, access to some websites or social media sites are restricted during working hours. Employees can make use of those sites before official work starts or when work for the day is done. This is mostly done by the information technology (IT) department. Some roles like digital marketers and social media managers required that employees stay on the social media sites as part of their job description. In all of these e-leadership was necessary to manage technological change.

Comparing e-leadership to traditional leadership, results indicated that e-leadership is equally effective as long as the behaviour of employees are aligned with organisational objectives and corporate culture. For employees who did not align with organisational objectives and made e-leadership difficult needed to be disciplined. According to a participant, "*if you set a goal and somebody does not fit in or align, there must be disciplinary action against the person. Once a person accepts to be an employee, the person agrees that personal objectives will align with that of the organisation which have been broken down into smaller units at the departmental levels, team levels and individual levels so basically to get people aligned, it all depends on leadership making sure that virtual team members buy into organisational vision and mission*".

Give Supervision. Another role of e-leadership in technological development is to give supervision to the actual task that has been assigned. Results showed that despite the fact that with e-leadership, physical contact with team members is very limited, it is very essential that leadership makes use of the available systems to ensure that each team member is giving off their best. According to one of the participants, "*the technology bit*

of e-leadership is very key because that is what is used for performance management. For sales persons for example, we have systems that we call 'sales force' where you put all your meeting appointments, reports and opportunity identifications in. So basically when you identify a client, you must put it in the system. After the meeting, put minutes in the system and record opportunities. So in the system, there is the opportunity pipeline. In that system, you can tag customer service, operations or anybody in the organisation whose help will be required to make the opportunity materialize. The whole system is such that you go in there and can tell what is happening to all potential clients as well as what everybody needs to do to help. That kind of measurement system that ensures that everyone is in, is a way we appraise ourselves or we are able to follow up the performance of the organisation. I know similar systems run through the banks and a few other places. This way, everybody from going to the screen, will see who is responsible for a particular activity, its current status and what needs to be done. Managers and leaders of all these groups will be monitoring these reports and asking the questions that need to be asked and helping to meet all the deadlines".

Another participant had this to say about the role of e-leadership in technological development as it relates to giving supervision. "*Generally for my organisation, what we do is that we have every manager receiving weekly reports from their team members. Others are system based reports. The system is designed such that at any point the manager can go into the system and pick a report. By the entries you have done, the system is designed so that the manager just sets a time, say every Friday at 10:00 a.m., I go into the system extract a report. If there is the need for further discussions, the one-on-one weekly*

meetings will be an avenue to discuss all matters arising from the report. Otherwise, depending on the intensity, an emergency meeting can be called for further discussions".

Show Empathy. According to findings of the study, another role of e-leadership in adapting to technological development is to show empathy. It must be stated here that all employees do not learn at the same pace. Some pick up things quickly while others require some more time before they are able to grasp whatever technology that is being used. E-leadership provides guidance and mentoring for employees who struggle with a particular technology or gets another experienced employee to provide the needed assistance. A participant explained that "*over the years, general leadership has changed. Now we are not talking about bosses or managers but we talk about leaders. People who should have empathy. People who should understand you and not only performance driven. Any staff wants to feel like this person is leading me to my next ability that I didn't even know I had. I think for any organisation, this is key. They always say that people don't normally leave their organisation, they leave their bosses. If as a leader, you make things unbearable for your staff, they will leave. E-leadership is therefore very key. People have become great people and they didn't know they had it in them. It took a leader to say 'look, per what I am observing, beyond all you're doing, you can also do that. Can you take a look at it? I know you can do it'. Then out of that direction, they become super humans or super achievers in the organisation. E-leadership is therefore very important*.

Another customer explained a situation in his organisation where leaders were not bosses or managers but real leaders who give directives and help employees identify themselves. Many organisations are trying to do without the manager role. So a customer service manager is now mostly referred to as customer service team lead. This way instead

of saying a manager which sounds heavy and unapproachable, team lead sounds like the team has just been broken down into smaller pieces with someone just leading the team. "*Every week, there is a special time with our leaders where we have maybe about one hour depending on how much time we have for ourselves. At the meeting we ask ourselves questions related to personal growth, career growth, what next, how can I help you get better? This is different from the usual appraisal systems, end of year meetings and others. They are all geared towards what else you can do besides where you are now. What is your next step? How can I help as a leader? I am really liking that a lot. It's very helpful*".

Challenges Presented by E-Leadership

The final research objective examined some challenges that arise as a result of e-leadership. The challenges identified were Excessive work load; Limited access to leaders; Difficulty in meeting deadlines; Network challenges; Possibility of acting on important but unnecessary information; Lack of commitment from team members; and Delayed response due to time zoning.

Excessive Work Load. Results showed that unlike traditional leadership where leaders had access to team members only during work hours, with e-leadership, leaders always have access to team members even after working hours as long as there is internet access. A very common mode of communication outside of work hours which has proven very effective is the WhatsApp chat. It has been accepted as a formal-informal channel that virtual leaders use to reach team members. Unlike the setting of an e-mail, messages on WhatsApp are read regularly. As a result, personal time for both the leader and employee are reduced.

A participant recount that most times all that has to be done is visit the calendar of team members to check for availability and schedule for meetings without any prior notice. "*I can just go to your calendar now and see what you are free so I just slot in a meeting*". This excessive workload applies to leaders and team members alike.

Limited Access to Leaders. Considering that fact that leaders also have their fair share of a tight schedule, team members cannot just check the calendar of their managers and schedule meetings based on the manager's availability. As a result, it is difficult to schedule a meeting with one's supervisor. A participant puts it this way. "*The problem is that sometimes there is pressure. I struggle to schedule a meeting with my superior because when you go to his calendar, he's very booked. There are so many projects he's working on so maybe the time you can squeeze in a 30 minutes before another meeting. Sometimes, it's like he has to go to the next meeting and all. Though we are not really physically moving around, we are sitting at one place and quite busy the whole day*".

Difficulty in Meeting Deadlines. The study revealed that most virtual team members have difficulties in meeting deadlines. Some of this is as a result of procrastination on the part of the team member or purely work overload. Sometimes personal challenges related to the family, education, health and other social activities are the cause of the difficulty that virtual team members face in trying to meet up with project schedules and deadlines. One participant explains "*It is not like sitting by you in person where I could just pull out a sheet and say let's do this or that ensuring that I have your 100% participation. Online, you will be distracted especially if you are working from home as I am doing today. It is just a matter of time for the kids to run in and start screaming so yes it is very challenging to meet deadlines from maybe your procrastination or challenges that would have been*

avoided if you were fully in the office, you are seen and you know you have to finish before you get out of office. With e-leadership, sometimes deadlines and all are not met".

Network Challenges. From the study, another challenge has to do with the nature of the network. A participant recounts numerous occasions when in a Zoom meeting, he keeps going in and out of the meeting due to network instability. Sometimes the audio is not clear or keeps lagging which results in communication noise. Due to the fact that e-leadership is mostly associated with virtual team who are scattered all over, for those who are located in the remote areas do not have access to the required infrastructure that supports e-leadership. Such team members are automatically exempted from any kind of system monitoring. The leader needs to therefore look for alternative ways to engage such a team member and ensure they are on track.

Possibility of Acting on Important but Unnecessary Information. From the study, sometimes the use of e-leadership gives management irrelevant information. According to a participant, this is what happens if the system is not upgraded regularly. E-leadership requires that management works with real-time information. "*Basically, if you have a technology that is feeding you with real time information, whatever model or analytics you are using must be consistently checked and validated. So assuming I have a model that is giving me information and that information seems to be out of the current situation, it will still be giving me wrong information based on previous data. It will be giving me information that is important nut not necessary so that's why technology must be constantly checked and upgraded. Other than that, you will be taking decisions and pushing hard to make it succeed but you will be backfiring*".

Lack of Commitment from Team Members. Another challenge is the lack of commitment on the part of team members. As a result of several personality types and traits, employees differ in the response to work. Some employees are very slow on the job and would require external supervision to get the job done. Such employees are not able to perform well in a virtual environment. In a team, they leave all the work on the shoulders of other team members while they lazy around. Since it is a virtual environment, they tend to use all sorts of excuses to justify their under-performance. When such things happen in the physical teams with traditional leaders, they are not as severe as they tend to be in virtual teams with e-leadership. A participant stated that "*some team members are lazy in business. The present half-baked results and look forward to external support instead of going all out to get conclusive solutions themselves*".

Delayed Response Due to Time Zoning. Results also indicated that for team members who are widely dispersed in time zones with very significant differences, there are several delays in getting feedback on the project being carried out. At times an appropriate time to schedule a meeting with team members become difficult since work time in one-time zone may mean bedtime in another time zone. Leaders will have to plan properly in such situations especially during emergencies.

