ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACULTY OF BUSINESS

THE PRACTICE AND CHALLENGES OF BASELINE ASSESSMENT FOR IMPLEMENTING VIRTUAL WORK MODE IN THE CASE OF BNT INDUSTRY AND TRADING PLC.

By

YONATAN BIRHANE

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN GENERAL MANAGMENT

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DECLARATION

I, Yonatan Birhane Mesfin, hereby declare that this Master's Thesis titled "the practice and challenges of baseline assessment for implementing virtual work mode in the case of BNT industry and trading plc" is my novel work, and this study has not been submitted for the award of any program or any other institution. I have carried out the present study independently with the guidance and support of the research advisor, Muluadam Alemu (PhD). Any other research or academic sources used in this study have been duly acknowledged.

Name **Signature**

_____ _____

St. Mary University, Addis Ababa **April, 2023**

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

Muluadam Alemu (PhD) _____

Advisor **Signature**

ST. MARY'S UNIVERSITY, ADDIS ABABA **April, 2023**

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Abbreviation

AI – Artificial Intelligence

BNT – Birhane Meskel and Tewodros Yalew

ICT – Information and Communication Technology

IT – Information Technology

SPSS – Statistical Package for Social Sciences

PLC – Private Limited Company

ABSTRACT

The case of BNT Industry and Trading plc is used to demonstrate the practice and challenges of baseline assessment for implementing virtual work modes in the private sector. BNT was a privately held firm specializing in import and export. BNT Industry and Trading PLC, a privately held import and export firm, had relationships with international collaborators such as Unilever, a manufacturer of personal and home care products. BNT is a country's representative and supplier with the characteristics of a virtual organization with a distributed network type of structure that makes product pricing decisions horizontally at any time and from any location. This research is significant because it provides a framework for developing sustainable business in the BNT industry and trading plc. It is critical to understand the practices and challenges that businesses face when implementing virtual work modes. The descriptive research design was used to accomplish the researcher's objectives. This study employed both quantitative and qualitative research methods. A sample was chosen using the purposive sampling method from the population for this study. This study gathered data from important sources using both primary and secondary data collection methods. The SPSS statistical package for the social science program was used to analyze the data. According to the study's findings, BNT Industries and Trading has moderate practices in virtual work mode activities in several areas, including "ICT policy," "attitude, knowledge, practice, and perspectives," "urgent calls and readiness," and the opportunities and challenges of virtual work mode. Furthermore, the management of BNT Industries and Trading PLC is eager to reap the benefits of virtual work modes. However, they face numerous challenges, including communication, team structure, trust building, and data security. As a result, BNT Industries and Trading plc should reconsider their ICT policy and work to improve their ICT knowledge. Furthermore, they must overcome challenges on a regular basis in order to capitalize on the benefits of virtual work modes and achieve organizational goals. The study concludes by emphasizing the importance of further investigating the operational case of virtual work mode. The case scenarios examined in this study can serve as good starting points for the implementation of virtual work modes in BNT as one critical development pathway for other privately held businesses.

Key words: - Virtual Work mode, ICT , Private organization

CHAPTER ONE

Introduction

1.1. Backgrounds of the Study

In today's fast-paced, ever-changing organizational environment, versatility and productivity are required in almost every situation. An organization can benefit from advanced technology, shifting customer preferences, and shifting market trends. It will fall behind if it does not work smarter, faster, and leaner than its competitors. Market competitors Many businesses are struggling to meet these expectations. Individuals who have given up on traditional, on-site office environments Because virtual configurations allow businesses to operate with lower overhead costs, leverage globally dispersed talent, and provide flexible services (Grenier & Metes, 1995).

Virtual work has had a substantial impact on the rate and direction of human progress over the last half-century. In both emerging and wealthy countries, the rapid spread of mobile devices and new frontiers of technology such as artificial intelligence (AI), big data, and machine learning propose new development pathways. The relevance of virtual work mode in remote working and supply chain systems has grown more obvious in the aftermath of the COVID-19 worldwide pandemic (Ford, 2017).

In parallel, the need to create sustainable societies heavily relies on the power of large units of organization, mainly big businesses, to make transformative changes (Hopwood et al., 2005). This transformative change is increasingly being aided by Virtual Work Mode. This research argues that the baseline assessment for implementing virtual work modes for private sector companies: The Case of BNT Industry and Trading PLC

BNT Industry and Trading PLC was founded by Birhane Meskel and Tewodros Yalew 12 years ago. Addis Ababa is home to its headquarters. The company's major areas of interest are the exportation of coffee and the importation of stationary materials, generators, trucks, commodities, reinforced bars, and chemicals for soap. The corporation also engaged in other business activities, such as farming coffee, real estate, hotels and resorts (on a planned basis), and manufacturing (Dega Wuha). BNT Industry and Trading PLC worked with international partners such as

DANONE Nutrients (a French-based company that produces baby powdered milk). BNT is the country's sole representative and supplier. Furthermore, BNT Industry and Trading PLC had relationships with international collaborators such as Unilever, a manufacturer of personal and home care products. BNT is a country's representative and supplier.

The goal of this research was to learn more about the practices and challenges of implementing virtual work modes in a privately owned company like BNT Industries and Trading PLC. This proposed study aims to gain access to the practices and challenges of implementing virtual work modes, as well as the real-world experiences of BNT Industries and Trading PLC, which may aid in technological advancement.

1.2. Statement of the Problem

Relatively recent developments in the field of information and communication technology (ICT) have enabled organizations to start using virtual teams. Virtual teams have been defined as "groups of workers with unique skills who often reside in different geographical places and who have to use ICT for cooperation in order to span the boundaries of time and space (Kirkman and Mathieu 2004)".

Virtual work is a broader term that can mean many types of new work forms, e.g., virtual teamwork, hot-desking, working from a satellite office, telecommuting, etc. Over the past 10–15 years, literature on the specifics of these new work forms has emerged, but as with any new phenomenon, the articles tend to be descriptive and lack empirical research. Even when empirically researched, only a small sample (mostly case studies) is used in most cases.

Everything has changed now. Globalization, the integrated internationalization of markets and enterprises, has altered the way modern businesses conduct business. As Thomas Friedman points out in The World Is Flat, jobs, knowledge, and capital are now able to move across borders with far greater speed and far less friction than was possible only a few years ago. Companies can now locate anywhere and work with many partners to serve any market thanks to the global availability of the Internet and supply chain logistical advances such as containerized shipping. Strategic management is becoming an increasingly vital technique to maintain the pace of worldwide events

and position a company for long-term competitive advantage as more sectors become global. (David Hunger; Thomas Wheelen, 2015).

The recent global coronavirus pandemic (COVID-19) in December 2019 dramatically affected many business sectors worldwide.

The rationale of this study is based on the premise that virtual work modes are co-creating the future of human development. It further bases its argument on the fact that studying virtual work modes in the context of developing countries can provide new and unanticipated development pathways due to demographic and socio-economic peculiarities.

The difficulties that the virtual mode addressed were enormous. This working mood would help us develop sustainable businesses. From a virtual work mode standpoint, the ability of institutions to collect, analyze, and monitor big data at quantitative sizes was critical to the future of good, sustainable business. From a sustainability standpoint, the future is about optimizing our ecosystem services and living within our planetary boundaries (Rockström, 2015; O'Neill, 2018). In the case of BNT Industry and Trading Plc, the current study explores the framing of

- ✓ Impact of Global Business and Need for Information Technology
- ✓ Possible maximization of profit
- ✓ Competitive advantage
- ✓ Ease of doing business

1.3. Objective of the Study

1.3.1. General Objective

The aim of this study was to assess the practice and challenges of baseline assessment for implementing virtual work modes for private sector companies: the case of BNT Industry and Trading plc.

1.3.2. Specific objectives

1. To assess the attitudes and perceptions towards implementing virtual work modes at BNT Industry and Trading PLC.

2. To measure the urgent call readiness for implementing virtual work modes in BNT Industry and Trading PLC.
3. To assess the operationalization cases of virtual work modes in BNT Industry and Trading PLC.
4. To find out virtual work mode implementation challenges in BNT Industry and Trading PLC.

1.4. Research Questions

These questions do not comprise the full list of all the guiding questions will be used rather they will intend to provide a paraphrase summary of what will be ask.

1. What are BNT Industry and Trading PLC's attitudes and perceptions about implementing virtual work modes?
2. Is there an urgent call and readiness for implementing virtual work modes in BNT Industry and Trading PLC?
3. What are the operationalization cases of the virtual work mode in BNT Industry and Trading PLC?
4. What are the main challenges and opportunities arising from the implementation of virtual work modes in the BNT Industry and Trading PLC?

1.5. Significance of the Study

The significance of this study was the assessment of the practice and challenges of a baseline assessment for implementing virtual work modes for private sector companies: the case of BNT Industry and Trading Plc. This study is significant because it provides a framework for developing sustainable businesses in the BNT industry and trading plc. The study's findings informed business, industry, and trading company executives about factors affecting performance quality, human resource management, customer service, and decision-making. This study may also help strategy makers, and they would be in a better position to formulate, design, and implement strategies that would ensure a return to growth with the help of virtual working mode.

1.6. Scope of the Study

The study's scope was restricted to evaluating virtual work mode management in the BNT industry and trading plc. The area of concern believed to be relevant to examine Attitudes & Perception, measure the Urgent call & Readiness for implementing virtual work mode, the Operationalization Cases of virtual work mode and to find out virtual work mode Implementation challenges and opportunities in BNT Industry and Trading PLC.

1.7. Limitation of the Study

One of the anticipated challenges prior to starting the research was the availability of key informants who are directly involved or working in the field of Virtual work mode management, especially within the BNT Industry and Trading PLC.

The research faced lack of sufficient time and literatures of virtual work mode management Ethiopian context. In addition, the researcher did not get the chance to observe the work environment of the other sister company of BNT Industry and Trading PLC

1.8. Organization of the Paper

This research is organized in five chapters. Chapter one deals with the introduction part includes the background of the study, background of the organization, statement of the problem, research questions, objectives of the study, significance, scope and limitation of the study, and organization of the study. Chapter two deal with review of related literatures. Chapter three describes research design and methodology. Chapter four discusses data presentation, analysis and interpretation while the fifth chapter is the summary and conclusions from the findings and recommendation.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Theoretical related literature review

2.1.1. Virtual Work

With advances in information technologies, individuals are no longer constrained by time and space. It is therefore not surprising to note that virtual work has grown along with advances in technologies such as broadband communication (that allows for easy transmission of data) and groupware (that enables decision making and problem solving from distributed locations).

Virtual work has been defined in many different ways, but common to these definitions are geographic dispersion and dependence on technology in work-related interactions between employees (Gilson et al., 2015).

Advances in information and communication technology (ICT) have enabled employees to interact across time and space, resulting in the growth of different types of virtual work arrangements that help organizations meet their strategic goals (Makarius & Larson, 2017).

2.1.2. Virtual Organization

A virtual organization is a group of independent firms which link together and form a single temporary company (Davidow and Malone, 1992; Grenier and Metes, 1995; Miller et al., 1993). The individual firms in the virtual organization share a common objective(s). An information technology-enabled dynamic networked organization or a negotiated organization (Lucas and Baroudi, 1994) is a virtual organization. In the electronic commerce age, many virtual organizations have emerged in cyberspace. Taking advantages of information technology, virtual organizations replace traditional, unitary business forms with contractual relationships, and give management maximum flexibility in response to market changes. Corporations are increasingly interconnecting and form dynamic networks. Mowshowitz (1994; 1997a; 1997b) suggested that shifting between different linkages of the partners for satisfying a need is the major characteristic of the virtual organization, and meta-management beyond the individual organizational level must be applied in order to optimize the benefit for the entire organizational network.

