

College of Law & Management Studies

**The impact of remote working in Engen Petroleum Limited South
Africa emanating from the COVID-19 pandemic**

By

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ABSTRACT

This study examines the impact of remote working during the COVID 19 pandemic on employee retention and work-life balance at Engen Petroleum Limited South Africa.

South Africa had the most reported cases in Africa resulting in the South African government declaring one of the strictest lockdowns in the world on 23 March 2020.

Developments in cloud technology and globalisation have given rise to new flexible work arrangements known as remote working which became prevalent in many organizations, allowing employees to perform work away from the traditional office environment.

Due to a lack of stable internet connectivity in some areas in South Africa, remote working was a challenge. Only 53 per cent of South African's use the internet and people with the least connectivity live in poorer rural areas. To prevent the spread of the virus, many organizations implemented remote working. The advent of remote working in South Africa seriously impacted the informal sector of the economy.

The study adopted a quantitative approach. Data was collected via an online survey that was distributed to employees of Engen Petroleum Limited South Africa that were working remotely. A total of 67 respondents were received from various departments within the organization. The data was analysed using statistical software to test the impact of remote working on the constructs of employee retention, work-life balance, productivity and job satisfaction.

The study found that remote working had an overall positive impact on employee retention, work-life balance and job satisfaction with productivity either increasing or remaining unchanged. Management needs to invest in a substitute for "water cooler conversations" and similar social interactions that are lacking in the remote working environment.

The study recommends that the building of trust between managers and employees will assist in determining the effectiveness of remote working. The manager team need to explore innovative ways of improving communication that will ensure that remote workers are included in the activities of the organization. The organization needs to

have an awareness of the setup that remote workers have at their homes to provide the required human resource support.

Keywords: Employee retention; job satisfaction; remote working; work-life balance; COVID-19; Engenol

DECLARATION

I, Sudhir R. Mohan, declare that:

- The research reported in this dissertation/ thesis, except where otherwise indicated, is my original research.
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Sudhir R. Mohan

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ACRONYMS AND ABBREVIATIONS

CLT	Central Limit Theorem
GDP	Gross Domestic Product
ICT	Information, Communication, and Technology
ILO	International Labour Organization
JE	Job Embeddedness
POS	Perceived Organizational Support
RQ	Research Question
WFH	Work from Home
WLB	Work Life Balance
WWW	World-Wide Worx

CHAPTER ONE:

INTRODUCTION

1.1. Introduction

This chapter focuses on introducing the study, the background, and the overview of the study. It discusses the research focus, research problem, research objectives and research questions as well as the contribution of the study to research in remote working. Finally, this chapter provides an outline of the study

SARS COV2 (COVID-19) started in Hubei Province, Wuhan in China in December 2019 (Ezeh et al., 2020). There were 27 reported cases which later spread rapidly into a contagious respiratory disease across the globe. The World Health Organization (WHO) declared the COVID-19 virus a global emergency on 30 January 2020 (Sohrabi *et al.*, 2020). To date the virus has spread globally infecting 240 470 110 people and killing 4 899 069 people worldwide, as at 15 October 2021 (Worldometer, 2021).

According to Kramer and Kramer (2020), previous global recessions affected certain industries but the impact of COVID-19 has been experienced by all industries and workers across the globe. Economic disruptions of such large proportions impact the lower class and unskilled workers as compared to the highly skilled workers (Artuc and McLaren, 2015). The pandemic has mostly impacted hourly paid workers that work in poor conditions (Berube and Bateman, 2020). One of the most affected segments is the small to medium size enterprises (SMEs) that lack the economic resources to overcome the pandemic (Sulkowski, 2020). The pharmaceutical, medical and e-commerce sectors are most likely to exhibit a growth trend which is in contrast to the SME sector.

China is South Africa's biggest trading partner (Krugel and Viljoen, 2020). As a result, many businesses in South Africa rely on Chinese products without being aware of it. Business in South Africa was therefore disrupted by COVID-19.

South Africa had most reported cases in Africa (Arndt et al., 2020). The first case in South Africa was reported on 5 March 2020 (<https://www.gov.za/speeches>, 2020). In an effort to contain the spread of the epidemic, the South African government declared

a State of National Disaster which lead to a national lockdown. On 23 March 2020, the South African government reacted by imposing one of the world's strictest lockdowns. The government implemented a plan with five phases and each phase had a different alert level with the intention of returning to normalcy by 1 May 2020, (Stiegler and Bouchard, 2020).

In an effort to prevent the spread of the virus many organizations implemented remote working or work from home. This negatively affected the South African informal sector. This sector of the economy depends on very limited income and do not have social protection from the government. Hence the lockdown adversely impacted the income earning ability of three to five million people in the informal sector (Khambule, 2020).

The lockdown policies limited public gatherings, schooling was suspended, ports of entry were closed, and travel restrictions were imposed. The national lockdown regulations imposed could be divided into two essential components:

- Restricting individuals from leaving their homes. Citizens were permitted to leave their homes under exceptional circumstances or to buy food. Citizens could not go to work unless they were employed in the essential services sector. The essential services sector comprised medical facilities and companies, pharmaceutical businesses and food retailers and manufacturers.
- The closure of non-essential industries lead to the decline in productivity and financial losses that resulted in small and medium enterprises shutting down and retrenching their staff in large numbers.

These impacts spilled over into the macro economy of the country. Industries are uncertain about the future and are therefore hesitant to invest in projects, which has resulted in a decline in aggregate investment. COVID-19 is a global pandemic and has led to a decline in world trade and South Africa is also experiencing this decline.