Figure 11

Summary of Qualitative Data

RQ1
Determinants of organisational excellence
High Customer Satisfaction
Ability to quickly adapt to technological development
Reliable network
High availability and improved performance
Curated marketing products to meet customers' expectation
Self-motivated dynamic marketing team
Good governance and organisational policies.

RQ3
Role of e-leadership in adapting to technological development
Manage change
Give supervision
Show empathy.

RQ2
Effect of technological advancement on organisational excellence
Increased productivity
Knowledge leveraging
Continuous support services
Improvement in key performance indicators (KPIs)
Improvement in quality of service
Facilitates work-from-home
Facilitates e-business
Facilitates a faceless organisation.

RQ4
Challenges presented by e-leadership
Excessive work load
Limited access to leaders
Difficulty in meeting deadlines
Network challenges
Possibility of acting on important but unnecessary information
Lack of commitment from team members
Delayed response due to time zoning.

Evaluation of Findings

This section elaborates on the research findings as it relates to existing literature discussed earlier in this study. The main objective of this study was to examine the effect of technological development on organisational excellence as mediated by e-leadership. Specifically, the researcher sought to identify the constituents of organisational excellence for telecommunication businesses in Ghana; to examine how various technological advancements have impacted on the organisational excellence of Ghanaian telecommunication companies; to examine the role of e-leadership in adapting to technological developments in Ghanaian telecommunication industries and to examine challenges presented by e-leadership in Ghanaian telecommunication industries as a result of technological development. It also explored three hypotheses which are stated below.

H1$_0$: Technological development does not have a significant positive effect on e-leadership.

H2₀: E-leadership does not have a significant positive effect on organisational excellence.

H3₀: Technological development does not have a significant positive indirect effect on organisational excellence through e-leadership.

From the results obtained from the demographic data collected, there were more females who participated in the study than their male counterparts 56.88% against 36.12%. This could be as a result of the national demographics in Ghana where the entire population has a bit more women than men. The difference of 20% however is too large to be explained by only the national demographics. Another likely reason could be the fact that women were more open to participating in the online survey than their male counterparts. Finally, since the survey link of the questionnaire was distributed on major social media platforms, it is likely that at the time the link was circulated, there were more women online than men because later on, during the interviews, there were more men than there were women. The difference however does not impact on the research findings in any way because both males and females use technology in a similar fashion.

Data was collected over a period 57 days. After the 57 days a total of 443 responses had been received resulting in an average of 8 responses per day. If the questionnaire was administered in person, it is very likely that data would be gathered within a shorter time with much more responses than what was received. However, that option would have been more expensive and stressful. This could be as a result of the fact that respondents preferred to fill the questionnaire at their leisure when they were not so busy at work as most of the respondents happened to be employees. Only few owned their own businesses or were students. It was also noticed that majority of the study participants constituted adults between 18 years and 60 years. A couple of customers were more than 60 years old unlike

the employees who were all below 60 years. This could be because in Ghana, at 60 years, employees retire from active employment.

The results also indicated that all the respondents had attained at least secondary education. None of the study participants were illiterate. This was expected for employees but not for the customers of telecommunication companies. But the fact that none of the customers was illiterate could be attributed to the mode of distribution of research questionnaire. Of course it would be difficult for someone who cannot read and write to fill out an online questionnaire without any assistance.

Each participant for this study was working with one telecommunication company in Ghana or was connected to at least one of the major telecommunication networks in Ghana. A few of the respondents were using more than one network. These are people who are likely to be involved in more than one business. In recent times, most organisations make available to employees, an official mobile device for work-related issues. Such employees tend to use their personal lines together with the official lines given to them by the employer. One respondent was affiliated to a network that was not included in the major telecommunication networks in the country. This therefore revealed that though the numbers may not be large, some customers are still affiliated to the smaller telecommunication companies in the country. Some customers had been using their telecommunication networks for over 30 years. This typifies customer loyalty where no matter what happens, the customer remains loyal to the service provider.

Determinants of Organisational Excellence in Telecommunication Companies

For the first research objective, the researcher sought to determine what accounts for organisational excellence in telecommunication companies. This was achieved with

responses to 20 questions answered by both employees and customers of the telecommunication companies in Ghana. Interviews were also carried out in order to achieve this set objective. Results indicated that employees are not motivated at the workplace; employees are well-paid in telecommunication companies; telecommunication infrastructural facilities provide a safe and comfortable environment for both staff and customers; network downtime is not acceptable; there was no partiality in the services that are rendered by telecommunication companies; good customer support is not rewarded; insufficient employees to perform the work; career development is actually a support system in telecommunication companies; excessive use of rigid rules controlling and monitoring mechanism does not hinder the creativity and performance of staff; communication among employees are efficient and effective; performance standards do not place any constraints on job performance; poor funding for projects does not dent the performance of employees; job insecurity is not a threat to employee performance at work; work environment in telecommunication companies is not the most conducive; subscription costs are not expensive; there are no regular advancement or improvement in the network performance; customers do not really get helpful information from the call centre; customers do not get helpful information from the application; customers are not informed about new services via email, messages or phone calls; and customers do not love hearing from network providers once in a while.

Most of the determinants like how well employees are paid, quality of infrastructure, impartiality in the services telecommunication companies render, career development as a support system, staff performance and creativity unhindered by rigid rules, the presence of efficient and effective communication, performance standards and

poor funding not getting in the way of employee performance, were expected and in line

with literature (Bans-Akutey, 2020; Bans-Akutey, 2019; Lal, 2017; Viguerie at al., 2017;

Vought, 2017). The other determinants which were not confirmed in line with existing

literature could be due to the fact that customers who were outside of the organisation saw

things differently unlike the employees who were part of the organisation and therefore

understood the systems put together to motivate employees as well as reward excellent

customer service. This implies that even if telecommunication employees were motivated

or rewarded by management for excellent customer service (Ryynänen et al., 2012), it was

not evident to the customer or did not reflect in the services received by the customer, thus

not accounting of organisational excellence.

Other determinants that had to do with how helpful the call centre and application

are to customers as well as whether customers are happy to hear from their network service

providers were also not confirmed as expected (Wachira, 2010). This may be due to the

fact that challenges or customer service issues differ from one customer to another.

Therefore, relying on an application may not be helpful for challenges that require human

intervention. About the call centre, there is the possibility that call centre agents are not so

technologically inclined to be able to handle the issue at the first instance they engage with

the customer. Thus, after all the hustle the customer goes through to get connected to

customer service, he has to wait or call back later after an expert has been contacted. In

some cases, even after waiting for a while, the problem does not get resolved and the

customer has to physically move to the premises of the network service provider to have

his challenge resolved. When customers are not happy to hear from their service provider,

it could be that such calls come in at a time that the customer is busy or engaged in other

activities during which the call becomes a nuisance. Spam messages and calls could also account for the reason why customers are not excited to hear from the network service provider.

The qualitative results indicated that that the main determinants on organisational excellence are High Customer Satisfaction; Ability to quickly adapt to technological development; Reliable network, high availability and improved performance; Curated marketing products to meet customers' expectation; Self-motivated dynamic marketing team; and Good governance and organisational policies.

High customer satisfaction, reliable network, high availability and improved performance, and curated marketing products to meet customers' expectation determinants of organisational excellence, are supported by (Hasanzadeh & Ghadiri, 2010; Matsuno et al., 2002; Tanja & Jurij, 2014). They found that once a company gathers intelligence about customers' present and future needs in a way that it guides management decisions or actions in the best interest of the customer. Once the organisation is able to respond in positive way to changing customer expectations, needs and preferences, they are able to keep a large database of loyal customers by providing excellent service as it relates to the customer.

Ability to quickly adapt to technological development aligns with the opinions of Eisenhardt and Martin (2000), Craig et al., (2013) and Naab and Bans-Akutey (2021) who indicated that an organisation's ability to quickly adapt to technological development results in an excellent performance even in a highly competitive environment.

The study also showed that good governance and organisational policies account for organisational excellence in telecommunication companies. This aligns with the finding

of Samawi et al. (2018) who found a positive relationship between organisational excellence and total quality management practices in the area of strategic management or planning and information analysis. Good governance and organisational policies are elements of strategic management which is also a practice in total quality management.