Virtual organization applies to goal-oriented activity. This includes much (but not all) of the activity undertaken by biological, social, and artificial systems. The philosophical foundation of virtual organization is a categorical distinction between needs and the means for satisfying them.

The virtual organization paradigm will undoubtedly come to play a major role in the theory and practice of management. Now manifest in the operations of some innovative firms, it is undergoing refinement and elaboration in a variety of contexts, and experience with it is accumulating. The term "virtual organization" was introduced in the early 1980s and has been evolving ever since (Mowshowitz, 1994).

The intellectual origins of the concept developed here may be traced to three disparate fields, namely, computer science, foundations of mathematics, and international business. virtual organization is dependent on technological innovation. Information technology, in particular, is a key factor in the spread of virtual organization. But note that dependency is not synonymous with simple causality. Major changes in social organization are almost always the result of a confluence of innovations, cultural as well as technological (Shin, 2016).

Advances in transportation, communication, and computing technologies have made it possible to manage complex enterprises efficiently and effectively. With these technologies the process of making a product or providing a service can be differentiated, and the component tasks distributed in different places and executed at different times—with complete assurance that the whole process can be integrated and controlled effectively (Mowshowitz, 1994).

The use of virtual work is growing more prominent for a number of reasons. It provides employees with flexibility to manage work-life integration (Golden, 2006); generates cost savings on corporate travel and real estate for employers (Martins et al., 2004); serves as a means to transact and co-ordinate in today's globalizing and increasingly complex business environment (Gibson & Gibbs, 2006); and has potential benefits for employee attitudes, behaviors, and performance (Gajendran & Harrison, 2007). While much of the research on virtual work has focused on the outcomes of different types of virtual work across varying organizations (Gajendran & Harrison, 2007; Raghuram et al., 2019), a very important matter has received very little attention: namely, the adoption of virtual work arrangements among employees (Makarius & Larson, 2017). Once an organization has made the formal decision to allow employees access to different forms of virtual

work arrangements, individual employees and their managers must accept and adopt virtual work arrangements for policy to become actual practice

The definition of virtual organization given here generalizes a number of concepts developed in the fields of computing, networking and management. Virtual memory, network switching, virtual teams, and virtual reality are especially germane to our subject.

1.2.1.2. Virtual Memory

Virtual memory is a way of organizing the information storage function in a multitasking or timesharing computer system. The function can be characterized as the satisfaction of dynamically changing requirements for storage in the machine's primary memory. The requirements are satisfied by switching information between primary and secondary memory (Mowshowitz, 1997).

Such switching is based on a conceptual distinction between virtual storage and the primary physical storage of the machine, where the former refers to the storage needed by the programs submitted to the operating system for execution. Secondary storage serves as a physical approximation of unlimited virtual storage (Mowshowitz, 1994).

Demand for storage corresponds to the model's abstract requirements, while the physical storage designates concrete satisfiers. Virtual memory works by dynamically mapping virtual storage, or requirements, to primary storage cells, or satisfiers. In performing this function, the operating system acts as meta-management. Assignments of physical cells to virtual ones are made according to the explicit criterion of using the physical memory as efficiently as possible; these assignments are then tracked by the operating system (Strader et al.1998).

2.1.2.2 Network Switching

Like virtual memory, network switching addresses the problem of how to make efficient use of resources, in this case a network's transmission facilities. Here too a distinction is drawn between circuit requirements, or a logical transmission path connecting A and B, and circuit satisfiers, or a set of physical transmission channels constituting a physical path between A and B(Mowshowitz, 1997).

Assignment of physical circuits to logical transmission paths are subject to shortest-path and quality-of-service criteria (if specified). Operationally, this process differs according to the type of network—local area, wide area, or Internet. But in all of these networks, a logical transmission path (abstract requirement) may be met by several different physical circuits (concrete satisfiers), and the same requirement may be met on different occasions by different satisfiers. Thus, one can view the operation of a network switch as an instance of meta-management in which switching (in the virtual organization sense) is used dynamically to satisfy given criteria (Mowshowitz, 1997).

2.1.2.3 Virtual Team

Whereas virtual memory and network switching involve the organization of physical systems, the virtual team is an instance of social organization. Virtual team designates an abstract requirement for a group of individuals that collectively possesses certain skills. In principle, many different groups might have the requisite mix of skills and could play the role of concrete satisfier in a particular (virtually organized) task. Distinguishing between requirements and satisfiers makes it possible to switch from one group to another as conditions demand (Gilson et al, 2014)

Virtual organization forces management to make goals explicit due to the central role played by switching. Assignment of satisfiers to requirements are made according to explicit criteria. Moreover, the criteria used—like requirements and satisfiers—are subject to change. In a business, changes in market conditions may call for altered strategies in R&D, production, distribution, or marketing. Intense marketplace competition makes continual change necessary. Reliance on virtual teams to meet ever-changing task requirements provides the flexibility a business needs to compete effectively (Gilson et al, 2014)

2.1.2.4 Virtual Reality

This construct appears at first glance to be different from the others because the management function is not explicitly defined. But closer inspection reveals that all the ingredients of virtual organization are present (Mowshowitz, 1997).

In practice, virtual reality offers a simulated world defined by computer-mediated sensory input. Such simulated worlds may offer the user, for example, a virtual tour of a museum or shopping mall, replete with visual images, sounds, smells, and possibly tactile stimulation. Calls for virtual

experience involving certain characteristics constitute the abstract requirements of virtual reality. The satisfiers are the sequences of sensory input furnished to the user. Meta-management is defined by the system's responses to user requests or reactions (Lanier, 2001).

Logical separation of calls for virtual experience (abstract requirements) from sequences of sensory input (concrete satisfiers) allows dynamic switching from one sequence to another in the assignment of satisfiers to requirements. The duration of a particular assignment in virtual reality applications may be quite short, and two successive assignments may not differ much, giving the impression of a seamless artificial world. However, meta-management is very much in evidence, its functions being performed by a computer program (Mowshowitz, 1997).

2.1.3. Meta-management in virtual organizations

The management of virtually organized tasks is called meta-management (Mowshowitz, 1997a;1997b). According to the Mowshowitz's theory, meta-management consists of four basic activities; they are: analyzing requirements, tracking the possibility for satisfying requirements, allocating satisfiers to requirements, and adjusting the optimality criteria.

Two distinct characteristics of meta-management of virtual organizations make meta-management unique to traditional management. First, a virtual organization must make goals explicit. Intangible goals, such as subjective loyalty to the community, are no longer the important variables in meta-management of virtual organizations. High productivity and low cost are those common goals shared by all the firms operating in the virtual organizational environment. Second, the central part of meta-management is the maintenance of the temporary partnerships within a virtual organization. Switching from one virtual organization to another is becoming a standard instrument in the management toolkit (Mowshowitz, 1997).

In a study of virtual organizational management, Strader et al. (1998) proposed a virtual organization life-cycle model. According to their model, a virtual organization goes through four distinct phases during its life cycle; they are: identification, formation, operation, and termination. In each of the four phases, decision processes, such as partner evaluation and selection, operation redesign, and partner termination, are involved and sequentially related. In their research,

information infrastructure is considered one of the major parameters in the management of virtual organizations.

meta-management is inevitable in the virtual organizational environment. The meta-management of a virtual organization involves the following essential functions which are unique to the traditional management practices:

(1) Specify explicit objective goals of the virtual organization.
(2) Search and identify potential partners.
(3) Evaluate potential partners against the goals.
(4) If the current virtual organization has demonstrated its inefficiency, negotiate between the current partners, and redesign the business processes, the information technology infrastructure, and/or the cost/ profit distribution among the partners.
(5) Reform the virtual organization by switching from a current partner(s) to a new partner(s), if the negotiation fails and the virtual organization can benefit through the switching

These meta-management functions in turn involve meta-management support activities, including: redesigning the business processes. making changes to the information infrastructure. changing the internal cost accounting policies within the virtual organization; and making an action of switching.

The meta-management support activities in virtual organizations differ from decision making within traditional organizations in many ways. Since firms in a virtual organization make decisions autonomously without central control, each participant in the virtual organization has virtually equal veto power in management process. As virtual organizations, especially supported by electronic commerce, are dynamic, firms that are engaging in a virtual organization make actions based more on short term considerations. Consequently, the criteria used for meta-management are explicit and accurately measurable (Mowshowitz, 1997).

2.2. Empirical literature review

2.2.1. MAPPING THE FIELD OF VIRTUAL WORK

Virtual work is becoming an increasingly important mode of work with the widespread use of information technologies. The advent of information technologies has resulted in a world that is rapidly changing and one that is being driven by the convergence of boundaries. These dynamics are manifest in the emergence of organizational forms and work modes such as virtual work

Given the fluidity of boundaries and dynamics of change, researchers need a way to tap into emerging insights offered by existing literature as well as to also tap into what may have been forgotten over time. Mapping of a field using co-citation analysis is one such way. Not only is it an easy-to-use tool for tracking developments in a field, but it also provides researchers with a way to understand its underlying structure so that they can more mindfully locate themselves and their contributions (Raghuram et al. 2001).

the field of virtual work is robust and dynamic, as new strands of research on this phenomenon are being realized in different ways and with different terminologies. that topics such as virtual teams are gaining in strength at the expense of some of the earlier framings around the need to transcend physical distance (Harrison, 2007).

2.2.2. Factors contributing to virtual work adjustment

According to S. Raghuram The results of their study suggest that both structural and relational factors contribute to virtual work adjustment. Specifically, work independence, clarity of evaluation criteria, trust and organizational connectedness are significantly associated with adjustment—findings that have important implications for research and practice about managing in the information age (Lucas & Garud, 2000).

they also found that age, gender and virtual work experience moderated the relationship between virtual work adjustment and structural and relational factors. One surprising result of their study emerged with regard to the moderating effect of age. While they did find that older workers were more positively responsive to interpersonal trust and less responsive to the clarity of the evaluation criteria, they also found that older workers were more positively responsive to a structural means

of managing distance—work independence. One possible explanation for this result is that older workers may have a greater need for autonomy than their younger counterparts (Laud, 1983). If so, independence and autonomy may be more salient and influential for older workers than we had hypothesized.