The impact of COVID-19 has been very severe on the South African economy. The country's GDP for quarter two of 2020 fell by 51%, with annualized growth of -7.2% (Tradingeconomics.com, 2021).

1.2. Background

In 2020, the impact of COVID-19 spread throughout the world creating economic and social disruption. In the corporate world the disruption changed the way in which employees work and live. COVID-19 has resulted in one of the most apparent changes in the corporate world which is teleworking or working from home across different occupations (Kramer and Kramer, 2020). Teleworking, work from home (WFH) and remote work are terms that are used interchangeably. Remote working was first suggested by the WHO. The aim was to help provide a solution to governments and organizations globally to avoid the spread of the virus and allow for work to be performed. WFH was unavoidable, but the pandemic has turned it into a compulsive trend. It has been speculated that remote working will continue to be a norm globally even after the pandemic ends. This transition has changed the way organizations operate and has impacted the relationship between employers and employees.

According to Martino *et.al.*, (1990), remote working became common in the early 1990's when organizations demand for remote work locations increased. The efficacy of remote working was enhanced by the increasing number of single parents that wanted work-life balance (Marx, Reimann and Diwald, 2021). Working from home presents an opportunity to look after family members and hence is considered to increase the individuals work-life balance (Ammons and Markham, 2004). Remote working has potential advantages and disadvantages that must be considered. Remote working can improve work-life balance, job satisfaction and employee retention. Remote working increases work performance reduces work-life imbalances and reduces employee turnover intentions (Contreras, Baykal and Abid, 2020). These benefits can only be realised if employees receive support from management, their peers and technology. Support for remote working helps to alleviate any negative impacts arising from social isolation and alleviates conflict that may arise from work-family and work-life balance (Contreras, Baykal and Abid, 2020). Moreover, remote working allows employees to establish their own work routines and employees are less distracted by their colleagues. The absence of an immediate manager reduces workplace stress. Remote working also eliminates the problem of absenteeism as employees can fulfil their work obligations without reporting to the office. The stated benefits lead to increased loyalty, employee commitment, employee wellbeing and work-life balance.

According to Martin and MacDonnell (2012), remote working introduces certain risks such as social isolation that can lead to employees being detached and this leads to a reduction in performance and motivation. Remote working can also result in employees not having clearly defined boundaries between work time and personal time and this results in an overload of work that can lead to increased stress levels and reduced levels of job satisfaction.

The aim of this study is to examine the effects of remote working and its effect on employee retention and work-life balance in Engen Petroleum Limited.

Engen is an oil company with a history dating back to 1897. Since establishment, Engen has spent every decade enriching the lives of the people in the continent by identifying opportunities, finding innovative solutions, and providing energy that fuels Africa's growth. To date, Engen has a presence in 18 countries in the Sub-Saharan Africa and the Indian Ocean Islands, while also exporting its products globally to over 30 countries.

In 1998, Engen became a wholly-owned subsidiary of PETRONAS, the National Oil Company of Malaysia. Today, Engen is a market leader in South Africa with an extensive retail footprint offering unrivalled convenience services and a comprehensive list of blue-chip commercial customers (Engenoil, 2021).

Engen focuses on the downstream refined petroleum products market and related businesses. The company's core functions are the refining of crude oil, the marketing of primary refined petroleum products and the provision of convenience services via their extensive retail network of 1 046 Engen service stations.

Due to the lockdown restrictions, Engen adopted a policy of remote working for support staff in the Finance, Information Technology (IT), Supply Chain and Procurement units. The policy excluded essential operational staff.

The study was necessitated by the large number of the organization's employees that were forced to work from home. The study provides an analysis of worker experiences during the pandemic, focusing on employee retention and work life balance.

1.3. Overview of the study

The study aims to provide insight into remote working and the impact it has on worklife balance and on employee retention due to COVID-19. The outcomes of the study will enable organizations to adjust their policies and procedures to incorporate remote working. The factors that affect worklife balance, employee retention and remote working will be explored. Advantages and disadvantages will be addressed to mitigate negative impact on employees. The effects of remote working on worklife balance and employee retention will be investigated to ascertain an improvement or deterioration during the pandemic.

1.4. Research Focus

The primary focus of this research is to provide insights into remote working (work from home) during the COVID-19 pandemic and its effect on employee retention and work-life balance in Engen Petroleum Limited, an organization based in South Africa. The secondary focus of this research is to produce data that can be used by managers to effectively manage their teams during the pandemic.

1.5. Research Problem

The COVID-19 outbreak has resulted in a need for social distancing which has been accepted as a proven prevention method (Prin and Bartels, 2020). The pandemic has forced organizations to adopt remote working conditions where working from home has been the most popular option. This has been a reactive measure that does not exactly represent normal working conditions.

Remote working has potential advantages. Studies done by Fonner and Roloff (2010) and Contreras, Baykal and Abid (2020), have shown positive outcomes of remote working on job satisfaction, performance, improved work-life balance and reduced stress and turnover intentions. In contrast, findings by Song and Gao (2018) revealed remote working as more stressful and reduced levels of happiness.

The literature surveyed highlights employee retention, employee well-being and work-life balance as the key factors affected by the COVID-19 pandemic. These were the biggest challenges faced by organizations during the lockdown periods. The pandemic

has had a profound impact on employment and has resulted in career shocks for employees (Akkermans, Richardson and Kraimer, 2020). The organisation would therefore apply the concepts of employee retention, employee wellbeing and work-life balance in assessing the impact of the pandemic on its employees. This would guide the organisation in the implementation of policies to manage remote working and implement strategies to manage employee retention, employee wellbeing and work-life balance.