Effect of Technological Advancement on Organisational Excellence

The second research objective examined the effect of technological development on organisational excellence. Results showed that technological advancement increases employees performance; makes work neater and faster; more tasks are achieved over a short period of time (increase in productivity); improves communication between customers and employees; motivates employees; improves job satisfaction; helps organisations to respond to employee demands quickly; more tasks are accomplished in a short period; improves career development and improves employee knowledge of modern technology. These effects align with past studies (Bans-Akutey, 2019; Eke & Kenebara, 2020; UNDP, 2001; Werthner & Klein, 2005). These effects are all positive despite the fact that the rate of change of technology is quite rapid. Evidence from the study indicated as rapid as daily upgrades of technology for telecommunication operations. This could be because both employees and customers adapt to the change so quickly that the negative effect if the rapid change is not significantly felt. The positive effect could also be as a result of the fact that technology development itself helps employees to improve their career in the long term as well as their knowledge of modern technologies as facilitated by the employer.

From the qualitative findings, the main effects of technological advancement on organisational excellence identified were Increased productivity; Knowledge leveraging;

Continuous support services, Improvement in key performance indicators (KPIs), Improvement in quality of service; Facilitates work-from-home; Facilitates e-business; and Facilitates a faceless organisation. Some of these effects were also found in the quantitative bit of the study. Other effects like knowledge leveraging, work-from-home facilitation, e-business facilitation and facilitation of a faceless organisation were not captured under the quantitative section.

It was evident that technological development facilitates knowledge leveraging among employees. It is very common for international organisations to make use of the expertise of employees in sister or mother companies around the world. As a result, most organisations would rather invest in modern technology than employ more manpower. With the use of technology, they depend on employees who are not physically present but can always be reached to provide the needed assistance when it becomes necessary. This is in line with the result of Bans-Akutey (2019) that technological development result in a decrease in manpower levels. This however may not exactly be a decrease as the organisation tends to rely on the expertise of employees outside the firm. Khan et al. (2018) also found out that the technological development increases staff sharing abilities as well as data analyses features. Results from this study confirm the findings of Khan et al. (2018) and Bans-Akutey (2019).

It was also found that technological advancement facilitates e-business aligning with the result of Naab & Bans-Akutey (2021). They found that technological advancement has evened the playing field for all businesses. Businesses are now closer to their stakeholders as a result of technological development. There is now not need to be physically present to be attended to or to have a challenge addressed.

It was also found that technological development facilitates a faceless organisation. Once most organisations adopt the use of e-business, the implication is that there is a reduction in face-to-face encounters between employees and customers. This could be as result of the fact that the computer screen or phone connection mediates the interaction between the organisation's staff and their customers. In this way, customers do not get so attached to particular employees that in the absence of those employees, it becomes difficult to transact business with the organisation. Customer service personnel, sales and marketing personnel as well as product support personnel would tend to have a decrease in the level of control over their customers. This however is a good thing for organisations because loyal customers get to stay with the organisation even when employees leave.

Role of E-Leadership in Adapting to Technological Development

The third research objective examined the role of e-leadership in adapting to technological development. It was found that e-leadership has discouraged face-to-face interactions; social media is being used for formal communication at the workplace; virtual teams are used while adapting to technological development; e-leadership opens the organisation up to advancing in the online workspace; there is an improvement in managers' readiness to offer support for team members has improved; and virtual teams have an improved communication channel established through virtual leadership while adapting to technological advancement. Results showed that e-leadership plays a very important role in adapting to technological advancement.

These findings are in line with results of past studies and existing research (Bans-Akutey & Ebem, 2022; Bans-Akutey & Tiimub, 2021; Darling & Nurmi, 1995; Kirkpatrick & Locke, 1991; Tiimub et al. 2021; Wing, 1988; Zhu et al., 2005) which conclude that e-

leadership is a very significant foundation that cannot be overlooked for any organisation that intends to attain organisational excellence, management development and continued strategic competitive advantage. This means that telecommunication organisations need to encourage managers to make use of e-leadership no matter the type of leadership style (transactional, transformational, servant, and many others) that a manager prefers to employ.

Results of the qualitative data were also in line with what has been discussed quantitatively. From the findings, e-leadership facilitates the change management process by ensuring that every member of the team is carried along even if the change is a difficult one. It must be noted that sometimes technological development can complicate even the most basic task, if an employee knows that when they attempt the performance of a task and face any challenges, they can always fall on their manager who is a phone or WhatsApp call, text or WhatsApp message, email or conference call away, tasks will be carried out with much more confidence. It was also found that sometimes the digital space exposes employees to all kinds of distractions, particularly from social media that reduce the productivity of both individuals and teams. E-leadership was proven to ensure that employees who work in virtual teams are guided in ways that the use of time is efficient. This confirmed that e-leadership is as efficient as traditional leadership as reported by Vought (2017) and Van Wart et al. (2017). Consequently, the study showed that e-leadership provides supervision to all employees whether in-person or virtual. This implies that unlike traditional leadership which is limited to just in-person supervision, e-leadership is applicable in the provision of supervision to both virtual teams and physical teams.

Another role of e-leadership in organisational excellence as indicated by the study is the provision of empathy. In recent times effective leaders are those who show empathy. Owing to the fact that people have varying personalities, the rate at which individuals learn also vary. This means that in a team, individuals will adapt to technological change at different levels. This requires that leadership shows empathy as the slow learners try to catch up with the change. Choi (2006), in the study on charismatic leadership found that charismatic leadership adopts three main mechanisms in order to be effective. These mechanisms were stated as envisioning, empathy and empowerment. He further explained that these mechanisms cause followers to strive to excel and desire to be more productive; stimulate followers to desire to be associated with the leader and affiliated with the organisation; and makes followers to desire to be like the leader.

In a case where the leader is experienced, it becomes easy for the slow learners to quickly adopt to technological change because they have someone to look up to. Empathy ensures the leaders in a virtual space create an environment where individuals are not insecure even if they have deficiencies in adopting to technological development. The presence of the e-leader, owing to their show of empathy, speeds up the learning process while ensuring that the work environment I conducive enough to bring out the best in the employee. The leader then becomes a pacesetter or an example as posited by Zervas and David (2013). Research indicates that these philosophies of leadership have a direct effect on the customer's satisfaction, the satisfaction of employees, and the financial performance of the entire organisation (Bans-Akutey, 2021). The resultant effect being the attainment of organisational excellence.

Challenges Presented by E-Leadership

The final research question considered challenges that are encountered presented by e-leadership as a result of technological development. Results showed that e-leadership exposes lack of technical skills with more than half of the participants strongly agreeing or agreeing; lack of technical skills translated to job insecurity; unsecured network is a risk in the adoption of e-leadership while adapting to technological development; employee awareness is not guaranteed through the use of e-leadership; quality of assessments is questioned; possibility of error in time-stamp during work hours; that continual learning has reduced; and that trust is a failed establishment in e-leadership. These findings do not align with study of Avolio & Kahai, (2003), who explain that ICT alters the foundation of leadership in a positive way. It could be that these challenges do not significantly affect the organisation's productivity.

Again, findings for the third research question indicated that an e-leader can make use of empathy in such a way that employees who lack the requisite skills that a new technology requires, or are slow learners, will not harbour any feelings of insecurity. In effect the successful use of e-leadership depends on the leader's competence to effectively use e-leadership to be able to manage such challenges. Once the challenges are managed, the organisation gets to enjoy the positive effect of e-leadership. Otherwise these challenges associated with the adoption of e-leadership may affect the organisation negatively.

From the qualitative results, it was found that some challenges that arise as a result of the adoption on e-leadership were excessive work load; limited access to leaders; limited access to leaders; difficulty in meeting deadlines; network challenges; possibility of acting

on important but unnecessary information; lack of commitment from team members; and delayed response due to time zoning.

It is mostly assumed that if no physical activity is going on, then no work is going on. This could be the reason why if supervision is being done online, top management do not place much attention on the number of individuals or teams that are being supervised online. Meetings are schedules based on the availability on the manager's calendar. Very little consideration is given to when he may have ended a meeting or when his nest meeting will start. This sometimes get overwhelming and affect the work performance negatively. This agrees with the assertion of O'Connell's (1988) assessment of the impact of IT on human communication and the system of interactions within the organisation. He further explained that a number of casual meetings which by-pass the formal structure and hierarchy are likely to happen. This study has proven that this condition is actually happening through e-leadership.

Another challenge that was found was limited access to leaders. Arguably, it should have been much easier to reach leadership as a result of the use of ICT tools. The study however found out that sometimes, there is rather a limited access to leadership. This could be because of the fact that everybody has access to an ICT tool and can contact the manager at any time without the restriction of a secretary or official work hours. The manager therefore in a quest to get his virtual teams to be more effective and productive, ends up spending so much time with them that it affects the time he has for other teams and individuals.

It was also found out that in as much as technological development makes work easier, quicker and neater (Bans-Akutey, 2020), some virtual team members had difficulty

completing their tasks as scheduled. Some virtual team members owing to the fact that managers supervise task progress online tend to procrastinate so much that the entire project is delayed. Difficulty in meeting deadlines were also found to be caused by some health challenges or family-related issues. Others were not able to meet their deadlines because of technical challenges or network issues. These challenges are very common in developing countries like Ghana where the digital divide is still very wide (Bans-Akutey, 2019; 2020).