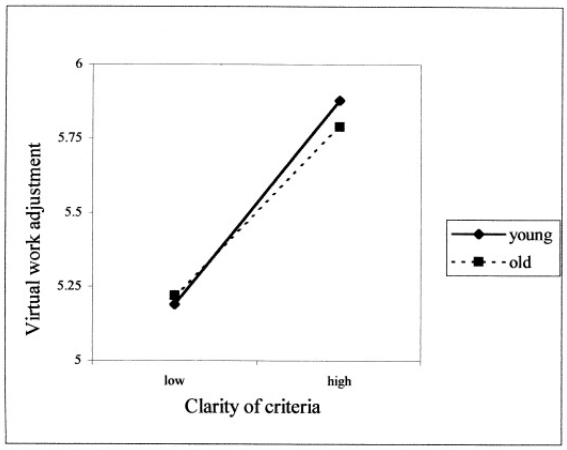


Figure 1-Interaction of age with evaluation criteria

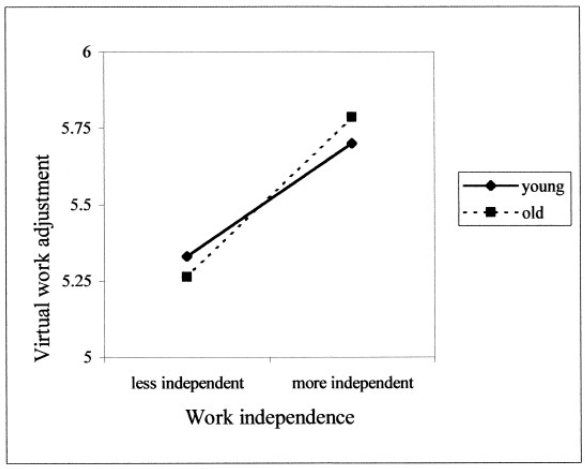


Figure 2- Interaction of age with work independence.

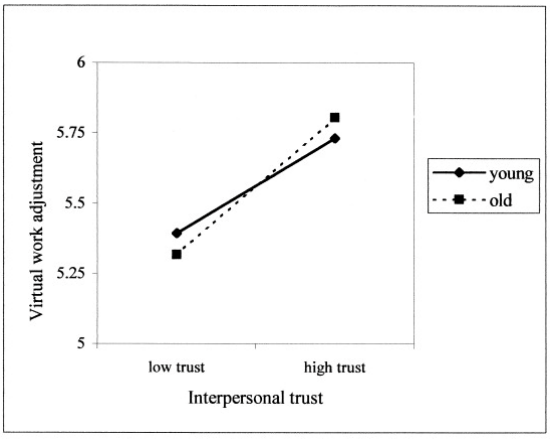


Figure 3- Interaction of age with interpersonal trust.

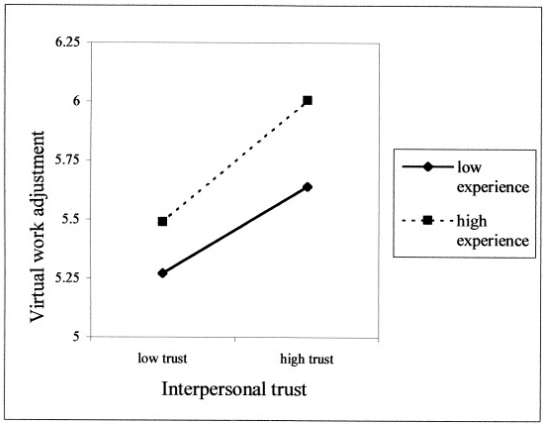


Figure 4- Interaction of virtual work experience with interpersonal trust

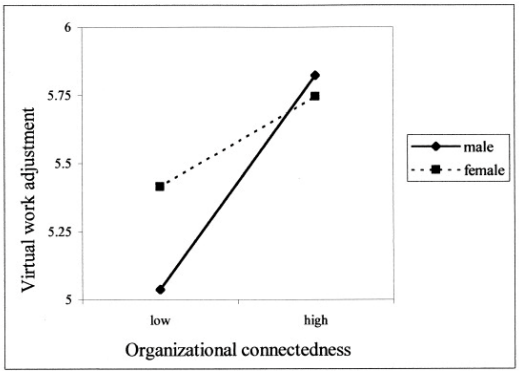


Figure 5- Interaction of gender with organizational connectedness

their findings suggest that men have a stronger relationship between organizational connectedness and virtual work adjustment than women. they conjecture those men, in comparison to women, may be more sensitive to the effect of organizational connectedness on their long-term careers in the organization. Another possible explanation may be that women find it more difficult to relate

to the organization because they do not have access to the information networks and power bases that men traditionally have had access to (Noe, 1988). Consequently, connectedness is not as important a mechanism for adjustment of women as compared to men. Future research could evaluate the degree to which this finding is replicated in other virtual work contexts and the causal mechanisms underlying this pattern. their finding that women reported greater adjustment is consistent with earlier research. For example, Hall and Parker (1993) suggest that women will be particularly responsive to flexible work modes that offer them greater control over their time and place of work. Women who perceived that their organizations offered flexible work hours have been found to report higher levels of organizational commitment and job satisfaction than women who did not (Scandura & Lankau, 1997). Further, evidence indicates that female virtual workers are more productive than male virtual workers (Hill, Miller, Weiner & Colihan, 1998). Thus, virtual work may be especially consistent with the role demands that women face.

2.2.3. VIRTUAL ORGANIZATIONS

The traditional structure of organizations is geographically limited. In contrast, virtual societies can be scattered geographically. To explain the ideal virtual organizational structure, we will use an analogy from networking, where there are three distinct types of networks (Figure 6):

1. Centralized - all nodes connect centrally (server, location, management, etc.)
2. Decentralized - nodes connected to the network do not depend on a single point, rather multiple points.
3. Distributed - nodes in the network communicate with each other, and all the data is spread over more than one node.

We can view virtual organizations as a type of distributed network, where every node is an individual, potentially in a different location, and every edge represents a link between these individuals

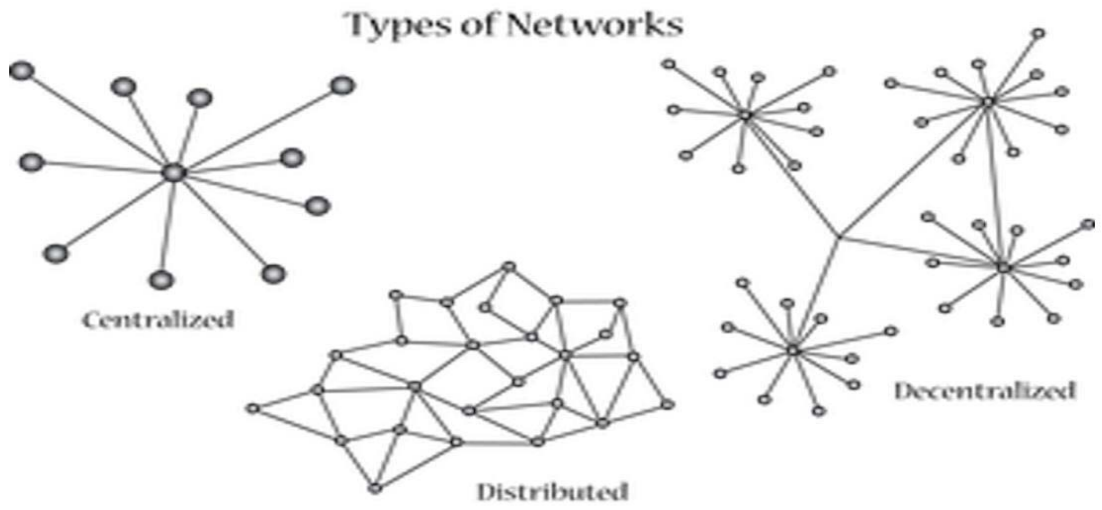


Figure 6- Types of networks

Besides this space limitation, there is also a time limitation, since most organizations have specific working hours. However, time can represent a challenge, especially if, for a given link, the locations of the nodes have a big time zone gap. To take full advantage of the system, ideally, the working hours should be flexible. This will ensure a smooth operation of the system as a whole. It will also provide flexibility for individuals, in which they can complete daily tasks such as errands, paying bills, childcare, etc. With this setup, individuals will produce maximum results because they are not burdened to work within a specific timeframe but when they feel most inspired

We can further extend the idea of distributed networks in terms of organizational structure. This would imply a flat organizational structure, rather than the common hierarchical structure. This will be useful, since for example, if one of the nodes is unavailable (for example, on a holiday) then the system will continue to operate without much impact on the other nodes. Thus, distributed networks are superior compared to the other types of networks, because they provide flexibility.

One of the challenges with this structure is team bonding. Individuals can feel isolated after some period. To strengthen relationships between these individuals in an organization, face-to-face meetings can be held several times a year. Meetings can be in the context of a particular team or an entire organization, together with team building activities (Baldo & Rabelo, 2010)

2.2.3.1 Implementing Virtual Organizations in the Western Balkan Countries (WB6)

The implementation and the usage of virtual organizations can be beneficial in WB6 countries: Albania, Bosnia and Herzegovina (BIH), Kosovo, Montenegro, North Macedonia and Serbia.

For example, during the COVID-19 outbreak, when all human activities have moved from physical society to virtual society, North Macedonia had seen tremendous success with the Eduino online learning platform. The way forward in the short-term was to promote remote learning and the use of online learning platforms, to continue supporting students to gain access to the necessary equipment for remote learning, and to provide teachers with digital learning opportunities on how to teach online, to share their resources and give and receive feedback. However, benefits are not specific to special circumstances such as outbreaks. Schools can learn that they can continue implementing and working with online learning platforms and perhaps meet in person only for exams.

Another point is for the businesses in WB6 countries - they can also see a benefit since these types of organizations allow for the distribution of the economy. By encouraging SMEs acceptance of e-commerce to facilitate their entrance into new markets, the problem of the economic gap can be easily addressed. Another benefit is diversity. Individuals in most WB6 societies have very similar behavior and lifestyle (Baldo & Rabelo ,2010).

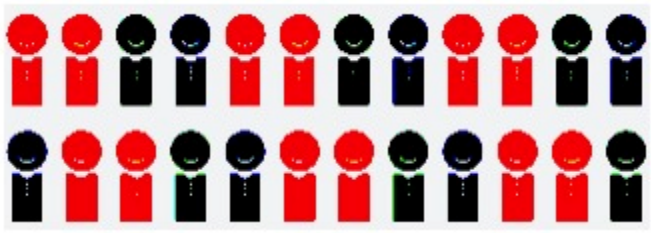


Figure 7- Monocultural society

With virtual organizations, diversity among these societies can bloom. This will allow for the exchange of culture, experiences, and therefore have an overall improvement to the societies in WB6

Figure 8- Diverse society

Further, in a global virtual organization, WB6 individuals can attend online conferences and have access to information databases which eases knowledge sharing. They can learn new methods that are applied in different countries, and perhaps try to apply them locally.

2.2.4. VIRTUAL ORGANIZATION TOWARD SOCIETAL TRANSFORMATION

Computer-based information technology makes virtual organization practicable. This powerful and flexible mode of organization is based on a logical separation of requirements from the ways in which requirements are met. By making such a logical distinction it becomes possible, systematically, to alter the way a particular requirement is met. “Systematically” is emphasized to make it clear that although this effect can be achieved on occasion in any setting, the internal logic of virtual organization guarantees it. This deceptively simple trick permits businesses to operate more efficiently, to leverage scarce resources, and to respond more effectively to changes in the marketplace (Camarinha-Matos, 2006).

The economic and social significance of virtual organization in the future is likely to be comparable to that of the factory in an earlier period. This new approach to organization seems destined to become a dominant paradigm because it offers unique advantages in the efficiency, cost and effectiveness of goal-oriented activity, and, equally important, the requisites for its exploitation are in place. Properly implemented, virtual organization may deliver increases in efficiency and effectiveness on an unprecedented scale. At the same time, it may stimulate social changes at least as far-reaching as those associated with the industrial revolution (Camarinha-Matos, 2006).