- The purpose of this thesis is to investigate the impact of remote working, employee retention and work-life balance on an organization's workforce. The intention is to do a study on Engen Petroleum limited and draw generic conclusions that can be applied to similar organizations.
- The aim is to recommend possible measures to improve the impact of remote working on work-life balance and employee retention.

1.6. Research Objectives

- OBJ1: To examine the concept of remote working or working from home during the COVID-19 pandemic
- OBJ2: To analyse factors affecting employees working remotely post the pandemic.
- OBJ3: To understand the impact of COVID-19 on employee retention and work life balance when working from home.
- OBJ4: To understand the challenges and change experienced by leadership / management in managing a remote work force
- OBJ5: To provide insights on how the organization enabled employees to successfully perform their jobs remotely

1.7. Research Questions

- RQ1: Why is employee retention and work life balance important to employee wellbeing and how can the organization adequately address these factors.

- RQ2: Is remote working an appropriate response to the pandemic and how does it influence the organization's digital strategy.
- RQ3: What leadership competencies are required to manage remote working during the pandemic
- RQ4: Are employees adequately equipped to handle increased job demands that can lead to increased stress levels
- RQ5: What are the good practices that can be adopted post the pandemic to improve efficiency in the organization.

1.8. Contribution of the Study

The research to date on remote work is very comprehensive and the concept of remote work is not a new concept. What is new is the current situation that many companies are facing which is unparalleled in recent history. Previous research on remote working has primarily concentrated on planned and voluntary remote working programs (Bloom *et al.*, 2015; Choudhury *et al.*, 2019). My research will focus on how managers and employees are dealing with unplanned and involuntary remote working. This is where the researcher believes that a gap exists in existing body of knowledge that can help organizations should a similar pandemic is experienced.

1.9. Outline of the study

This dissertation is divided into six chapters.

Chapter one is the introduction which introduces the topic of remote working and its impact on employee retention and worklife balance during the pandemic. The statement of the problem, purpose of the study, research focus are introduced then the chapter concludes with the research problem, the contribution of the study and the outline of the dissertation.

Chapter two is the literature review which illustrates a synthesis of previous research done on the phenomenon of remote working. The literature review also highlights the theoretical framework that will be utilised to analyse the phenomena of remote working, employee retention and worklife balance as a result of the pandemic.

Chapter three is the research methodology which justifies the methodological selections and execution of the study.

Chapter four is the presentation of findings, which discusses the empirical findings from the responses to the online questionnaire.

Chapter five is the discussion, which contextualizes the empirical results of the study.

Chapter six is the conclusion, which provides a summary of the dissertation. This chapter includes theoretical inferences from the study and the chapter concludes with the limitations and proposes future research considerations.

1.10. Summary

This chapter focused on providing the introduction to the study, the background and the overview of the study. It also described the research focus, the research problem as well as the contribution of the study to research in remote working. Finally this chapter provides an outline of the study.

The next chapter focuses on the literature review that provides the historic perspective of remote working and the theoretical framework on which the study is based. The findings from the literature survey provides a guide to answering the research questions and the research objectives that the study wishes to address.

CHAPTER TWO:

LITERATURE REVIEW

2.1. Introduction

The literature review examines the constructs of remote working, employee retention, employee wellbeing and work-life balance in the global and South African context. The aim of this chapter is to provide an analytical review of the literature and research that has already been done. The literature focuses on the impact of COVID-19 on remote working, employee retention, employee wellbeing and work-life balance. The theories discussed are job embeddedness, Maslow theory of needs, systems theory and perceived organizational support theory.

2.2. Theories of the Study

2.2.1 *Employee Retention – Job Embeddedness*

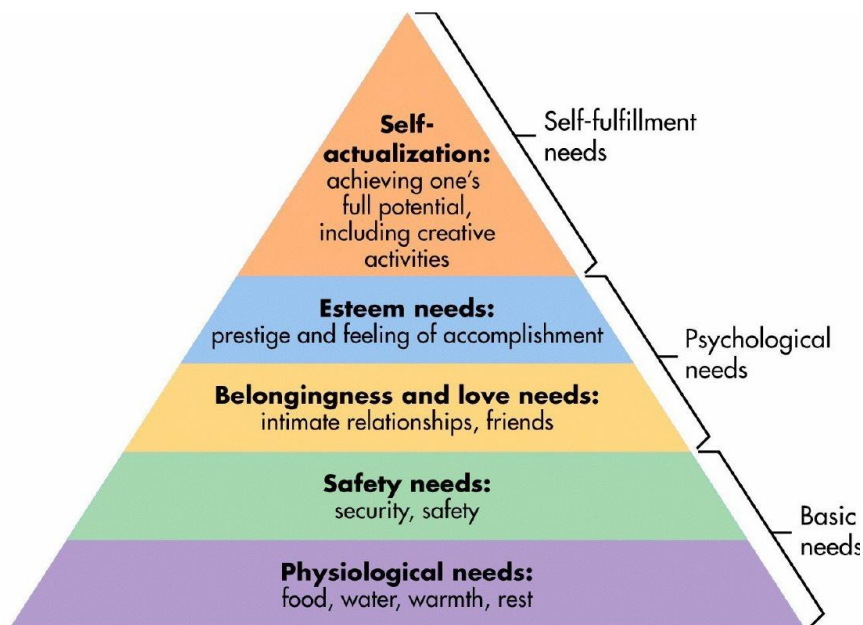
Mitchell *et al.*, (2001), developed a concept that provided insight into the factors that encouraged employee retention. This concept is known as job embeddedness (JE). The Job Embeddedness concept found fit, links and sacrifice were the three main determinants that must be considered for internal embeddedness (related to the job) and external embeddedness (external environment or community).