Another challenge identified was the fact that sometimes an e-leader could be acting on a very important information which is no more necessary. This means that with e-leadership, the element of time is very essential. The leader needs to have access to real time data that will enable him to make accurate decision related to an individual, team, project or even the entire organisation. Consequently, with e-leadership undue delays have the potential of affecting the organisation negatively. If the organisation wants to attain excellence and sustain it, virtual teams and e-leaders will have to ensure timeliness in task completions and reporting.

Another challenge was the lack of commitment from some virtual team members. Most employees have come to accept that within the teams they work, there is help that is readily available in case there is a need. Such employees take advantage of this assistance in such a way that they do not put in their all in the work that is being done knowing very well that other team members will cover up when they fall short of what is expected of them. Owing to the fact that it's sometimes difficult to measure individual performance in a group, these uncommitted team members are not easily identified by the leader who monitors the team's performance virtually. If this continues for a while, it is likely to de-

motivate other committed team members and result in poor work performance with the passage of time. This is in line with the result of Lizarelli et al. (2021) who state that an organisation's performance is based on skilled employees, motivated workers, a skilled management team, an effective competitive strategy and the best use of a set of monitoring systems.

In as much as with e-leadership, team members can be located all around the world and still be able to collaborate effectively for project completions, sometimes the difference in time zone becomes a challenge. When the difference is very wide, scheduling for meetings tends to be difficult. In cases like this, uncommitted team members have a good reason not to show up for meetings or even attend the meetings unprepared.

Evaluation of results of research hypotheses

From the results obtained from the mediation of e leadership, all three null hypotheses were rejected at a significance level 0.05 in favour of the alternative hypotheses. P values obtained were *(p1 = 0.019, p2 = 0.000, p3 = 0.000)*. Consequently, results indicate that there is a statistically significant positive effect of technological development on e-leadership; a statistically significant positive effect of e-leadership on organisational excellence, a statistically significant positive effect of technological development on organisational excellence; and a statistically significant positive effect of technological development on organisational excellence through the mediation of e-leadership.

This implies that e-leadership has a mediating effect on organisational excellence. However, owing to the fact that both the direct and indirect relationships are statistically significant, there is a partial mediation of e-leadership in the effect of technological

development on organisational excellence. These findings are in line with the studies of Vought (2017); Viguerie at al. (2017); Lal (2017); Bans-Akutey (2019); Bans-Akutey, (2020); and Bans-Akutey & Ebem (2022), who stated that organisational excellence cannot be discussed as a standalone principle devoid of technology since ICT has become pervasive in all aspects of an organisations activities.

They however did not indicate the extent to which technological development affects organisational excellence; which has been proven in this study that for every unit increase in technological development, there is an 18.3% increase in organisational excellence and 12.5% increase in e-leadership. However, with the mediating effect of e-leadership, a unit increase in technological development will result in 5.9% increase in organisational excellence. It was also found that for every unit increase in e-leadership, there is a resultant 46.9% increase in organisational excellence.

Chapter Summary

The study focused on the effect of technological development on organisational excellence, mediated by e-leadership, within the context of telecommunication businesses in Ghana. it aimed to achieve several objectives, including identifying the constituents of organisational excellence for these businesses, examining the impact of technological advancements on organisational excellence, assessing the role of e-leadership in adapting to technological developments, and exploring challenges associated with e-leadership due to technological development.

The study gathered data through a survey distributed online, involving a majority of female respondents. Data collection took place over 57 days, and it was observed that the respondents had at least a secondary education. They were either employees or

customers of telecommunication companies in Ghana, and some respondents used multiple networks.

The study's findings related to the determinants of organisational excellence in telecommunication companies revealed a mix of expected and unexpected results. For example, employees were found not to be motivated at the workplace and good customer support was not rewarded, and there was no evidence that these factors contributed to organizational excellence. However, factors like employee pay, infrastructure quality, and efficient communication positively impacted organizational excellence.

The impact of technological advancement on organizational excellence was generally positive. It was found to increase employee performance, make work more efficient, and improve communication with customers. E-leadership was recognized as playing a crucial role in adapting to technological developments. It discouraged face-to-face interactions, promoted the use of social media for formal communication, and enabled the use of virtual teams.

Challenges associated with e-leadership in the context of technological development included a lack of technical skills, potential job insecurity due to this lack of skills, network security risks, and limited employee awareness. Additionally, the study highlighted issues related to trust and quality assessments, and the possibility of errors in time-stamp reporting during work hours.

Regarding the research hypotheses, all three null hypotheses were rejected, indicating that there are statistically significant positive effects of technological development on e-leadership, e-leadership on organizational excellence, and technological development on organizational excellence through the mediation of e-leadership. The

study suggests that e-leadership partially mediates the relationship between technological development and organizational excellence.

CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS AND CONCLUSIONS

Introduction

In recent times it has been observed the customers of telecommunication companies have become extremely inclines to technology that they would move on to the next new technology once it is introduced. This occurrence, which can be related to both individual clients and corporate organisations who subscribe to the services of telecommunication organisations, puts telecommunication companies under unnecessary pressure to attain excellence so as to satisfy their customers (Saha et al., 2017). Most companies, including telecommunication companies that try to attain organisational excellence as part of their long term goals are doing their best to to match up with the rapid developments in a dynamic environment which is undergoing frequent changes in technology. The external transformation tends to put a demand on telecommunication companies to be responsive to the market trends and ensure customer satisfaction.

Just like any other business organisation which would not want to lose its clients to competition, telecommunication communication companies have to continue adapting and adjusting to the rate at which new technologies are introduced. To be able to attain customer satisfaction, operational excellence and withstand competition, Ghanaian telecommunication companies are forced to adapt to rapid technological development. In the quest to achieve this, organisational budgets are not proportionally allocated. Other departments or resources tend to suffer (Bans-Akutey, 2019).

Studies however have shown that the effect of technological development mostly depend on long term decisions suitable to the particular industry. This therefore implies that when the level of unpredictability in operations is high the effect of technology is high. The effect of technology is however low when the level of unpredictability decreases. In other words, technology helps to reduce unpredictability and increase competitiveness from the employees' viewpoint (Caldeira et al., 2012). There is however no consideration for the way rapid developments in technology affect other parts of the organisation. Most studies in the past focused on human resources, skills, abilities and initiatives and essential factors that are required to attain organisational excellence (Beer & Mulder, 2020). These studies however do not consider the place of technological development and leadership in attaining the desired excellence despite the fact that a lot of investment is made in technological development. Hence the need to examine the effect of technological development on the achievement of organisational excellence through e-leadership.

Similarly, the use of information and communication technology tools have altered the way managers interact with their subordinates or team members. Thus in recent times, managers have adopted the use of technology tools to perform their tasks

(Bans-Akutey, 2020). This has an effect on the manager-supervisor relationship. It is however not knowing how e-leadership affects organisational excellence. The research therefore examined the effect of technological development on organisation excellence through the mediating role of e-leadership.

The current study made use of a mixed methods approach to examine the effect of technological development on the organisational excellence of telecommunication companies in Ghana with e-leadership as a mediator. Specifically, the study identified the constituents of organisational excellence for telecommunication businesses in Ghana; examined how various technological advancements have impacted on the organisational excellence of Ghanaian telecommunication companies; examined the role of e-leadership in adapting to technological developments in Ghanaian telecommunication industries; and examined challenges presented by e-leadership in Ghanaian telecommunication industries as a result of technological development. Three null hypotheses were also tested, thus, technological development does not have a significant positive effect on e-leadership; e-leadership does not have a significant positive effect on organisational excellence; and technological development does not have a significant positive indirect effect on organisational excellence through e-leadership.

The study made use of online interviews, phone interviews, and observation to collect primary qualitative data; and surveys in the form of online questionnaires to collect quantitative data. The main respondents for this study were customers and employees of telecommunication companies in Ghana, between the ages of 18 years and 60 years old. Considering the rate at which technology is developing in telecommunication companies in Ghana and the amount of investments being made in

technological development, this study is significantly timely and has brought to light the fact that technological development in telecommunication companies happens as frequently as a daily routine though this is unknown to the customers of telecommunication companies.

Implications

Determinants of Organisational Excellence in Telecommunication Companies

In determining what accounts for organisational excellence in telecommunication industries, several indicators, according to reviewed literature, were proven. Determinants like attractive remuneration for employees in telecommunication companies; telecommunication infrastructural facilities being safe and comfortable for customers and employees; impartiality in the services rendered to employees and customers; employee career development being considered as a major support system; a very good staff performance and creativity which are unhindered by rigid rules from the organisation or top management; the presence of efficient and effective communication systems; performance standards and poor funding for projects not interfering with employee performance; are results that were expected based on the extensive literature review and the discoveries that were made consequently.