The logical separation of requirements from satisfiers, courtesy of computer mediation and brokerage, weakens the ties between actors in business enterprises. In fact, virtual organization offers a positive incentive to avoid such ties. By entertaining the possibility of switching from one employee, supplier or partner to another, a company can systematically exploit potential cost or other advantages in the marketplace (Camarinha-Matos, 2006).

Switching in virtual organization allows private businesses to transcend territorial and personal loyalties. virtual organization undermines the modern political economy founded on the nation state. The spheres of public and private are being redefined and the boundary between them

redrawn. There is an ever-growing rift between the political system of the nation state and the economics of the global marketplace. This rift has been a long time in the making, but recent developments stimulated by information technology have accelerated the process of change. Government as we know it today, formed in the industrial revolution, cannot control virtual organizations and will come under pressure to cede its responsibilities and powers to them. This shift in the locus of power and authority is leading to a new feudal order, a political-economic system in which power and authority are vested in private hands (as in medieval feudalism), but which is based on globally distributed resources rather than the possession of land. (Afsarmanesh & Ollus, 2006).

Promising greater flexibility and responsiveness, virtual organization can be used to improve resource utilization, achieve better quality products and services, strengthen managerial control, and lower costs. These potential advantages derive from two main sources: systemic use of switching as a management principle and explicit formulation (Afsarmanesh & Ollus ,2006).

2.3. Review summary

The literature review identifies a very strong emphasis on the need to implement virtual work mode for organizations. In the events that transpired following the COVID-19 global pandemic, the role of virtual work mode has become more apparent in remote working and supply chain systems.

The review identifies the unique use of virtual work is growing more prominent for a number of reasons. It provides employees with flexibility to manage work-life integration (Golden, 2006); generates cost savings on corporate travel and real estate for employers (Martins et al., 2004); serves as a means to transact and co-ordinate in today's globalizing and increasingly complex business environment (Gibson & Gibbs, 2006); and has potential benefits for employee attitudes, behaviors, and performance (Gajendran & Harrison, 2007). While much of the research on virtual work has focused on the outcomes of different types of virtual work across varying organizations (Gajendran & Harrison, 2007; Raghuram et al., 2019), a very important matter has received very little attention: namely, the adoption of virtual work arrangements among employees (Makarius & Larson, 2017). Once an organization has made the formal decision to allow employees access to different forms of virtual work arrangements, individual employees and their managers must accept and adopt virtual work arrangements for policy to become actual practice

To realize the potential benefits associated with virtual work, many organizations have introduced new policies to enable employees to work virtually. However, research evidence and media reports indicate that many employees are hesitant to utilize the opportunity to work virtually

Furthermore, the study seeks to take a more focused examination to identify how recent publications are framing Virtual Work Mode in private sector companies like BNT Industry and Trading PLC. Is There Virtual Work Mode Know-how? Is There Urgent call & Readiness for implementing virtual work mod? and What are the key challenge and opportunity grasp from virtual work mode Implementation?

2.4. Conceptual Framework

According to Christie and Levary (1998), in order to be successful and survive in today's ever-changing, fiercely competitive business environment, organizations must constantly adapt. There are numerous external and internal forces that make constant change nearly impossible. The fluid scenario includes rapid changes in customer tastes and needs, incredible technological advancements, phenomenal growth in business internationalization, volatile capital markets, varying employee attitudes, and changing customer demographics. There appears to be a call in the business world for alternative strategies for organizing firms to maximize performance, and one of them is the virtual organizational form.

In the broader literature on Ethiopian institutions, it is common to confuse and/or exchange digitization of previously analogue datasets with digitization of new production workflows or service delivery mechanisms (Bayissa, 2010; Ergado & Desta, 2021). This discovery is critical for clarifying terminologies and articulating the evolution stage of digitization in order to recognize initiatives based on their level of progress.

The call for digitization is heard in both the public and private sectors, though the degree varies by region, industry, and organizational context. Overall, competitive advantage and advanced service delivery are consistently cited as the primary reasons for private and public sector players to embrace digitization. This is consistent with studies that show that the ability to collect, analyze, and comprehend both structured and unstructured data can improve a firm's competitive advantage as well as a country's preparedness for future crises (Amoha, 2015).

Although attitudes and perceptions about virtual work modes differ, organizations are increasing their competitive advantage through the use of virtual work modes. Virtual teams can access and share information more quickly, collaborate more effectively, and make better decisions faster by leveraging innovative technologies. Businesses can gain a competitive advantage as attitudes toward virtual work modes improve. (Zhao, Fang, & Jin, 2018).

Virtual work modes can provide organizations with several key competitive advantages, including increased efficiency, global access to talent, and cost savings. Companies can gain faster and more accurate insights for better decision-making through improved communication and collaboration tools, as well as improve work-life balance for employees. As a result, it is possible to conclude that virtual work modes provide organizations with numerous competitive advantages. Zhao, J., (Fang, & Jin, 2018).

Businesses benefit significantly from virtual work modes in terms of flexibility and efficiency. They allow for remote working, a larger talent pool, and better resource allocation. Organizations must be prepared to embrace virtual work modes and urgently adapt technology and workplace culture to capitalize on this new trend. Companies should consider implementing virtual solutions to ensure that they are prepared to respond to changing customer needs quickly and confidently. (Alhousary, 2012).

By reducing costs, increasing staff flexibility, and improving collaboration, operationalizing virtual work modes can help organizations gain a competitive advantage. Implementing virtual private networks, virtual meeting software, and cloud-based software are all examples of this. Additionally, organizations can provide rewards and incentive programs to encourage employees to engage in virtual work modes. Finally, education and training can assist in preparing employees to work in these new digital environments. (Brown, & Blackmon, 2005). These are the most important operationalization cases of virtual work modes for competitive advantage.

1. Use the appropriate virtual tools: As they work remotely, use team collaboration software, video conferencing, or project management tools to ensure cross-team communication and deadline tracking.

2. Put team connection first: Schedule regular team meetings and check-ins with virtual employees to ensure that everyone is on the same page. Allow employees to establish a sense of community, trust, and connection with the team.
3. Invest in technology: When using virtual work modes to gain a competitive advantage, investing in the proper technology infrastructure is critical. Ensure that the tools keep everyone connected and allow teams to collaborate on projects easily.

Virtual work modes enable businesses to gain better access to remote talent and collaborate seamlessly with teams located anywhere and at any time. They also save money because employees can work more flexibly around their lives, avoiding the costs associated with traditional office-based work. However, the challenges of effectively managing remote teams and maintaining collaboration among a geographically dispersed workforce are inherent in virtual work. To gain a competitive advantage, organizations must develop clear communication strategies to ensure effective workflows and team engagement. (Kohntopp, & McCann, 2019).

The researcher establishes a framework for virtual organization in this paper. The practice of virtual work modes is divided into four categories: "Attitudes & Perception," "Urgent Call & Readiness," "Operationalization Cases," and "Opportunities & Challenges" to better explain the previously discussed concept of virtual work modes.

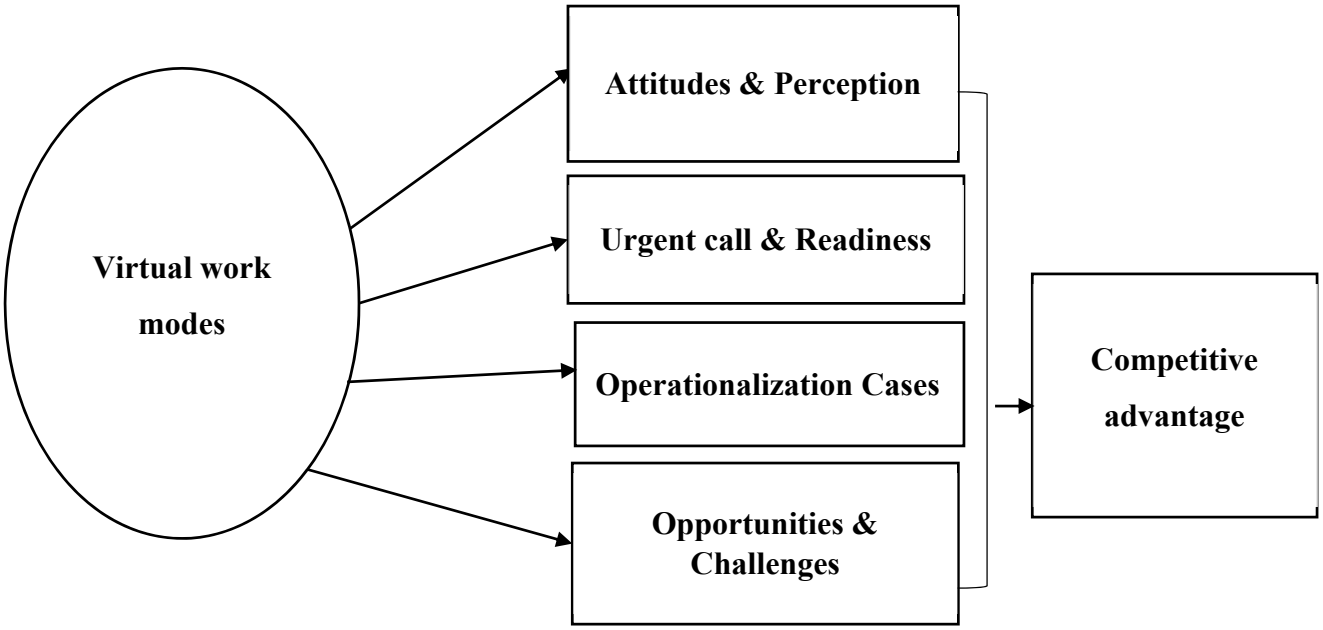


Figure 9- The conceptual framework of the study developed by Researcher

CHAPTER THREE

3. METHODOLOGY

3.1. Research Design and Approach

Research design is the plan and structure of investigation so conceived as to obtain answers to research questions (Cooper and Schindler, 2014). Descriptive research design was adopted to undertake this study. The purpose of descriptive research is to describe the characteristics of a phenomenon. A case study design was employed by using both qualitative and quantitative approaches to obtain the desired results of the company. The case study method's unique strength is in combining qualitative and quantitative evidence and procedures. Because of its larger applicability and consistent integrating theme, the case study will be more suited. (Yin R.K, 1994)

According to Yin (2003) a case study is considered when the focus of a study is to answer "how" and "What" questions. The case study method will be used in this study because it is well suit in adequately answering the research questions. Case study design allows researchers to examine a phenomenon in-depth using various kinds of evidence obtained from analysis of documents and artefacts (Yin, 2003).

Accordingly, a case study design was chosen for this study because the research questions which need to be answered after this study are questions of "What" and "How" of the assessment of implementing virtual work mode for private sector companies in the case of BNT Industry and Trading PLC

In the field of evaluation research and indeed in several other applied fields, the case for a multi-strategy research approach seems to have acquired especially strong support. (Tashakkori & Teddlie, 2003)

3.2. Population and Sampling Technique

The purposive sampling strategy was utilized in this work to identify study participants. respondents who can provide accurate and relevant information based on their actual expertise with the problems under consideration. Purposive sampling is an acceptable kind of sampling for special situations. It uses the judgment of an expert in selecting cases or it selects cases, or it selects

cases with a specific purpose in mind. Purposive sampling is used most often when a difficult to reach population needs to be measured. “Purposive sampling enables you to use your judgment to select cases that will best enable you to answer your research question(s) and to meet your objectives” (Sanders et al., 2009).