- Fit – considers factors such as individual values, career aspirations and future career plans. It is defined by the employee's comfort levels with the workplace elements.
- The Fit component also considers integration in the work environment and skills levels.
- Link – takes into account family pressures. It is related to integration within the community and the work environment.
- Sacrifice – is the apparent cost associated with leaving the job or social network. This is considered to be less if deep relations have not been formed by the employee with colleagues in the work environment.

2.2.2. Motivational Factors - Maslow's Theory of Needs

Maslow's hierarchy of needs explains the motivation of individuals in the workplace. It hypothesizes that individuals have five levels of needs that must be attained and can only move to the next level once the needs of the previous level have been satisfied. These needs are physiological, safety, love and belonging, self-esteem and self-actualization (Maslow, 1981).

Figure 1: Maslow's hierarchy of needs



Source: www.simplypsychology.org

COVID-19 poses a threat to job security and affects employee motivation in the work environment. The pandemic has forced some organizations to close permanently while others had to retrench employees to survive the economic impact.

2.2.3. Systems Theory

Systems theory explains the interdependencies and the relationships between a system (the organisation), its components (employees) and the environment. It also attempts to explain how an organisation functions in relation to its environment. Essential to the organization's growth and efficiency is communication at an internal, external and inter organizational level.

Organisations therefore need to function as open systems. To do so organizations need to develop communication processes that facilitate the exchange of information from internal and external sources. This helps the organisation to adapt to changing environments. The current pandemic is a rare event that encourages organizations to review and revise current practices and response mechanisms for future incidents (Lai and Huili Lin, 2017).

2.2.4. *Perceived Organizational Support and Work Life Balance*

Perceived organizational support (POS) is an important concept that considers the extent to which organizations provide support for their employees' contributions to the organization and considers how the organization provides for the employee's welfare. According to Rhoades and Eisenberger (2002), POS is the belief that an employee has in the organization's commitment to them which is in the form of appreciation and attention for their contributions to their lives. According to Rhoades and Eisenberger (2002) the dimensions of POS are justice, support of superiors, rewards from the organization and work conditions."

Perceived organizational support is the good or bad experience that an employee has of the organization's behaviours, policies, and procedures (Eisenberger *et al.*, 2001). POS represents a reciprocal relationship with employees. The organization will receive a high level of employee support if the organization provides the employees with the support that they require. The converse is also true. If the organization does not support its employees this will result in a low level of perceived organizational support from the employees.

Remote work or WFM can positively or negatively affect work-life balance (Maruyama, Hopkinson, and James, 2009). The negative effect of remote work is that employees have challenges managing their working hours as their working hours tend to be extended. Thus, the perceived organizational support received from the organization becomes helpful in reducing the negative influence of remote work on work-life balance. This support is provided by allowing reasonable working hours to employees who work remotely. According to Kumarasamy, Pangil and Faizal (2015) organizational support helps employees to maintain work-life balance.