Nonetheless, other unexpected results emerged from the study. One of such was that telecommunication employees were not motivated at the workplace even though they were well paid. One would think that when employees are paid well in an organisation, it automatically influences their motivation at work. This study however

shows otherwise. Owing to the fact that there were more customers in the study than employees and therefore the numbers may have affected the results, it is likely the employees themselves may not agree with this result and argue that they are motivated at work. However, the view of customers that telecommunication employees are not motivated at work could be as a result of the kind of reception or service they receive from the employees when they visit the outlets of the telecommunication companies, contact the call centres or even make use of the applications. This was further deepened when results from the study indicated that the call centres and applications were not helpful to customers of telecommunication companies. It was also established that customers were not mostly happy to hear from their service providers once in a while. This clearly shows that if customers had their way, they would not visit the service centres of telecommunication companies, get assistance from the call centres or even receive calls that will inform them of new products and services. Maybe this explains why customers are mostly not satisfied with the services that the telecommunication companies render to them; with some customer ready to create a scene when they visit. It is as though these customers feel their needs are not being met as they should.

Consequently, if customers do not enjoy hearing from telecommunication companies, it automatically places a limitation on how much information customers receive from their service providers. Considering the rate of change of technology, telecommunication companies of a necessity have to constantly interact with their clients in order to close up all knowledge gaps, provide education to clients on new technology products and services that have been introduced, or impending upgrades that may interfere in the operations of corporate customers as well as individual customers. On the other hand, if customers are not willing to hear from the service

providers, extra effort and funds may have to go into other communication channels that customers will be open to. The working environment of telecommunication companies was found not to be too conducive for both employees and customers. This could be a probable reason why customers may not want to visit the service centres. This may be due to the long queues that associated with the service centres or even the little arguments that sometimes ensue.

Another conflicting finding was the fact that although during the interview, it was very clear that technological developments in telecommunication industries take place as rapidly as a daily occurrence, quantitative results showed otherwise. Quantitative results indicated that there are no regular technological developments in telecommunication companies. Again this could be a result of the fact that customers constituted more than half of the participants in the study. However, if this view is what customers have of telecommunication companies, it is evident that customers have very little or no idea regarding the effort and investment telecommunication companies are putting in technological developments to ensure that services provided are seamless. This implies that the level of awareness of regular technology upgrades among customers of telecommunication companies is quite low.

Effect of Technological Advancement on Organisational Excellence

The second objective was concerned with examining the effect of technological advancement on organisational excellence. Findings for this objective indicated that with technological advancement, there is an increase in the productivity and performance of employees; work done is much more faster and neater; communication among stakeholders is improved, employees are motivated; there is improvement in job satisfaction; telecommunication organisations are able to respond quickly to

stakeholder demands; there is an improvement in career development; employees' knowledge of modern technology is improved; knowledge from diverse sources can be leveraged; 24-hour service provision for clients; improvement in the quality of service provided for customers; facilitation of work-from-home alternative for employees; facilitation of e-business and a faceless organisation for telecommunication companies.

Almost all these findings were in line with existing literature except the last one where results indicated that technology facilitates a faceless organisation. A major challenge of most organisations is having to lose their best employees, who play a very significant role in the organisation's excellent status, to competition. In most cases, these employees tend to leave the organisation with very loyal customers who have become so attached to the employees that they have no business with the organisation if those particular employees are not available. This situation, is mostly true for sales and marketing executives as well as relationship managers, and has affected several organisations negatively. Results from the study indicates that with technological development, organisations can actually maintain their excellent status perpetually by adopting a faceless organisation where clients do not get so attached to a particular employee. With technological development, the direct contact between employees and customers become limited. The contact gets mediated by computer or phone screens on both ends, thus limiting the extent of attachment to a particular employee. This face-to-screen mode of interaction, however, has not been proven to increase customer loyalty.

Role of E-Leadership in Adapting to Technological Development

With the third research objective, where the role of e-leadership in adapting to technological leadership was examined, it was found that for employees to successfully adapt to technological development, e-leadership has a major role to play. E-leadership

discourages face-to-face interactions; employs the use of social media for formal communication at the workplace; makes use of virtual teams while adapting to technological development; makes the organisation advance in the online workspace; makes managers readily available to offer support for online teams; ensures that each team member is carried along while adapting to technological development; and serves as an avenue to show empathy to team members who have challenges adapting to technological development.

Despite the fact that all these findings are supported by existing literature, it is worth noting that most team members, both virtual and physical teams, tend to face some difficulties while adapting to technological development. E-Leadership thus decreases the level of difficulty that the affected team members may have during the upgrade of an existing technology or introduction of an entirely new technology. This implies that no matter how sophisticated technology has become, managers are required to continue playing the role of an e-leader. It will not be advisable for top management to completely take away e-leadership just because technology is in use. Managers will also have to keep in mind the fact that not all employees are able to quickly adapt to technological development and such will have to be ready to provide the needed assistance to employees who may require some assistance in adapting to the ever changing technological development.

Challenges Presented by E-Leadership

Finally, about challenges that are posed by e-leadership as a result of rapid advancements in technology, results showed that e-leadership exposes lack of technical skills of some employees; lack of technical skills then translates to job insecurity; unsecured network is a risk in the adoption of e-leadership while adapting to

technological development; employee awareness is not guaranteed through the use of e-leadership; quality of assessments is questioned; possibility of error in time-stamp during work hours; that continual learning has reduced; and that concept of trust is a failed one in e-leadership. It is worth stating here that the challenges, if considered independently, may seem as though e-leadership actually affects organisational excellence negatively. However, this is not the case. Findings from the third research question point to the fact that e-leadership can actually remove all these challenges that technological development is likely to pose. Effective e-leadership can make an employee who is not so technologically inclined to quickly adapt as a result of the working environment created.

It was also found that some challenges that come about as a result of the adoption on e-leadership were excessive work load on the part of managers and virtual team members; limited access to e-leaders; difficulty in meeting deadlines; network challenges; possibility of acting on important but unnecessary information; lack of commitment from team members; and delayed response due to time zoning. This implies that despite the fact that technology makes work easier and faster, e-leadership sometimes gets overwhelming. Leaders are faced with work overload in most cases which affects them negatively. Sometimes, in the midst of the overload, team members will not be able to reach the leader which may result in undesired results in cases of emergency. It is also very shown from the study results the e-leaders need to ensure that all systems for monitoring and supervision purposes are updated regularly in order to receive accurate real time reports. Otherwise the desired results will not be obtained.

It is very evident from this study that people who work online can get as equally busy as those working offline or in-person. Most times top management gets the feeling

that if employees are not present on site, then they are not working at all. Some insist that even if the task to be performed can be completed online, employees would have to be present at work to get it done. As unfair as this may sound, it was found in the study that most employees sometimes get distracted while working remotely by family, friends and other habits, resulting in project delays, mistakes and unnecessary extra cost to what has already been budgeted. Others also do not commit to getting the work done because they are aware that even if they don't get the work completed, other team members will cover up by completing the task. Consequently, top managers will have to know their employees at the personal level so that they are clear on which employee can effectively work online and who cannot. This way those who can effectively work online can be allowed to do so while those who cannot are made to work on-site.

Results of Research Hypotheses

Results obtained from testing the hypotheses indicate that technological development has a positive significant effect on e-leadership and organisational excellence. However, considering the magnitude of the direct effect of e-leadership on organisational excellence, it is worth noting that rather than focusing solely on the infrastructure for technological development, telecommunication companies should also invest sufficiently in e-leadership. This is because investing in the management team to raise effective e-leaders will largely impact on their excellence as an organisation. In effect while owners of telecommunication companies are procuring new equipment and upgrading already existing ones, the human resource should not be neglected. There may be the need for regular training on best practices in the digital space in addition to training the employees on how to use that equipment.

Another finding was that technological development's effect on e-leadership is not as much as that of e-leadership on organisational excellence. This therefore implies that it does not take so much of technological development to improve on the state of e-leadership. However, the little effort that goes into e-leadership has a much larger, almost four times the effect on organisational excellence. It is significant to say that the human element in adapting to technological development should definitely not be taken for granted as it impacts largely on how stakeholders of telecommunication companies perceive them.

There is a school of thought that believes that technological development, with time will replace the role of humans in the work space (Bans-Akutey, 2019). This study however brings to light the fact that technology alone will not make as much difference as it would on organisational excellence as compared to the difference leadership that is affected by technology would in achieving excellence in the organisation. It is therefore very crucial to be up to date with technology; but much more importantly to ensure management's use of technology in telecommunication industries is up to date and effective.