In this study, the study design was adopted both primary and secondary data collection method. Primary data was collected by using questionnaires (via using Google forms) which was administered to General Management: Marketing Department, Finance Department, Human Resource Department, Purchase Department, customers and non-management staffs of BNT Industry and Trading PLC was selected by judgment sampling method.

3.3. Data Collection Methods

In order to gather the data from relevant sources, both primary and secondary data collection instruments were used. To generate the primary data, closed ended questionnaires was distributed to the General Management: Marketing Department, Finance Department, Human Resource Department, Purchase Department, customers and non-management staffs of BNT Industry and Trading PLC. On the part of secondary data, the secondary data were generated from relevant documents such as profiles of the enterprises, previous articles, website addresses, meeting reports and thesis conducted on this particular topic.

The questionnaire was divided into four sections. The first is the general information section, which contains the respondents' overall information, such as gender, age, marital status, educational background, work experience, and position in the organization. The second section is the essential information section, which covered the research questions in Six sections in 360 angles. The questionnaires will be divided into several sections, including a 5- and 2-point scale, check boxes, and short answers.

3.4. Data analysis and presentation

Combination of quantitative and qualitative analysis methods were used to analyze the collected data. Quantitative data from a household survey was analyzed using simple descriptive statistical tools such as frequency, mean, standard deviation, and percentages, all of which were run through the Statistical Package for Social Studies (SPSS) and Microsoft Excel. Key informants were used

to collect qualitative data. Description, narration, and contextual interpretation of the situation were used to analyze the interview and personal observation. Tables were used to present the data analysis.

3.5. Validity and Reliability

3.5.1. Validity

Validity was checked for potential research bias, reactivity, and participant bias, which according to Lincoln & Guba (1985), are the most important factors that need to be cross-checked in multi-strategy research. Reliability of respondents is many assessed based on the level of 'thoroughness, honesty and care' given for the research (Kriukow, 2017).

The quality of the study also depends on its external validity that can be achieved by accurate representation of the population by the sample. As the sampling design of the study pointed out the sample was selected using Purposive sampling size determination. Furthermore, qualities of the study have been realized by triangulating data from questionnaires, interview, and observation concurrently to minimize limitations each instrument and extracting primary data was another method to attain the validity of the study. And finally using primary data in the study could improve the validity (external) of the research paper

3.5.2. Reliability

To ensure response purposefulness, the selected participants was allowed to choose the thematic areas they are most willing or knowledgeable to comment on. Participants was provided with short briefing summaries of preliminary thematic findings beforehand. This help reduces researcher bias from assuming what the respondent might know or not know. A good level of rapport was established with the researcher prior to conducting the interview which is suggested to increase reliability for multi-strategy research (Cohen et al, 2007; Curtis & Curtis, 2011)

3.5.3. Reliability Test

Table 1- Reliability Test

	Cronbach Alpha	Items	N
Existence of ICT policy in the Company	0.787	2	34
Knowledge, Attitude and Practice	0.892	4	34
Infrastructure	0.772	4	34
Opportunities of Virtual Work Mode Management	0.737	4	34
Challenges of Virtual Work mode Management	0.767	10	34
Scale combination	**0.791**		

Source: SPSS Owen Survey, 2022

According to the findings in Table 1, all of the variables, both independent and dependent, are consistent with an Alpha value greater than 0.7. The Alpha value of the scale combination was 0.791. The Alpha value of Existence of ICT policy in the Company was 0.787, The Alpha value of Knowledge, Attitude and Practice was 0.892, while the Alpha value of Infrastructure was 0.772. Furthermore, the Alpha value for Opportunities of Virtual Work Mode Management was 0.737, while the Alpha value for Challenges of Virtual Project Management was 0.767. Given that the items had the different unit count, internal consistency, and all displayed values greater than the suggested value of 0.7, the study was considered reliable.

3.6. Ethical Consideration

Throughout the research process, the researcher followed ethically acceptable procedures. Before any information was collected from the participants, the purpose of the study was explained to them, thus adhering to the principle of voluntary and informed consent. In this regard, no respondents' names will be revealed, and no information will be made available to anyone who is not directly involved in the study. The researcher also believes that all sources cited and referenced in this research report have been properly recognized and acknowledged as in-text citations and references.

CHAPTER FOUR

4. DATA PRESENTATION AND ANALYSIS

In this chapter, the collected data is presented, analyzed, and interpreted. The data was collected through a questionnaire, an interview, and document analysis regarding the practice and challenges of implementing virtual work modes for private sector companies, considering the case of BNT Industry and Trading PLC. A total of 34 questionnaires were distributed to all the project team members and managers, and 34 were returned, representing a 100 percent response rate. The data is presented using a mixed approach.

4.1. Demographic Detail of Respondents

4.1.1. Sex of respondents

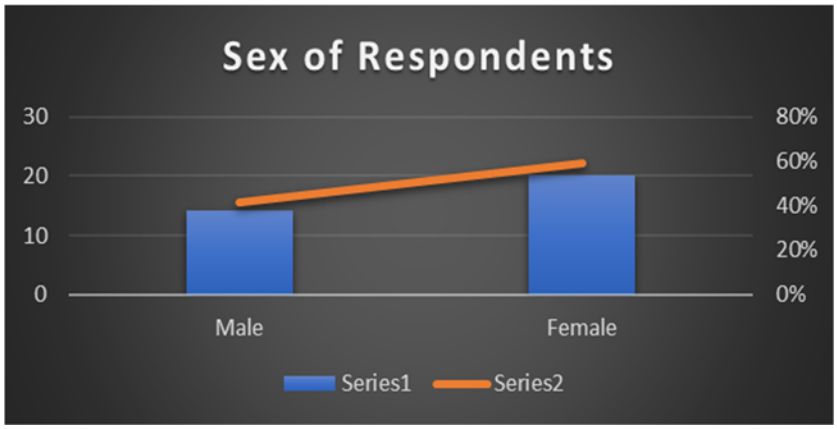


Figure 10- Sex of respondents

Sex	Frequency	Percent
Male	14	41
Female	20	59
Total	34	100

Table 2- Sex of Respondents

As shown in Table 2, the majority of the company's employees (59 percent) are female. According to the manager, the majority of employees at the main office are female, but the majority of workers at the factory and on the farm are men. Female employees are more active in the office than on the field.

4.1.2. Respondents' age group and Experience of team members

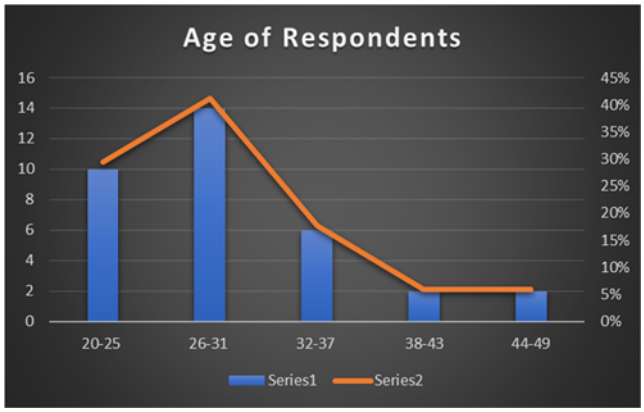


Figure 11- Age of respondents

Figure 12- Experience as a team member

Age of Respondents		
Age group	Frequency	Percent
20-25	10	29
26-31	14	41
32-37	6	18
38-43	2	6
44-49	2	6
Total	34	100

Experience as a team Member		
Service Year	Frequency	Percent
1 to 3	20	71
4 to 6	5	18
7 to 9	3	11
Total	28	100

Table 3- Respondents' age group and Experience of team members

Table 3 shows that 24 (71 percent) of the 34 employees are 31 or younger. According to the data provided, the majority of the employees are young or in their early adulthood. According to the managers, the company believes in hiring recent graduates because they are adaptable to new technology and flexible in terms of working hours and location.

This reflects the company's belief in hiring recent graduates, believing that they are better equipped with the skills and technology required to succeed in their roles. This is because the company wants to hire recent graduates who are adaptable to new technology and have innovative ideas. Younger employees can assist in keeping the company current and relevant.

4.1.3. Educational level

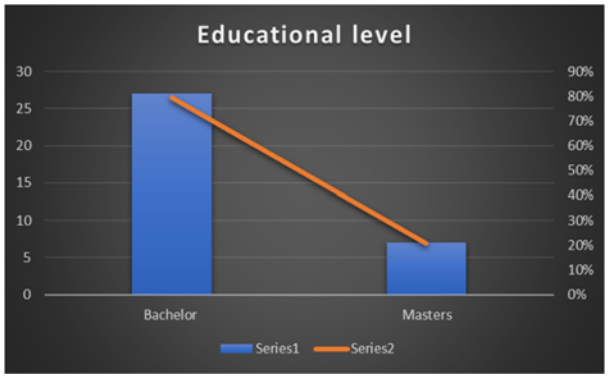


Figure 13- Educational level

Educational Level	Frequency	Percent
Bachelor	27	79
Masters	7	21
Total	34	100

Table 4- Educational level

As per Table 4, 79 percent have a bachelor's degree. This implies that the company's managers and team members are performing their duties to the best of their abilities. A higher level of education than a first degree is not required for the company's projects.

4.1.4. Position of respondents

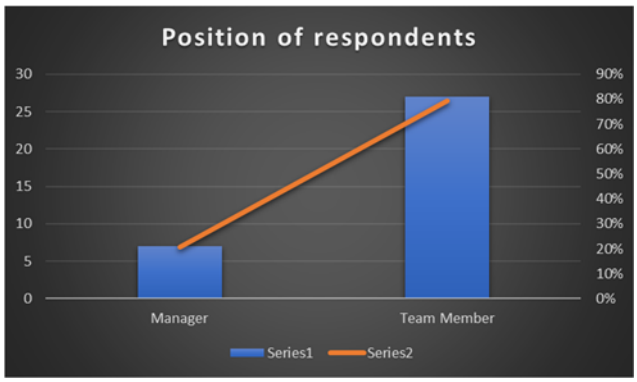


Figure 14- Position of respondents

Position	Frequency	Percent
Manager	7	21
Team Member	27	79
Total	34	100

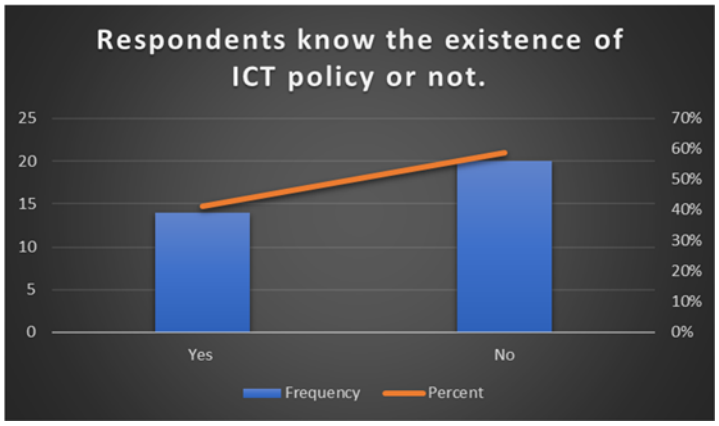
Table 5- Position of respondents

According to Table 5, nearly one-fourth of the employees were managers, while the remaining 79% were team members.