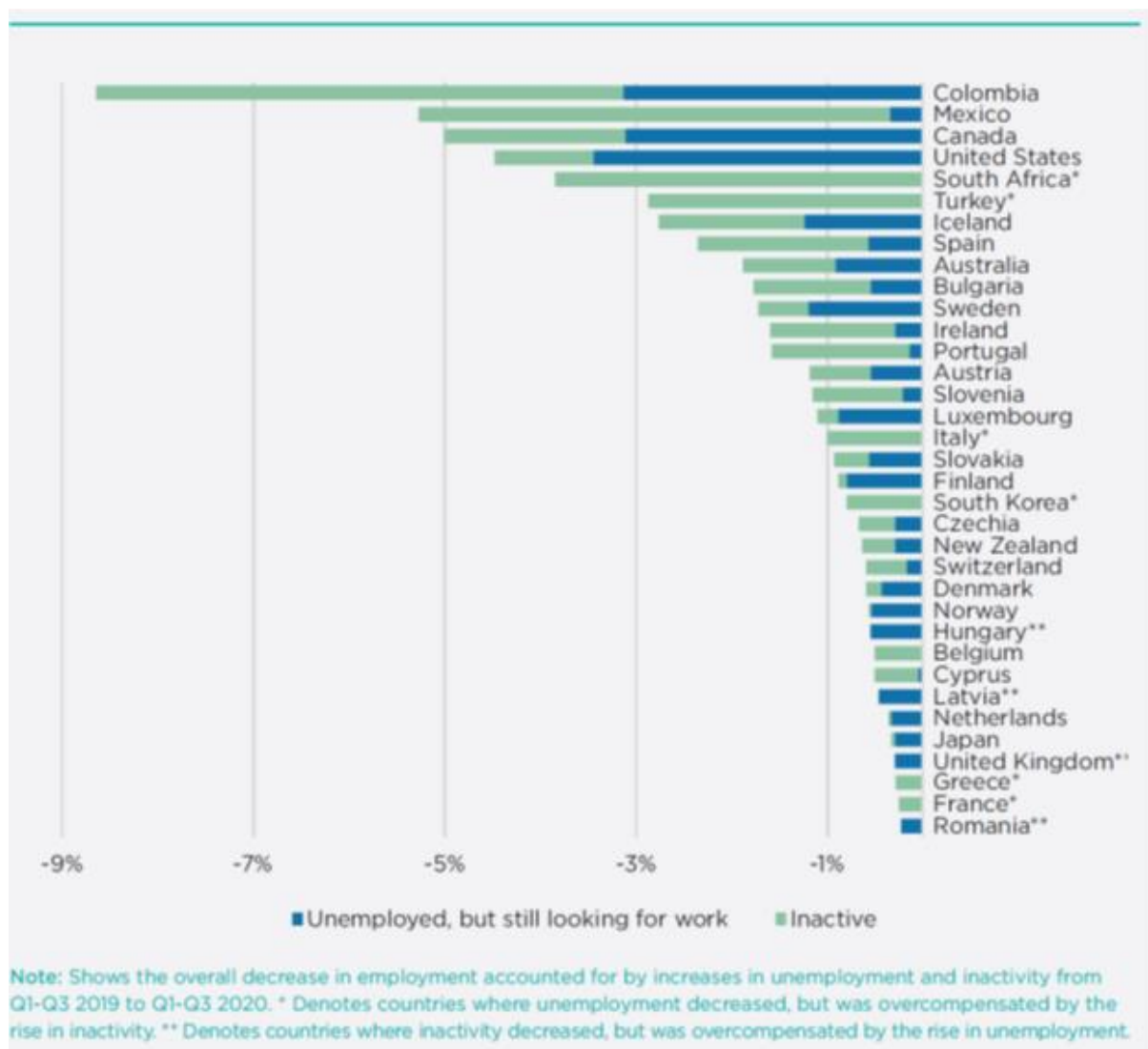
2.3. The Global Labour Market

COVID-19 has had a significant impact on economic activity, on ways of working and employment. In 2020, global growth was estimated to have contracted by four percent, which is the largest economic crisis in this generation (Adams-Prassl, *et. al*, 2020). In 2020, when the pandemic was first experienced, there was a drastic decline in consumer spending, mostly in the recreation and retail sectors (Adams-Prassl, *et. al*, 2020). By April 2020, visits to retail establishments such restaurants and shopping centres had declined globally by about 60 percent and by more than 80 percent in Europe (Adams-Prassl, *et. al*, 2020).

By December 2020, about 15 million flights were cancelled, at an average of 50 000 per day (Airportia, 2020). A return to pre-pandemic levels is still a long way off.

Such drastic economic downturns severely impact global labour market. In January 2021, some countries still had business closures in certain sectors of the economy. About 90 percent of the global work force lives in these countries. (International Labour Organization 2021). This has resulted in an increase in unemployment. Many workers who have lost their jobs are classified as “inactive” as they are not actively seeking new jobs and are not accounted for in the official statistics (Brewer, Gardiner and Handscomb, 2020). According to the International Labour Organization (2021), most of the countries in activity have surpassed the increases in unemployment. This is illustrated in Figure 1 below, where data below is observed that South Africa has a high rate of inactivity.

Figure 2: Percentage change in employment from 2019 to 2020



Source: International Labour Organization (2021)

The pandemic has resulted in many paid workers to have reduced hours of work. In quarter two of 2020, there was 17.3 percent decline in global working hours as per the International Labour Organization (2021). This equates to a loss of 495 million permanent jobs. The decline in working hours has resulted in a decline of 8.3 percent of global income that amounts to 3.7 trillion dollar loss. This equates to 4.4 percent of the global gross domestic product (International Labour Organization, 2021).

These changes have dramatic effects on employee well-being.

2.4. Economic Impact of COVID-19 in Different Countries

The global economic effect of the pandemic has been highly unequal, with developing countries experiencing greater disproportionate effects. According to the International Labour Organization (ILO), since March 2020, the lower middle income countries experienced a 43 percent greater reduction in working hours and income when compared to the high income countries. Workers in the informal sector that make up a large portion of the work force in developing countries have been at risk. The ILO estimates that 1.6 billion workers in the informal sector have experienced a decrease in working hours since the start of the pandemic (International Labour Organization, 2021). This has resulted in 86 percent decrease in earnings in the low-income countries. Remote working is less likely to happen in developing countries and therefore there is a higher risk of workers losing their jobs (Hatayama, Viollaz and Winkler, 2020). The governments of low income countries are unable to provide sufficient economic relief for their workers. The economic stimulus packages provided by low income countries from October 2020 accounts for 13 percent of what is required to compensate for the total working hours lost (International Labour Organization, 2020).

2.5. Remote Working (Work from Home)

The work from home (WFH) concept was first proposed in the 1970's as teleworking or telecommuting. This was a new alternative that enabled the performance of work from different places (office, home, or a non residential place) using the assistance of technology (Van Meel, 2011) that totally replaced commuting for work (Nilles, 1997).

COVID-19 has upset normal work routines. It has resulted in an acceleration of workplace trends that has involved the migration to online or virtual platforms. WFH has been a trend that was forced by COVID-19 lockdowns implemented by many countries.

A Gartner (2020) survey that was conducted across two hundred and twenty nine human resources departments showed that roughly half of the companies surveyed had about 80% or more of their employees working remotely from their homes in the early stages of the pandemic and the trend of remote working is expected to continue post the pandemic. The need for millions to WFH as a result of the COVID-19

pandemic has resulted in an acceleration of remote working trends that have helped the advancement of communication technologies.