Recommendations for Application

Anchored on the findings of this study and implications, a few recommendations have been suggested. These suggestions have been grouped according to the research objectives set out for the study as well as the hypotheses that were examined.

Determinants of Organisational Excellence in Telecommunication Companies

For the first research objective, it is suggested that managers of telecommunication companies keep up with the effort they are putting in the business to ensure the attainment of organisational excellence and improve on it with the passage of time and further technological advancement. The study found that telecommunication companies in Ghana currently have attractive remuneration packages for employees; safe and comfortable infrastructural facilities for customers and employees; impartial provision of services for customers and employees; regular career development for employees as a major support system; efficient and effective communication systems; no interruption in employee performance and creativity despite poor funding for projects, rigid rules from the organisation or top management. These determinants, among others, accounted for organisational excellence in telecommunication companies. Top management's ability to maintain or improve on these standards will ensure that telecommunication companies improve on performance while increasing their market share.

The second recommendation for this objective is aimed towards motivating employees of telecommunication industries. It is recommended that human resource managers of telecommunication companies explore other innovative ways of getting their employees motivated in such a way it will be evident to customers. When customers are aware that the employees who are attending to their needs and queries are well motivated, they will feel welcome. The study brought to light the fact that even though employees are assured very attractive remuneration, a safe and comfortable working environment, there was still the lack of motivation on the part of employees. Therefore, other extrinsic motivation techniques like cash bonuses, promotions and regular pay raises can be employed by management in addition to what is already being

done. Employees should also be given training on the development of intrinsic motivation in order to stay motivated at work despite the happenings in their work environment which tends to be dynamic.

The third recommendation is directed towards top management of telecommunication companies ensuring that service centres provide a welcoming ambience where customers would enjoy to visit, call centres have well-resourced employees who can resolve customer complaints effectively; and service applications that are user friendly and allow the users to navigate through the site in a way that helps troubleshoot customer challenges. It was found in the study that customers do not enjoy visiting the service centres. They also felt the call centres and application were not helpful. If a customer visits the service centre and receives a warm welcome in addition to finding a permanent solution to the challenge they came with, it will be much easier to visit the service centre anytime they encounter a challenge. Adversely, if a customer has to make several trips to the service centre in order to have a problem resolved, they will not enjoy visiting. Same applies to the call centre and application. Management should see to it that employees who have the duty of attending to client request are equipped with all the necessary information to be able to resolve basic challenges which recur. In a case where the employees are inexperienced, technical personnel should be assigned to them so that customers are not made to call back a second or third time before the problem is resolved.

Another recommendation for this objective is for marketing managers to consider other innovative ways of getting the customer to know about new products, services or even general announcements. The study found that customers are not interested in hearing from the telecommunication companies from time to time.

However, with respect to the rapid development in technology, telecommunication companies cannot afford to keep customers in the dark about the regular upgrades and how they affect the customer. There is the need for telecommunication companies to be in constant communication with their clients. Management therefore needs to explore the use of other platforms aside the traditional calls or text messages. This may however have financial implications for telecommunication companies.

It is also recommended that management puts in extra effort to ensure that the working environment of telecommunication companies remain conducive for both employees and customers. This could be achieved by engaging more security officers who will ensure that no matter how agitated or frustrated customers become, they do not assault any employee or client. This way the safety of all stakeholders will be secured when they happen to be in the service centre. Consciously, employees should deliberately prevent unnecessarily long queues from forming at the service centres as standing or even sitting in long queues, sometimes cause agitations. Customers tend to get impatient when they feel they are wasting time sitting in those queues for long hours. During such peak seasons when there is pressure at the service centres, management may have to employ more labour or encourage clients to make use of the technology that has been made available by service provider. Employees from other departments could come around to the reception area to assist with serving the clients until the length of queues reduce and the congestion eases.

Effect of Technological Advancement on Organisational Excellence

It is recommended that as much as possible top management of telecommunication companies reduce the direct acquaintance of employees and clients that the organisation has assigned them. Effective use of technology can be used to

facilitate this reduction in prolonged direct contact. The study found that in most cases, when the company loses a major employee to competition, due to the attachment to some particular clients over the period of time they were working, tend to move away with that customer. This impacts negatively on their former employer. It will therefore be in the interest of Sales Managers, Marketing Managers and Relationship Managers, with the effective use of technological systems, to reduce direct encounters to the barest minimum. This way, loyal customers will not be lost to competition if an employee resigns from office or leaves the company.

Role of E-Leadership in Adapting to Technological Development

For every new technology that is introduced, it is recommended that managers train all employees on the effective use of both hardware and software. After the training, there is the need to patiently guide them to make use of the learning that has been made. Results from the study indicated that physical and virtual team members mostly encounter challenges while adopting technological development. Since e-leadership facilitates a decrease the intensity of challenge faced by employees, it is recommended that management in providing guidance and training for the employees, make use of technology. Continuing with the use of technology while providing assistance to the staff will help them get comfortable with the new technology because they know their manager is making use of that same technology and would be available to assist when they encounter difficulties. As much as possible, employees should not be made to feel insecure if they have challenges adapting to a change in technology. They should not be threatened with losing their jobs if they do not adapt as quickly as their other colleagues. Managers should rather provide tailored training sessions for technology-challenged employees.

Challenges Presented by E-Leadership

For this research objective, it is recommended that managers, in this case e-leaders, properly plan their online engagements just like they would do if they were staying in the office for about eight hours in a day. This would ensure that managers do not get burnt out in their quest to provide the needed training and guidance for team members. It was found in the study that though technology makes work easier, faster and neater, it also resulted in excessive workload for managers and virtual team members. There is therefore the need for top managers to plan time usage well, in such a way that working online with the use of technology does not cause fatigue or stress for employees who fall within this category.

It is also recommended that managers plan the schedule for each team member in a way that all team members will have adequate access to the manager. The schedule should be such that employees who are known to face challenges with the introduction of new technology, have more access to the manager than those who are more technologically inclined and can find their way around technological development. Managers are also encouraged to delegate some supervisory functions to team members who have the potential to assist their colleagues to better adapt to the change technological development presents. This in effect, will lessen the pressure on managers to attend to all struggling team members. When the manager is busy, team members will be readily available to provide assistance. It will also empower those who have been delegated to provide assistance to their colleagues, thus preparing them for future managerial roles.

It is also recommended that engineering managers ensure that telecommunication systems are regularly checked and updated if necessary to avoid

managers having to sometimes act on important but unnecessary data. No matter how accurate an information is, if action to be taken is unnecessary delayed, it will no more be relevant depending on the sensitivity of the action and how it will affect the organisation as a whole.

Managers should also be innovative with techniques for measuring how individual employees perform in team tasks. This will ensure that lazy employees who work remotely do not hide behind other hardworking employees in the virtual space when they have to work remotely on projects. The human resource department should make employees aware of performance indicators that will be measured during staff appraisal as this will help employees to know exactly what they will be appraised on both in the virtual space and traditional office space. It will also serve as a check on employees who easily get distracted in ways that make them unable to meet deadlines. Top managers will have to know their employees at the personal level so that they are clear on which employee can effectively work online and who cannot. This way, those who can effectively work online can be allowed to do so while those who cannot are made to work on-site.

Research Hypotheses

It is recommended that during new technology introduction, top managers of telecommunication companies instead of focusing solely on the technology infrastructure, also equally focus on equipping management to make use of e-leadership. There is the need to invest sufficiently equipping the human resource to make more effective in the implementation of technological development.

This is because investing in the management team to raise effective e-leaders with largely impact on their excellence as an organisation. There is also the need for

regular training on best practices in the digital space in addition to training the employees on how to use such equipment. Employees should be made to know that the technology alone without the human factor will not make the expected impacted

Considering the rate at which technology is advancing, it is recommended that telecommunication companies remain up to date with technology; but much more importantly to ensure management's use of technology in telecommunication industries is up to date and effective. If this is not done telecommunication companies may lose their clients to other organisations where investment is made in technological development and e-leadership.

Recommendations for Future Research

From the results obtained from the study and further evaluation, there are a few recommendations for future research outlined in the paragraphs which follow. These have been categorised according to the research objectives and hypotheses. The current study made use of a mixed methods triangulation approach to collect data from both customers and employees of telecommunication companies. This resulted in a few differences in the views of employees as compared to customers. Owing to the fact that some parts of the responses were quite conflicting, its is recommended that future studies study research on each distinct stakeholder, focusing on how technological development affects organisational excellence with e-leadership mediating this relationship. Scholars can also consider an equal number of employees and customers together in a study. Other researchers are also encouraged to focus on other countries where technological infrastructure is not as developed as what is currently present in Ghana.