From the above Demographic information that implies virtual work mood is the new trend to the company, but the company is keen to the virtual work mood. During the interview, the one of manager explained that the company appointed managers who have skill on Information technology

4.2. ICT Policy

4.2.1. Existence of ICT policy in the Company

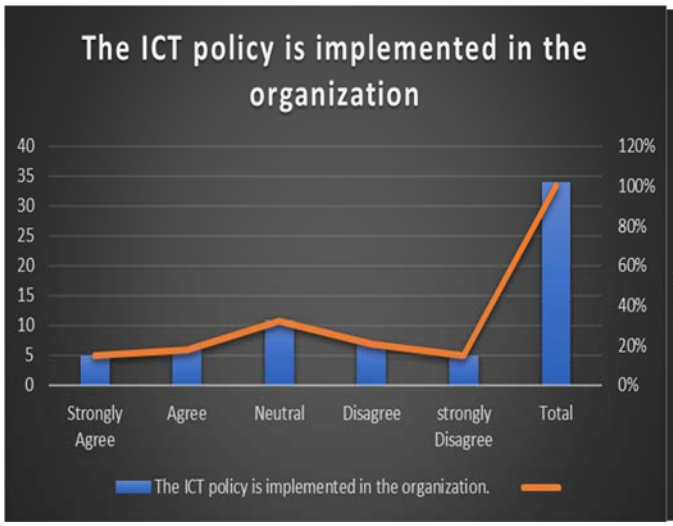


	Frequency	Percent
Yes	14	41
No	20	59
Total	34	100

Figure 15- Respondents of ICT policy ***Table 6- Respondents of ICT policy***

Respondents were asked if they were aware of the existence of an ICT policy. To that end, 59 percent of respondents were unaware of the policy's existence. In relation to this issue, one of the managers stated that there was a trial to disseminate the ICT policy to the employees, but the company was not consistently carrying out this task.

4.2.2. Introduction and Implementation of ICT Policy



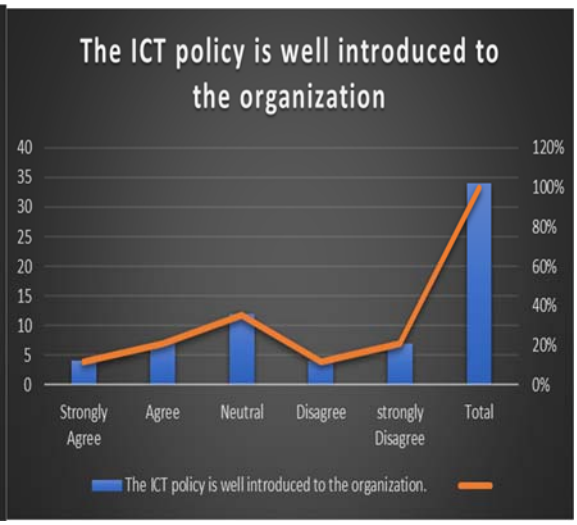


Figure 16- ICT policy is implemented in the Org. ***Figure 17- ICT Policy Introduction***

Item	Strongly Agree	Agree	Neutral	Disagree	strongly Disagree	Total
The ICT policy is well introduced to the organization.	4	7	12	4	7	34
	(12)	(21)	(35)	(12)	(21)	(100)
The ICT policy is implemented in the organization.	5	6	11	7	5	34
	(15)	(18)	(32)	(21)	(15)	(100)

Table 7- Introduction and Implementation of ICT Policy

According to the findings in Table 7, 33 percent of the only 14 employees who were aware of the ICT policy's existence did not agree with its implementation in the company. More than a third of employees are unaware that the company has implemented or introduced virtual work environments. This indicates that, while an ICT policy exists, the company fails to consistently introduce it to new employees. According to the responses of 68 percent of employees, this gap is also reflected in the implementation of the ICT policy. As the managers explained during the interview, the policy is not well implemented due to two basic reasons. The first one is the reluctance of the manager to implement the virtual work mood to the company and the other is the mindset of the employee to the virtual work mood, that the employee prefer the traditional working mode.

Employees should be aware that every company should have an information technology policy in place. This policy outlines how technology should be used and managed within the company, assisting in ensuring that everyone uses technology safely and productively. Everyone should be aware of their company's information technology policy, and all employees should be trained on how to use technology in accordance with those guidelines.

If an employee is unsure whether the company has an ICT policy, they can inquire with the Human Resources department. Furthermore, the employee can consult the employee handbook or code of conduct to see if an ICT policy is in place. Employees can ensure that they are using ICT within the boundaries of their workplace by understanding the specifics of the ICT policy.

4.3. Knowledge, Attitude and Practice

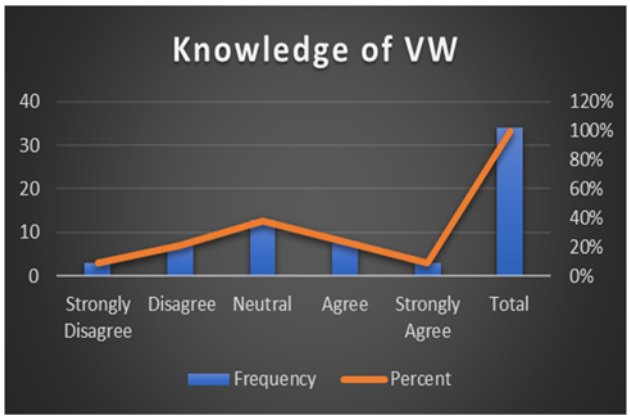


Figure 18- Knowlegde of VW

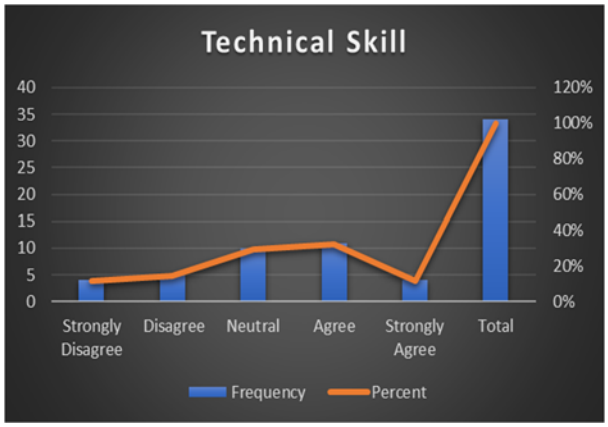


Figure 19- Technical skill

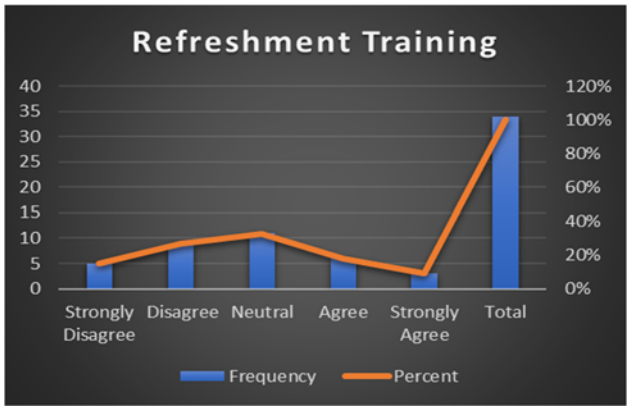


Figure 20- Refreshment training

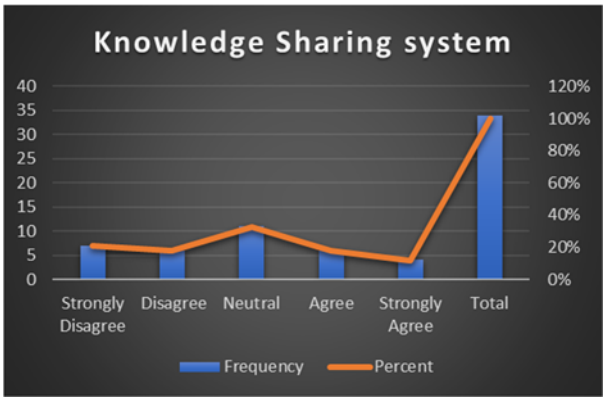


Figure 21- Knowledge of sharing system

Rate	Knowledge of VW (M=3.03, SD=1.087)		Knowledge Sharing system (M=2.82, SD=1.29)		Refreshment Training (M=2.79, SD=1.175)		Technical Skill (M=3.18, SD=1.193	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Strongly Disagree	3	9	7	21	5	15	4	12
Disagree	7	21	6	18	9	26	5	15
Neutral	13	38	11	32	11	32	10	29
Agree	8	24	6	18	6	18	11	32
Strongly Agree	3	9	4	12	3	9	4	12
Total	34	100	34	100	34	100	34	100

Table 8- Existence of Knowledge, Knowledge Sharing system, refreshment training and technical skill

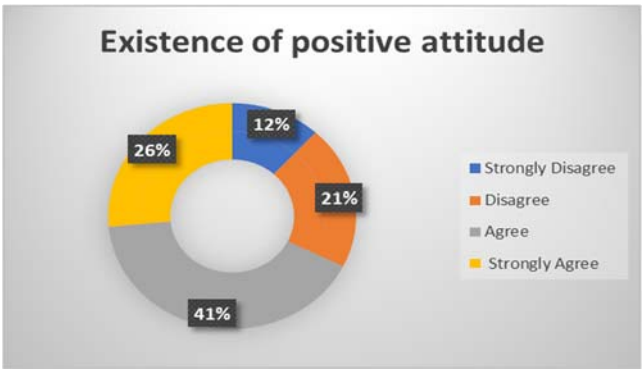
Table 8 illustrates this. Three-quarters of employees (68%) did not agree to being aware of the virtual work mood. This indicated that the employee in the company had a knowledge gap. Similarly, 71 percent of employees disagreed that the company had a knowledge sharing system. Furthermore, 73 percent of employees disagreed on the availability of refresher training for new technology. The figures above imply, on the one hand, that there are employees who are unfamiliar with virtual work modes and, on the other hand, that the company's capacity building system is ineffective. According to one of the managers, while the company provides basic training at the time of employee recruitment, the employee is responsible for ongoing professional development. Employees, according to the manager, are expected to arrange self-learning mechanisms such as experience-sharing programs on their own during their downtime. On the contrary, 44 percent of employees believe they are qualified for virtual work modes.

4.3.1. Managers competency to manage virtual projects

Managers competency to manage virtual work mode		
	Frequency	Percent
Disagree	2	29
Agree	1	14
Strongly Agree	4	57
Total	7	100

Figure 22- Managers competency ***Table 9- Managers competency***

Out of the 7 managers, (29%) believed that they are not competent to manage on virtual work mode. One of the interview participants mentioned that Managers are competent enough to Manage the Virtual work mode, from the nature of the BNT Business managers have responsibly to communicate with business partners around the world and entertain the Decision making at any time or at any Place.



Existence of positive attitude		
	Frequency	Percent
Strongly Disagree	4	12
Disagree	7	21
Agree	14	41
Strongly Agree	9	26
Total	34	100

Figure 23- Existence of positive attitude ***Table 10- Existence of positive attitude***

The majority of the respondents, i.e., 67 percent, have a positive attitude towards virtual work modes. However, 33 percent did not have a positive attitude toward virtual work mode. This implies there is a mindset problem toward virtual work mode or related new working mechanisms.