According to Allen, Cho and Meier (2014) professionals that perform complex tasks that require minimal interaction with their peers prefer to work from home as they are more productive. Those who work from home find it challenging to maintain boundaries between work and non-work (Ramarajan and Reid, 2013). The forced quarantine of workers during the pandemic has added further complications. While the idea of WFH might be appealing, the lack of distinction between work and home and the lack of travel can be a burden.

There was reluctance from many organizations to adopt remote working before COVID-19 because employers had a perception that they could not control employees that were not within their sight or reach. It is an expectation that employers will develop new modes for monitoring remote working arrangements. According to Bhawe, Teo and Dalal (2019) employers were developing and implementing technologies to monitor the whereabouts of employees. In person management of employees is not easy with remote working and hence there is an increased use of video conferencing that has provided virtual visibility. According to Nell *et al.*, (2020) there is evidence to suggest that remote monitoring can influence and lead to the centralization of decision making and in the absence of counter measures lead to lower levels of employee creativity in the lower levels of the organization. Virtual visibility can therefore be perceived as an invasion of privacy and has a risk of increasing employee stress.

2.6. Remote Working in South Africa

2.6.1. South Africa's Remote Working Challenges

Remote working can be challenging if the infrastructure is lacking. In South Africa, some areas lack stable internet connectivity, and this is a challenge (Radi, 2020).

Internet access is related to inequalities in income, as only 53 percent of South African's use the internet (Radi, 2020). People with the least connectivity live in poorer rural areas. These areas are sometimes solely dependent on mobile networks, which are often expensive (Gordine, 2020). There are 13.4 million households where only 1.2 million have fixed broadband and approximately 12.2 million households are

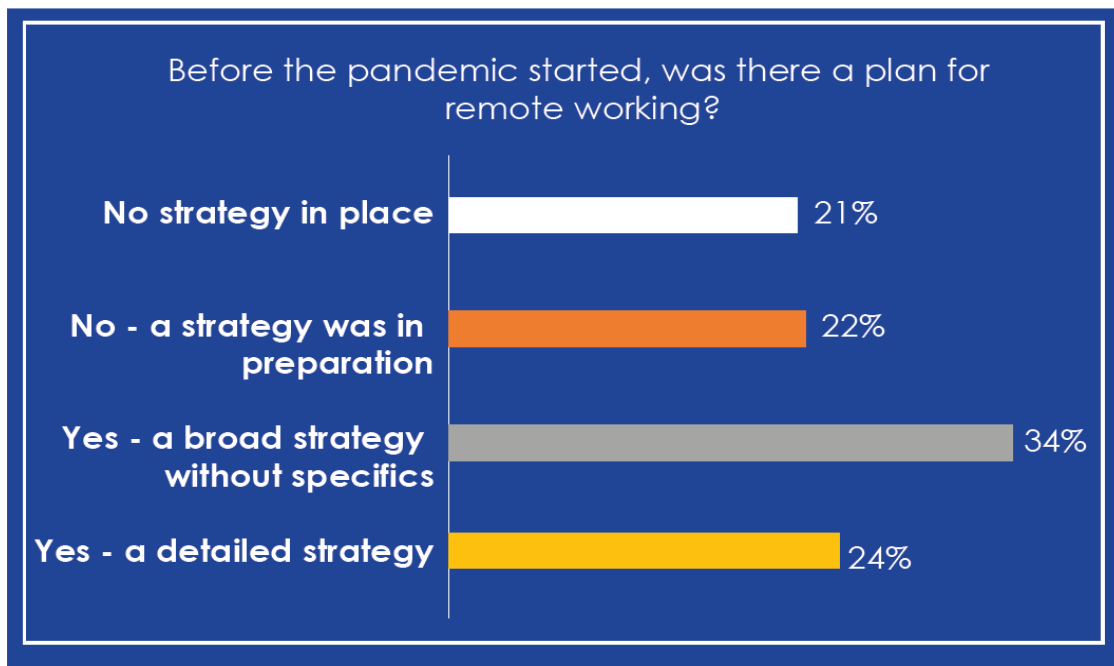
dependent on mobile data that can be very expensive (Dadoo, 2020). South Africa has a developing economy and there are many areas that have slow internet connectivity or a lack of bandwidth. COVID-19 has exposed South Africa's weak information, communication, and technology (ICT) infrastructure (Stephanopoli, 2020).

Remote working therefore becomes a challenge for employees in poorer regions with limited infrastructure. Employers are also expected to incur further costs by paying for their employee's internet and data costs. With remote operations, employers may need to spend more on data security and upgrading of software. Due to load shedding, access to a stable power source is a common problem. Load shedding adds to the complications of South African's working online. Other challenges include Telkom fibre breakdowns and a shortage of modems and laptop battery backups (Dadoo, 2020).

2.6.2. South Africa's readiness for remote working

Digital infrastructure is an essential component of remote working. Researchers from Human Sciences Research Council hosted a symposium on *"Work from anywhere: Views, evidence, experience and recommendations"* to provide insights into policy considerations for organizations adapting to the new ways of working, (Chetty and Motala, 2021). At the symposium the findings from the World-Wide Worx (WWW) survey: *"Remote Working in South Africa"* were shared. The survey commissioned by Cisco Systems South Africa was conducted amongst 400 South African companies to ascertain information technology infrastructure readiness for remote working. According to the results of the (WWW) survey when remote working became compulsory only 37% of companies had a fully implemented strategy for digital transformation. Companies with fully implemented digital strategies reported a 70% increase in productivity, (World-Wide Worx, 2020). According to the WWW survey 61% of companies did not want their employees to continue remote working once the pandemic has ended despite 40% of employees preferring to work from home.