Future research can also focus on how technological development affects functional excellence in telecommunication companies as mediated by e-leadership. Various functions like operations, finance, marketing, engineering, production, research and development, are recommended. This will demonstrate which functions in telecommunication organisations are mostly affected with technological development. It will also give management an idea of resource allocation for the various departments with regards to technological development.

The quantitative part of this mixed methods study made use of an online questionnaire where respondents accessed the link to answer the questions and submit their responses virtually, without any physical interaction. Though this medium yielded the required results, it put a limitation on other offline potential respondents like telecommunication customers who do not fancy being in the online virtual space or social media and employees who are mostly on the field involved in one installation or the other, or even involved in maintenance work on site. As a result, the views of such customers and employees are not represented in this study. It is therefore recommended that future research makes use of tools that will allow for such offline customers and employees to participate in the study. Offline questionnaires are therefore recommended for use in future studies.

Future researchers can also explore the dynamics of technological development on organisational excellence mediated by e-leadership when other demographic variables like gender, age, level of education, among others are introduced. This will help business owners and marketing managers have an idea how investments in technological advancement affects each of the organisation's customers' demographic segmentation.

Determinants of Organisational Excellence in Telecommunication Companies

In examining determinants of organisational excellence in telecommunication companies, it was found that despite the fact that employees of telecommunication companies are well paid, they are not motivated at work. It is therefore necessary for future research to examine what accounts for motivation of telecommunication employees aside very attractive remuneration. It is also very important that future studies consider what telecommunication employees do that make customers feel that the former are not motivated.

The study also found that customers of telecommunication companies do not like visiting the service centres; contacting the call centres; or even making use of the applications. Reasons for this were not completely exposed by this study. It is therefore recommended that future research examines what exactly accounts for the repulsive attitude from customers. Telecommunication companies need this information in order to resolve it. Otherwise, it is only a matter of time and the customer will be lost to competition. Researching into what accounts for this attitude of customers will help telecommunication companies to improve on the quality of services rendered to customers.

It was also found that customers of telecommunication companies do not enjoy hearing from their service providers from time to time. With the rate at which technology is improving, this condition has to change. There is the need for future research to examine why customers are not eager to receive calls from telecommunication service providers or even text messages. Future research works should also examine other avenues that can be used to communicate technological development to customers effectively.

The working environment of telecommunication companies was found not to be too conducive for both employees and customers. There is therefore the need for future studies to examine the various components or segments in the work environment that do not allow clients and employees to feel comfortable. Another conflicting finding was the fact that although during the interview, it was very clear that technological developments in telecommunication industries take place as rapidly as a daily occurrence, quantitative results showed otherwise. Quantitative results indicated that there are no regular technological developments in telecommunication companies. This makes it evident that customers have very little or no idea regarding the effort and investment telecommunication companies are putting in technological developments to ensure that services provided are seamless. It is therefore recommended that future research assesses customer's level of technological development awareness. This will help stakeholders to properly plan what kind of information to share with clients as well the frequency for information dissemination.

Effect of Technological Advancement on Organisational Excellence

The study showed that with technological development telecommunication companies can maintain their excellent status by adopting the concept of a faceless organisation. Since the contact between customers and employees get mediated by computer or phone screens on both ends, there will be a limitation in the extent of attachment to a particular employee. This face-to-screen mode of interaction, however, has not been proven to increase customer loyalty. It is therefore recommended that future research examines whether technological development which facilitates running a faceless organisation actually increases customer loyalty.

Role of E-Leadership in Adapting to Technological Development

For this objective, it is recommended that future research focuses on how e-leadership affects the managers. The study was able to demonstrate how e-leadership affects team members as well as the work of leaders. It however did not indicate how this affects the managers or leaders themselves. Future research should examine the effect of e-leadership on leaders themselves, especially those who are also not to technologically inclined. The study also found out that sometimes employees feel insecure with the introduction of new technologies or even upgrades on an existing technology. It is therefore recommended that future research explores what accounts for the insecurities employees feel when adapting to technological development as well as examine how best to address the insecurities in the midst of adapting to technological development.

Challenges Presented by E-Leadership

This study has demonstrated that people who work online can get as equally busy as those working offline or in-person. Most times top management gets the feeling that if employees are not present on site, then they are not working at all. Some insist that even if the task to be performed can be completed online, employees would have to be present at work to get it done. It is therefore recommended that future studies conduct a comparative analysis on employees who work online and those who work offline in order to ascertain how it affects organisational excellence. This will help managers to know how to assign roles to both online and offline team members.

Future researchers may also consider examining the extent to which customers are aware of the technological development initiatives from their service providers. This will expose customers to the efforts that telecommunication companies are putting in to ensure customers enjoy quality service. It will also give management an assessment

of how previous efforts have performed so that they can project or predict the performance of future efforts directed towards technological development.

Research Hypotheses

Results obtained from testing the hypotheses indicated that technological development has a positive significant effect on e-leadership and organisational excellence. Another finding was that technological development's effect on e-leadership is not as much as that of e-leadership on organisational excellence. It is recommended that future studies examine the mediating role of leadership (traditional leadership without the application of technology) with respect to how technological development affects organisational excellence.

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APPENDICES

Appendix A: UREC Provisional Approval

UNICAF UNIVERSITY

UREC Decision, Version 2.0

Unicaf University Research Ethics Committee Decision

Student's Name: Anita Bans-Akutey UUZ PhD

Student's ID #: R1807D5785205

Supervisor's Name: Dr Debora Ebem

Program of Study: UUZ: PhD Doctorate of Philosophy

Offer ID /Group ID: O23938G24446

Dissertation Stage: 1

Research Project Title: Effects of Technological Development on Organisational Excellence: The Mediating Role of E-Leadership

Comments: 4b- Disabilities: Provide information on whether participants with disabilities will participate in the research. You should only include the participants who can provide informed consent for themselves, therefore, people with mental disabilities should not take part in the research.

Decision*: B. Provisionally approved with comments for minor revision

Date: 04-Mar-2021

*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

Appendix B: UREC Final Approval

UNICAF UNIVERSITY

UREC Decision, Version 2.0

Unicaf University Research Ethics Committee Decision	

Student's Name: Anita Bans-Akutey

Student's ID #: R1807D5785205

Supervisor's Name: Dr Debora Ebem

Program of Study: UU-DOC-900-3-ZM

Offer ID /Group ID: O37445G39053

Dissertation Stage: DS3

Research Project Title: Effect of Technological Development on Organisational Excellence for Ghanaian Telecommunication Companies: The Mediating Role of E-Leadership

Comments: No comments

Decision*: A. Approved without revision or comments

Date: 25-Jul-2022

*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

Appendix C: Informed Consent Form

UNICAF
UNIVERSITY

UU_IC – Version 2.1

Informed Consent Form

Part 1: Debriefing of Participants

Student's Name:	Anita Bans-Akutey
Student's E-mail Address:	nt_uko@yahoo.com
Student ID #:	R1807DS785205
Supervisor's Name:	Dr. Deborah Ebem
University Campus:	Unicaf University Zambia (UUZ)
Program of Study:	Doctor of Philosophy (PhD) in Management
Research Project Title:	Effect of Technological Development on Organisational Excellence for Ghanaian Telecommunication Companies: The Mediating Role of E-Leadership
Date:	28-Jun-2022

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

Managers are expected to ensure productive use of assets to achieve set objectives. The use of information, communication and technology (ICT) tools in achieving organisational objectives has become entrenched in operational activities and leadership styles of managers. Telecom organisations guarantee that customers are provided with the right services. The main objective of this study is thus to examine the effects of technological development on organisational excellence of telecommunication companies through e-leadership. Findings from this study will expose to all stakeholders how adapting to new technologies affects organisational excellence.

Employees and customers of telecommunication companies are being selected to fill out a questionnaire and/or participate in an interview as part of the data collection process for this study. You have been selected because you fall within this category. We will therefore be grateful if you could assist in this regard as a participant for this study.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, Anita Bans-Akutey, ensure that all information stated above is true and that all conditions have been met.

Student's Signature: Anita Bans-Akutey

1

UNICAF UNIVERSITY

Informed Consent Form
Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant(s)

Student's Name: Anita Bans-Akutey

Student's E-mail Address: nt_uko@yahoo.com

Student ID #: R1807D5785205

Supervisor's Name: Dr. Deborah Ebem

University Campus: Unicaf University Zambia (UUZ)

Program of Study: Doctor of Philosophy (PhD) in Management

Research Project Title: Effect of Technological Development on Organisational Excellence for Ghanaian Telecommunication Companies: The Mediating Role of E-Leadership

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

Participant's Print name:

Participant's Signature:

Date:

If the Participant is illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. I confirm that the aforementioned individual has given consent freely.