The majority of respondents favor virtual work modes if their job responsibilities include the use of technology and their message can reach a larger audience. They may also feel more autonomous because they are not required to be at a physical office location. A lack of physical contact with colleagues and supervisors, on the other hand, may result in miscommunication and a sense of isolation.

Because they rely on face-to-face communication more frequently, 33 percent of employees may be hesitant to trust the system. If given the right tools and technology, they can develop positive attitudes and learn to trust the system. They can also see the potential and growth of a virtual organization.

Employees prefer virtual work modes because they provide greater flexibility and convenience. They may value the absence of a physical workplace and the ability to work from home. Some may question how well a virtual work mode can function without face-to-face interaction. Virtual work modes, on the other hand, can be successful if teams are well organized, tasks are effectively managed, and employees are motivated and engaged.

4.4. Infrastructure

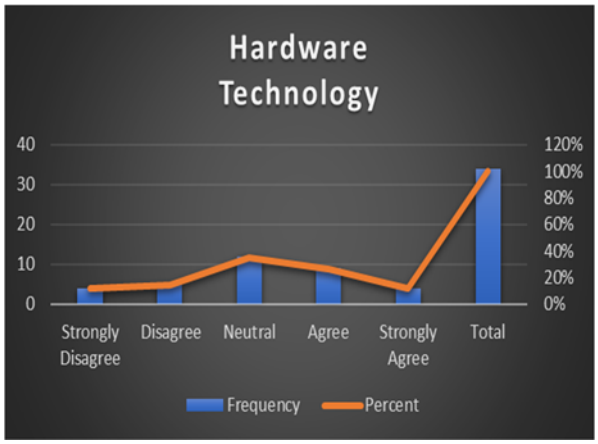


Figure 24- Hardware Technology

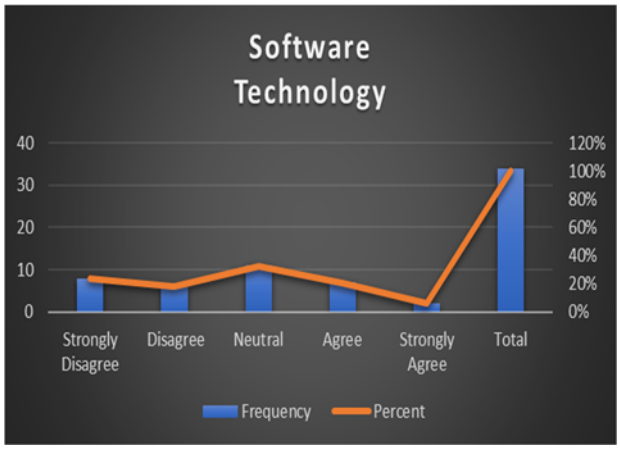


Figure 25- Software Technology

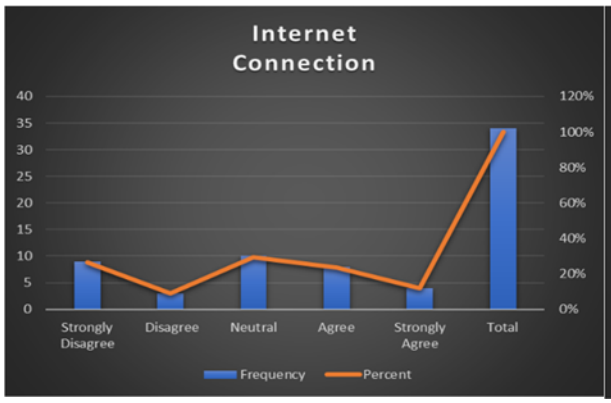


Figure 26- Internet Connection

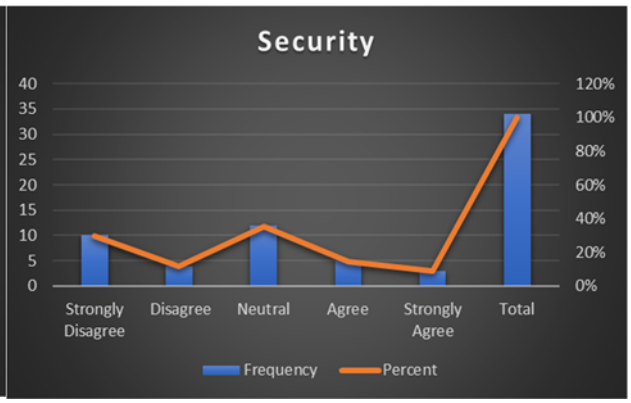


Figure 27- Security

Rate	Hardware Technology (M=3.12, SD=1.175)		Software Technology (M=2.68,SD=1.224)		Internet Connection (M=2.85, SD=1.374)		Security (M=2.62, SD=1.303)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Strongly Disagree	4	12	8	24	9	26	10	29
Disagree	5	15	6	18	3	9	4	12
Neutral	12	35	11	32	10	29	12	35
Agree	9	26	7	21	8	24	5	15

Strongly Agree	4	12	2	6	4	12	3	9
Total	34	100	34	100	34	100	34	100

Table 11- Infrastructure

A reliable and up-to-date infrastructure is essential for managing and executing virtual organizations. The respondents were asked to rate their level of agreement with the latest hardware and software technology, a dependable and strong internet connection, and highly secure technology. As a result, 27 percent, 42 percent, 35 percent, and 41 percent of employees, respectively, did not agree on the existence of current hardware technology, software technology, a reliable and strong internet connection, or highly secured technology. However, the interview data revealed varying perspectives on the infrastructure's age, reliability, and security. According to the interviewees, infrastructure is not a major issue for them; in fact, they appreciate the high-speed internet connection and hardware technology.

BNT Industry and Trading PLC has responded to urgent calls with a reasonable level of preparedness. They have put forward so far reasonable effort and progress in implementing a virtual work mode. The company has demonstrated adequate responsiveness and intends to operate in the new reality. Their staff is equipped with the necessary tools and resources to respond to calls in a timely and efficient manner, and their processes to enable virtual work mode are well thought out and practical for the operations at hand. There may still be some issues to work out, but overall, they are handling the transition to virtual work well.

Adjustments to this mode of operation are required as the organization adapts to changing operational dynamics and the digital transformation of their teams and processes. To ensure that employees can adjust to a virtual working environment, proper planning and training must be provided. Lack of human interaction as a result of virtualization of the environment may have some consequences that should be closely monitored.

4.5. Opportunities of Virtual Work Mode Management

List of opportunities	Rank in percent				
	1st	2nd	3 rd	4 th	Cumulative
Global knowledge transfer and learning	32	21	32	15	100
Opportunity to hire the best available talent	24	29	26	21	100
Multi-cultural teams provide support to global clients	29	21	32	18	100
Cost saving	26	26	32	15	100

Table 12- Opportunities of virtual Work Mode management

Respondents were asked to rank the most important advantages of virtual work mode management in their organization. As a result, global knowledge transfers and learning was ranked as the top priority by 32% of respondents. Despite the fact that the listed items are considered opportunities for virtual organization management in the literature, respondents to this study gave them little thought. As shown in Table 12, 29 percent of team members see multicultural teams providing support to global clients as an opportunity, 26 percent see it as a cost-cutting measure, and 24 percent see it as an opportunity to hire the best available talent. This implies that the company and team members are not taking full advantage of the opportunities provided by virtual work mode.

Management of virtual work modes is an excellent way to capitalize on global knowledge transfer and learning opportunities. It enables improved collaboration, which encourages meaningful interaction and the exchange of resources and ideas across geographical boundaries. Virtual work mode allows teams to collaborate remotely, share ideas and resources, and stay connected, productive, and engaged. This can lead to increased virtual team effectiveness, efficiency, and creativity.

Multi-cultural teams enable effective communication with global clients and facilitate remote work. Teams can collaborate and work on projects from anywhere in the world thanks to this virtual work mode management. Increased mobility and flexibility, improved resource

management, and cost savings are all advantages. It also serves as a powerful platform for exchanging ideas, fostering teamwork, and developing relationships.

The transition to virtual work mode allows employers to tap into a larger pool of potential talent. This increases the likelihood of hiring the best candidate for the job and shortens the hiring process. Employers can also quickly build remote teams, allowing them to take advantage of unique skills and skill sets while gaining access to more cultures, ideas, and perspectives.

4.6. Challenges of Virtual Work Mode Management

List of challenges	Rank in percent		
	1st	2nd	3rd
Culture and language barriers	9	9	12
Communication challenge	12	10	8
Information security	14	5	11
Information redundancy	7	12	11
Team structure	10	12	7
Time zone difference	8	12	9
Trust building	13	9	7
Conflict resolution and management	14	9	7
Knowledge sharing	7	10	13
Leadership challenge	6	11	13
Total	100	100	100

Table 13- Challenges of Virtual Work Mode Management

One of the questionnaire items was to rank the most significant challenges of virtual work mode in the context of the company. As a result, the items were ranked by the respondents, and the feedback they provided is organized in the table above. As a result, the four most important challenges are identified as, in that order, information security, conflict resolution and management, trust building, and communication challenges. One of the executives also mentioned structural issues as a significant challenge for the company. He stated:

"I was recently hired as a marketing manager. The most difficult challenge I've faced since my appointment has been structural issues. Both team members and managers frequently disregard the formal structure, preferring to carry out their tasks through informal communication. This is disappointing, and it has an impact on the team members' and managers' responsibility and accountability." According to the data gathered through the questionnaire, only 13% of respondents consider trust to be a challenge.

Data leakage, malware infections, credential theft, unauthorized system access, and other cyber threats must all be addressed by virtual work mode management. Strong passwords, two-step authentication, encryption, data backup, and up-to-date antivirus software are all recommended security measures. Security policies must be in place to ensure the safety of data shared online and to educate employees on best practices for online security.

Management of virtual work modes can present unique challenges, such as remote conflict resolution and management. Without face-to-face interaction, it may be difficult to resolve conflicts among virtual team members. To avoid potential issues, it is critical to foster an environment of respect, trust, and clear communication from the start when managing remote teams. Establish collaboration and communication protocols, and be sure to check in with team members on a regular basis to ensure that any issues are addressed as soon as possible.

Maintaining communication and trust among team members, providing adequate support, and establishing clear roles and responsibilities are all challenges of virtual work mode management. Furthermore, maintaining a balance between productive and non-productive times can be difficult. As a result, managers must ensure that virtual team members have access to resources, and creating a culture of trust and collaboration is critical for success.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1. Summary of key findings

To summarize the preceding findings, The ICT policy of BNT Industry and Trading PLC is ineffective in the following categories: "The ICT policy was introduced well" and "the ICT policy was implemented well." It illustrates the organization's contempt for both groups. This demonstrates the organization's disregard for technological advancements and inability to effectively implement such changes. The company appears to have a low regard for its virtual working mode, indicating that this area requires improvement. Despite the policy's introduction, implementation, and adherence, it does not appear to be working effectively due to a lack of commitment and clear objectives. This highlights the need for improved ICT policy organization and enforcement in order to achieve greater success in the future.

According to the survey results in Table 8, the majority of respondents are unaware of virtual work modes, although they have a fair understanding of virtual work modes, knowledge sharing systems, and technical skills. In addition, respondents have a neutral attitude toward refreshment training. Nonetheless, there may be an opportunity to improve survey respondents' knowledge and understanding of these topics.