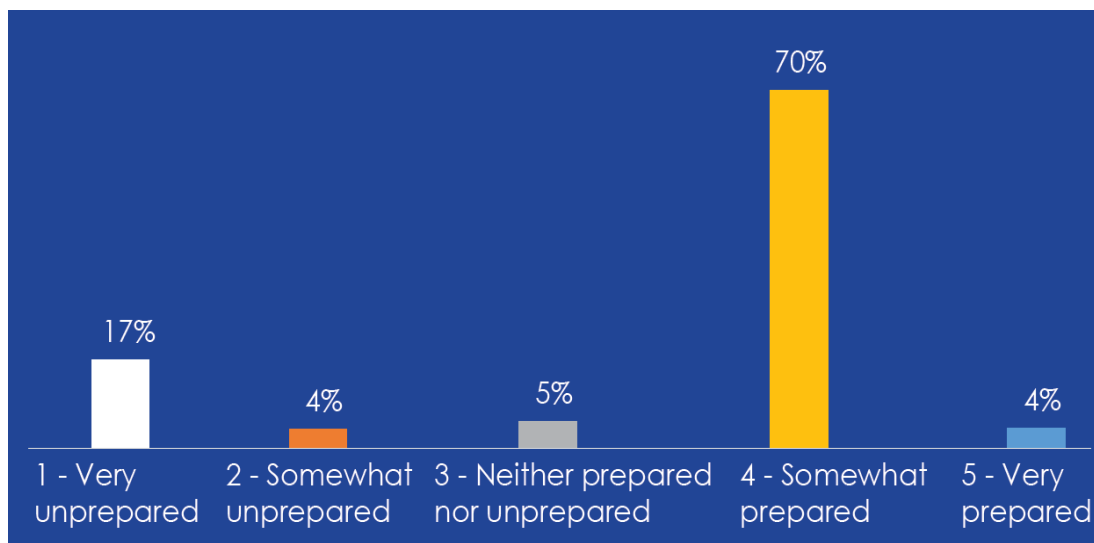
Figure 3: Percentage of companies with remote working strategies before the pandemic



Source: Remote Working in South Africa (World-Wide Worx, 2020)

A total of 58% of businesses reported being prepared for remote working with 24% having detailed strategies while 34% had broad strategies that lacked specifics. A lack of specifics meant that companies were caught off-guard by the COVID-19 lockdowns. This meant that only 24% of companies were ready to make a speedy transition to remote working. On the other end of the spectrum, 43% of companies had no strategies in place. This includes the 22% that had strategies in place but still needed to formalise it. A total of 77% of companies did not have the time to prepare for remote working before the national lockdown was announced (Remote Working in South Africa, 2020).

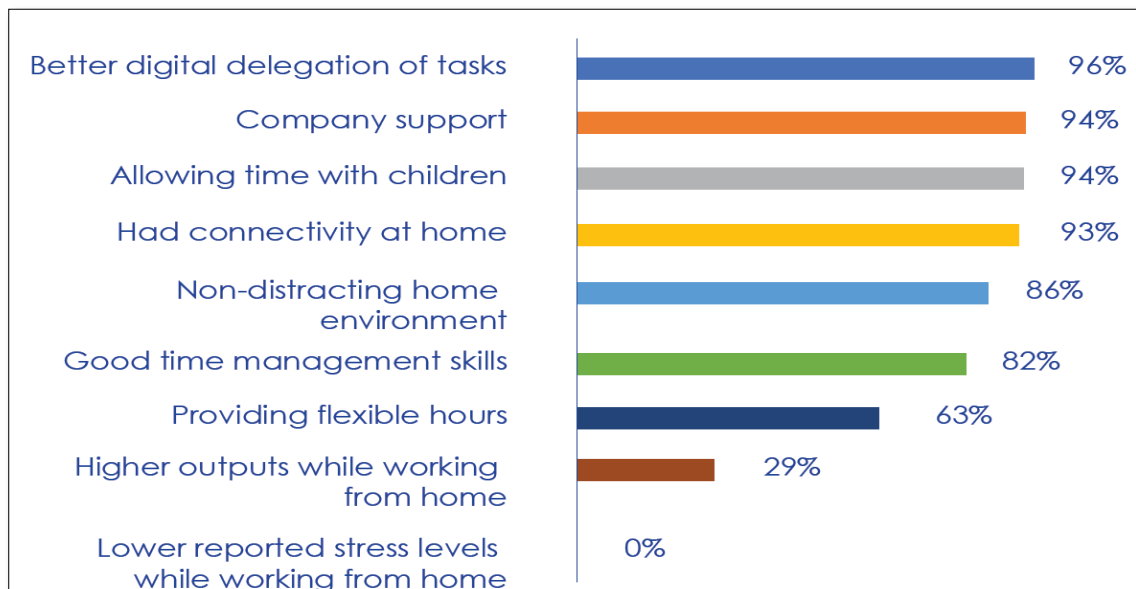
Figure 4: Employee preparedness for remote working



Source: Remote Working in South Africa (World-Wide Worx, 2020)

From an IT perspective, employees were better prepared for remote working than their employers. According to World-Wide Worx (2020) a total of 74% were prepared to work remotely, 21% were unprepared while 5% were neither prepared nor unprepared.