Witness's Print name:

Witness's Signature:

Date:

2

Appendix D: Data Collection Tool

Questionnaire

Please tick and fill in the appropriate answers in the spaces and box provided. We assure to keep

your information strictly confidential and use it for academic purposes.

SECTION A: (Customers) Respondents Demography

Please tick the appropriate answers

1. What is your gender? (a) Male (b) Female (c) Prefer not to say

2. What is your age? …………………….

3. How many years have you been working? …

4. What is your highest level of education?

    (a)Secondary   (b) Diploma (c) Bachelor's Degree   (d) Master's Degree (e) PhD

5. What is your occupation?

6. Which of these do you subscribe to?

    (a) MTN (b) AirtelTigo (c) Vodafone (d) Others (Please specify) ………….

7. What is your net monthly income (in Cedis)?

    (a) 500 and below   (b) 501-2000   (c) 2001-3500 (d) 3501-5000 (e) Above 5000

8. How much (in Cedis) do you spend on subscriptions to these telecommunication

    providers monthly?

    (a) 1-20   (b) 21-50   (c) 51-100   (d) 101-200   (e)201-500   (f) Above 500

9. How long have you patronized your preferred Telecom?

SECTION B: (Employees) Respondents Demography

Please tick the appropriate answers

10. What is your gender? (a) Male (b) Female (c) Prefer not to say

11. What is your age? ………………………….

12. What is your highest level of education?

   (a)Secondary   (b) Diploma (c) Bachelor's Degree   (d) Master's Degree (e) PhD

13. Which organisation do you work with?

14. What is your position at work?

15. For how many years have you been working here? ……………………

16. What is your net monthly income?

   (a) 500 and below   (b) 501-2000   (c) 2001-3500 (d) 3501-5000 (e) Above 5000

17. How many customers do you attend to on an average daily?

   (a) 50 and below   (b)51-150   (c)151-250   (d) 251-300

SECTION C (For Employees)

Please select the one which best describes your response

18. Rate the satisfaction of your customers?

   (a)Very satisfied (b) Satisfied (c) Neutral (d) Dissatisfied (e) Very dissatisfied

19. As an employee, are you satisfied with the organisational performance?

   (a) Very satisfied (b) Satisfied (c) Neutral (d) Dissatisfied (e) Very dissatisfied

20. How often do you introduce new technologies to your clients?

   (a) Daily (b) Weekly (c) Monthly (d) Annually (e) Biannually (f) Randomly

21. How would you rate the satisfaction of your clients to these new technologies

22. Which communication modes exist among employees and managers? Please select all

that apply. (a) Face-to-face meetings (b) Telephone calls (c) Emails (d) WhatsApp chats

(e) Facebook chats (f) Text Messages (g) Video conferencing (h) Others

23. Which of these modes of communication is most effective?

(a) Face-to-face meetings (b) Telephone calls (c) Emails (d) WhatsApp chats (e)

Facebook chats (f) Text Messages (g) Video conferencing (h) Others

SECTIONS "D" TO "G" ARE APPLICABLE TO BOTH EMPLOYEES AND CUSTOMERS

SECTION D: Evaluating the determinants of organisational excellence for telecommunication businesses in Ghana

	Yes	No
24. You are motivated at your workplace		
25. Remuneration is poor		
26. Infrastructural facilities provide a safe and comfortable environment for both staff and customers		
27. The network downtime is acceptable and manageable		
28. Services offered are not partial between staff and customers		
29. Good customer report performance are rewarded		

30. There is sufficient work staff to carry the workload		
31. Career development is not a support system in your organisation		
32. Excessive use of rigid rules controlling and monitoring mechanism hinder creativity and performance of staff		
33. Communication among staff are deficient or poor		
34. Unclear performance standards have been a serious constraint to job performance.		
35. Poor funding on projects has dented the performance of employees		
36. Job insecurity is a threat to your performance at work		
37. Working environment is the most conducive		
38. Subscription is expensive		
39. There is regular advancement or improvement in network performance		
40. Customers get more helpful information from call centre		
41. Customers to get more helpful information from application		

42. You are informed about their new services via email/messages/phone calls		
43. As a customer you love hearing from your network provider once in a while		

SECTION E: Evaluating the effect of technological advancement on organisational excellence

Using the Likert Scale;

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

Kindly indicate the degree to which you agree or disagree with the state below.

	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
44. Technological advancement has improved employee performance					
45. Technology makes work neater and faster					
46. Technological advancement has improved communications among workers and customers					
47. Adoption of new technology					

motivates employees					
48. Technological advancement improves job satisfaction					
49. Organisation responds to demand faster with technological advancement					
50. With technological advancement more tasks are achieved over a short period of time					
51. Technological advancement has improved career development with more experienced training					
52. Employees have improved in their knowledge of modern technology					

SECTION F: Evaluating the role e-leadership in adapting to rapid technological developments in Ghanaian telecommunication companies

Using the Likert Scale;

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

Kindly indicate the degree to which you agree or disagree with the state below.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
53. E-leadership has discouraged face to face interaction					
54. The organisation has adopted the use of social media for e-leadership					
55. Virtual teams are used while adapting to technological advancements					
56. E-leadership opens the organisation to advancing in online workspace					
57. Managers' readiness to offer support for team members has improved					
58. Virtual teams have an improved communication channel established through e-leadership while adapting to technological advancement					

SECTION G: Evaluating the challenges presented by e-leadership in Ghanaian telecommunication industries, as a result of technological development

Using the Likert Scale;

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

Kindly indicate the degree to which you agree or disagree with the state below.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
59. Lack of technical skills is exposed by the introduction of e-leadership					
60. Lack of technical skill is a sign of job insecurity					
61. An unsecured network is a risk in the adoption of e-leadership in the telecommunication industries					
62. Employee awareness is not guaranteed through the adoption of e-leadership in the telecommunication industries					
63. Quality of evaluation is questioned					
64. Error in time-stamp during work hours is possible					
65. Continual learning is on the drop					

66. Trust is a failed establishment in e-leadership					

Thank you for your response

QUALITATIVE INTERVIEW GUIDE

DEMOGRAPHICS (CUSTOMERS)

67. What is your gender? (a) Male (b) Female (c) Prefer not to say

68. What is your age? …………………….

69. How many years have you been working?……

70. What is your highest level of education?

(a)Secondary   (b) Diploma (c) Bachelor's Degree   (d) Master's Degree (e) PhD

71. What is your occupation?

72. Which of these do you subscribe to?

(b) MTN (b) AirtelTigo (c) Vodafone (d) Others (Please specify) ………….

73. What is your net monthly income (in Cedis)?

(b) 500 and below   (b) 501-2000   (c) 2001-3500 (d) 3501-5000 (e) Above 5000

74. How much (in Cedis) do you spend on subscriptions to these telecommunication

providers monthly?

(b) 1-20   (b) 21-50   (c) 51-100   (d) 101-200   (e)201-500   (f) Above 500

75. How many years have you patronized your preferred

Telecom?……………………………

DEMOGRAPHICS (EMPLOYEES)

76. What is your gender? (a) Male (b) Female (c) Prefer not to say

77. What is your age? ………………………….

78. What is your highest level of education?

(a)Secondary   (b) Diploma (c) Bachelor's Degree   (d) Master's Degree (e) PhD

79. Which organisation do you work with?

80. What is your position at work?

81. For how many years have you been working here? ……………………

82. What is your net monthly income?

(b) 500 and below   (b) 501-2000   (c) 2001-3500 (d) 3501-5000 (e) Above 5000

Section A: Determinants Of Organisational Excellence For Telecommunication Businesses In Ghana

1. What in your opinion accounts for organisational excellence in telecommunication businesses in Ghana?

2. How is organisational excellence measured in your place of work?

Section B: Effect Of Technological Advancement On Organisational Excellence

3. How would you rate your inclination to technology?

4. In what ways do you think rapid technological advancement affects an organisation?

5. How does technology affect you and your organisation?

Section C: The Role E-Leadership In Adapting To Rapid Technological Developments In Ghanaian Telecommunication Companies

6. How do you understand leadership?

7. What is the leadership style of the organisation you work for or intend to word with?

8. What other leadership styles are you familiar with?

9. What is your understanding of virtual leadership (E-Leadership)?

7. How do you understand virtual teams?

8. How do you think virtual leadership or virtual team affects an organisation?

10. In what ways does E-Leadership affect the performance of an organisation?

Section D: Challenges Presented By E-Leadership In Ghanaian Telecommunication Industries, As A Result, Technological Development

11. What challenges have you encountered from e-leadership as a result of rapid technological development?