According to Table 11, The majority of respondents are oblivious about the most recent hardware and software technologies, a dependable internet connection, and advanced security features. While they recognize the importance of these for work efficiency and security, they appear to be comfortable with their current setup and see no need for an upgrade. Having up-to-date equipment and reliable internet appears to be important to them, but not necessarily a driving factor in their opinion. Security technology is also positively viewed, but respondents remain neutral on these topics overall.

Global knowledge transfers and learning is ranked as the top priority by 32% of respondents as an opportunity from virtual work mode, and the four most important challenges are identified as information security, conflict resolution and management, trust building, and communication challenges, in that order.

5.2. Conclusion

The study's aim was to look at the practice and challenges of conducting a baseline assessment for implementing a virtual work mode in private sector companies: the case of BNT Industry and Trading PLC. To collect the necessary data from its respondents, the study used a hybrid approach. The information was gathered from team members, managers, and company documents. The study included 27 team members and 7 managers. All participants completed the questionnaire, which includes demographic information, ICT policy, respondents' knowledge, skill, and attitude, as well as the opportunities and challenges of Virtual Work Mode management. Every manager has been interviewed.

The findings indicate that the BNT Industry and Trading PLC's ICT policy was not effectively introduced or implemented. This reflects a low regard for the effective use of ICT and virtual working to meet business objectives. Improvements must be made to ensure that ICT policies and practices allow for effective virtual work. This lack of efficacy demonstrates a clear disregard for the benefits of virtual working, implying that the company should reconsider its policy implementation and develop guidelines that better address modern working needs. This demonstrates a lack of priority and value placed by the organization on the use of ICT products and services. As a result, it is strongly advised that the organization find a way to improve its prioritization and utilize ICT.

The researcher discovered that respondents had limited knowledge of and experience with virtual work modes and technology, as well as a neutral attitude toward refresher training. To address these concerns, the researcher proposed emphasizing the benefits of virtual work and providing participants with training on how to use technology to increase productivity. Furthermore, emphasizing the importance of knowledge sharing among team members would aid in the development of a culture of collaboration and distributed work. They did not, however, have strong feelings about using more electronic-based communication and knowledge sharing systems, leaving room for the future implementation of virtual work modes. The study concluded that virtual work modes should be investigated further in order to improve employee efficiency.

The majority of respondents were dissatisfied with modern hardware and software, a dependable internet connection, and adequate security measures. They claimed that internet connections are slow and unreliable, and that security systems fail to adequately protect their data. This lack of trust in existing infrastructure emphasizes the need for a better, more secure digital infrastructure that meets the needs and expectations of those who rely on it. To support digital initiatives and achieve successful outcomes, these components must be reliable and robust. More investment and focus on these critical qualities are required to ensure a successful digital transformation.

Finally, in terms of opportunities, 32% of respondents cited global knowledge transfer and learning as the most promising outcome of virtual working. It promotes meaningful interaction and the exchange of resources and ideas across geographical boundaries by enabling improved collaboration. Teams can collaborate remotely, share ideas and resources, and stay connected, productive, and engaged by using virtual work mode. This can increase the effectiveness, efficiency, and creativity of virtual teams. However, in terms of challenges, virtual work mode management must address information security: data leakage, malware infections, credential theft, unauthorized system access, and other cyber threats. Strong passwords, two-factor authentication, encryption, data backup, and current antivirus software are all recommended security precautions. To ensure the safety of data shared online and to educate employees on best practices for online security, security policies must be in place.

5.3. Recommendation

Based on the findings presented in chapter four, the research forwarded the under listed recommendations.

- ✓ In order to address issues related to virtual work modes, the company should update its ICT policy in collaboration with all stakeholders. They should also work on introducing and implementing the policy.
- ✓ To maximize the benefits of virtual work modes, the company, managers, and team members must work collaboratively.
- ✓ While making structural changes, the company should take a participatory approach and formally introduce new structures to all stakeholders, support them, and oversee their implementation.

- ✓ To reduce the communication challenge, the company should develop a communication strategy that includes communicating updates to all team members and managers who work for the company. Managers should also play an active role in disseminating pertinent information within and across teams.
- ✓ The company should work to improve the employee's capacity. This includes increasing the capacity of its team members and managers through training and experience-sharing programs, allowing them to handle complex projects and meet the needs of their customers. It should also use cutting-edge hardware technology to complete tasks effectively and efficiently.
- ✓ To promote the development and expansion of virtual organizations in Ethiopia, the government, Ethio Telecom, and Ethiopian Electricity Company should provide basic facilities such as reliable and sustainable electricity and internet access.

5.4. Directions for Future Research

The study concludes by asserting the need to further explore the operational case of virtual work mode. The case scenarios sampled in this study can be good starting points for the operationalization of virtual work modes in BNT as one critical development pathway for other privately owned companies. Future studies can further use the framings identified in this study as robust starting points for conducting empirical and qualitative research.

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Appendix I

ST. MARY'S UNIVERSITY

School of Graduate Studies

Department of Master of Business Administration

QUESTIONNAIRE TO BE FILLED BY MANAGERS

Dear Participant,

Thank you for taking your time to join me on this research interview. My name Yonatan Birhane Mesfin - an MA candidate at the ST. MARY'S UNIVERSITY. I am conducting an interview questionnaire for academic research as a partial fulfilment for my degree. The purpose of my study is Baseline Assessment on practice and challenges of Implementing Virtual Work Mode for Private Sector Companies: The Case of BNT Industry and Trading PLC. The interview will take between 30 – 60 minutes to complete.

All your opinions are valid and welcomed as there are no right or wrong answers. I would simply like to hear your thoughts. Your participation in this study is entirely voluntary and you can withdraw from the interview at any given moment during or after the interview. You do not have to answer any questions you do not want to. If you need breaks in between, please do let me know.

Research Objective

1. To assess the Attitudes & Perception towards implementing virtual work mode of BNT Industry and Trading PLC.
2. To measure the Urgent call & Readiness for implementing virtual work mode in BNT Industry and Trading PLC.
3. To assess the Operationalization Cases of virtual work mode in BNT Industry and Trading PLC.
4. To find out virtual work mode Implementation Challenges in BNT Industry and Trading PLC.

Privacy and Consent Agreement

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. Participants' have the options to anonymize their identity and input for publication upon request. Further information is available via the ST. MARY'S UNIVERSITY Privacy Notice. If you have any questions or need any clarification after this interview, please contact me through my email: ftyoni1997@gmail.com. If you have any concerns or questions, you can contact my academic supervisor: Muluadam Alemu (Ph.D) (muluadamlm@gmail.com).

Kind Regards,

Yonatan Birhane Mesfin
MA. Candidate, of Business Administration
ST. MARY'S UNIVERSITY

1. Please give general information about the company. (Branches, working hours, number of employees disaggregated by sex, hiring and promotion policy ….)

_____
_____
_____
_____

2. Please describe the nature and type of Business handled by the company.

_____
_____
_____
_____

3. How do you introduce the ICT policy?

_____
_____
_____
_____

4. Please give me a detail explanation on Attitudes & Perception towards implementing virtual work mode by the company

_____
_____
_____
_____

5. Is there Urgent call & Readiness for implementing virtual work mode in the company

_____
_____
_____
_____

6. How do the team members share knowledge regarding virtual work mode?

_____
_____
_____
_____

7. Please give a detail explanation on the opportunities of virtual work mode.

_____
_____
_____
_____

8. Please give a detail explanation on the challenges of virtual work mode.

_____
_____
_____
_____

Appendix II

ST. MARY'S UNIVERSITY

School of Graduate Studies

Department of Master of Business Administration

QUESTIONNAIRE TO BE FILLED BY TEAM MEMBERS

This questionnaire is part of research being conducted on the topic: of "The practice and challenges of Baseline Assessment for Implementing Virtual Work Mode for Private Sector Companies: The Case of BNT Industry and Trading PLC".

The purpose of the study is for the partial fulfillment of the requirement of an MA degree in Business Administration. The information that you provide is strictly confidential and will be used only for academic purpose. Thus, you are kindly requested to fill the questionnaire genuinely.

Thank you for spending your valuable time!

Part I: Demographic information of the respondents'

1. Sex ☐ Male ☐ Female
2. Age _____
3. Educational level ☐Bachelor ☐Masters ☐above Masters
4. Position ☐Manager ☐ Team Member
5. For how long have you worked in a virtual work mode?
   As a team member _____ As a manger _____

Part II: Questions on the issues related to ICT policy in managing employees.

2.1 Do you know whether an ICT policy exists in the company? ☐ Yes ☐ No

Place a check mark to indicate your response for each question from part I to IV as follows: 5= Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree

	Factors	1	2	3	4	5
2.2	The ICT policy is well introduced to the organization.	☐	☐	☐	☐	☐
2.3	The ICT policy is implemented in the organization.	☐	☐	☐	☐	☐

Part III: Questions on the team required knowledge, attitude, practice and perspective related to virtual work mode

	Factors	1	2	3	4	5
3.1	I have an adequate knowledge regarding virtual work mode	☐	☐	☐	☐	☐

3.2	There is a knowledge sharing system in the organization via virtual work mode	☐	☐	☐	☐	☐
3.3	There is a refreshment training for new technology	☐	☐	☐	☐	☐
3.4	I am comfortable in working with in the virtual team	☐	☐	☐	☐	☐
3.5	There is a positive team spirit among the virtual team	☐	☐	☐	☐	☐
3.6	I am competent enough to manage virtual work mode	☐	☐	☐	☐	☐
3.7	I do have the technical skill in executing virtual work mode	☐	☐	☐	☐	☐
3.8	All in all, I have a positive attitude towards virtual work mode and their management.	☐	☐	☐	☐	☐

Part IV: Questions on the organization Urgent call & Readiness for implementing virtual work mode in the company.

	Factors	1	2	3	4	5
4.1	There is an up-to-date hardware technology in the company.	☐	☐	☐	☐	☐
4.2	There is an up-to-date software technology in the company	☐	☐	☐	☐	☐
4.3	There is reliable and strong internet connection.	☐	☐	☐	☐	☐
4.4	There is highly secured technology (hardware, software, network….)	☐	☐	☐	☐	☐

Part V: Questions on opportunities of virtual **work mode. Please prioritize the below listed opportunities based on their order of importance for your team from the highest priority (4) to the lowest (1).**

	List of possible opportunities	1	2	3	4
4.1	Global knowledge transfer and learning	☐	☐	☐	☐

4.2	Opportunity to hire the best available talent from every corner of the world	☐	☐	☐	☐
4.3	Multi-cultural teams provide supposed to global clients in a better way as they can understand their demands easily	☐	☐	☐	☐
4.4	Cost saving	☐	☐	☐	☐

Please add if there are any other opportunities you have observed

_____

_____

Part VI: Questions on challenges of virtual work mode. Please prioritize the below listed challenges based on their order of importance for your team from the highest challenge (10) to the lowest (1). (Tick a row only once)

	List of possible challenges	1	2	3	4	5	6	7	8	9	10
1	Culture and language barriers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	Communication challenge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	Information security	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	Information redundancy as a result of multi-channel communication	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	Team structure	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	Time zone difference	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7	Trust building	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8	Conflict resolution and management	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9	Knowledge sharing	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10	Leadership challenge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Please add if there are any other challenges you have encountered

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