Figure 5: Remote working success factors



Source: Remote Working in South Africa (World-Wide Worx, 2020)

Table 1: Discussion of Survey Results

Remote Working Success Factors		Findings from survey
1	Better digital delegation of tasks	Critical to the success of organizational business strategy
2	Company support	Critical to the success of organizational business strategy
3	Allowing time with children	Critical in creating a balanced environment when working remotely
4	Had connectivity at home	Critical in creating a satisfying environment when working remotely
5	Non-distracting home environment	The organization has little control over this
6	Good time management skills	The organization has little control over this
7	Providing flexible working hours	Ranked below key factors above suggesting that remote working still follows normal business hours
8	Higher output while working from home	Mentioned by fewer respondents suggesting that the most cited benefit of remote working is not a crucial success factor
9	Lower reported stress levels while working from home	No respondents believed that remote working resulted in lower stress levels and was not a success factor. With no increase in productivity while working remotely suggests that remote working could be problematic

Source: Remote Working in South Africa (World-Wide Worx, 2020)

2.7. Employee Retention

The concept of employee retention first appeared in the 1970's. According to Melhem, 2019, employee retention refers to the ability of a company to retain its employees. Employee retention is the process of encouraging employees to stay within organization for the longest period (Ibrahim, Ali, and Zumrah, 2019). Retention of employees is a cost saving measure for the company. Employee retention forms an integral part of the core assets of the company. To retain talent, the company must have a very good talent recognition and retention system.

The retention of skilled and talented employees would reflect on the performance and productivity of the company. The company performance is dependent on the health and productivity of individual employees (Hee and Rhung, 2019).

According to Spurk and Straub (2020) the media contributes to the spread of positive vibes as well as providing strategies to the company and individuals by sharing the experiences of others.

According to Hash (2012) an employee's low satisfaction levels and commitment to the organization affects retention. Organizations need to learn the factors that affect low employee satisfaction and address them to retain employees. The threat of COVID-19 is such a factor that can lead to work overload and endangering the lives resulting in low employee satisfaction and commitment to the organization. This places the organization in a difficult situation where retention becomes equally difficult.

2.7.1. Job Satisfaction

Employee retention can be related to several factors. According to Cotton *et al.*, (1986), job satisfaction is considered to be one of the most significant and dependable factors to predict employee turnover with. There are factors that influence job satisfaction. Most levels of Maslow's hierarchy of needs can be linked to job satisfaction (Wikipedia, 2021). Jobs are a vehicle to fulfil the daily needs of individuals such as food and clothes. A job is a primary source of financial stability. A secure and well-paying job creates financial security for an individual. Jobs can provide a sense of association. Many people identify themselves by the nature of their jobs. The nature of one's work can form an important part of an individual's identity and social status.

For many individuals a job is an enabler to achieving one's goals in life and the contribution they seek to make to society. When this is applied to an organization, there tends to be better correlation between retention and the employees' esteem and self-actualization needs (Wikipedia, 2021). The work environment can also be improved by addressing the security, social, and physiological requirements of an employee.

2.7.2. Motivation

Motivation and satisfaction in the workplace are important factors for an organization to consider. Absenteeism and increased staff turnover also affect the bottom line of the organization through additional costs of hiring replacement employees and temporary employees.

According to Syptak, Marsland and Ulmer (1999), a satisfied employee shows greater commitment, creativity, and higher levels of productivity. A positive work environment satisfies employees and in turn strengthens the work environment even more. This allows for motivation and satisfaction to be spread throughout the organization. A negative environment also spreads as fast, creating an adverse environment that affects work performance, productivity, and creativity (Syptak, Marsland and Ulmer, 1999).

Frederick Herzberg developed the “*Herzberg’s motivation hygiene theory*” that provided a two dimensional framework for job satisfaction. The framework allowed for the dissection of employee attitudes to their work and to determine what factors encouraged these attitudes and what was the impact on employee motivation (Syptak, Marsland and Ulmer, 1999).

Herzberg determined that employee needs are divided into two categories. A low level of need that is founded on the avoidance of pain, fatigue and deprivation and a high level of need that provides an opportunity for employees to grow (Syptak, Marsland and Ulmer, 1999).

There are certain factors that cause unsatisfying experiences for employees. These factors are the results of variables that are not job related and are referred to as extrinsic factors. The variables are referred to as “hygiene” factors which are namely; the style of supervision, organizational policies, conditions of work, worker relationships and a salary. Although they do not directly motivate employees, if mismanaged, these factors can be harmful to the organization. They therefore exist in the workplace to make employees happy. They are likened to hygiene because good hygiene does not necessarily improve one’s quality of health, but poor hygiene can impact the quality of one’s health negatively.

The framework also covers “motivators”. “Motivators” are internally generated and are referred to as intrinsic factors which are: the work itself, workplace achievements, recognition, being given responsibilities and opportunities for advancement. These factors are critical in improving work motivation amongst employees and must be carefully considered by management and leadership of the organization to foster a better working environment (Syptak, Marsland and Ulmer, 1999). The two categories of factors discussed above form the two dimensions of motivation and work satisfaction. According to Herzberg, once the issues with hygiene factors have been addressed, the motivators can then begin to create employee satisfaction in the organization.

The use of this framework provides an understanding of the factors that have influenced motivation and attitudes to work, after transitioning to remote working and provides insight on how well leaders have incorporated these factors in their leadership styles.

2.8. Employee Well-being

The pandemic has created uncertainties that require organizations to aggressively support the health and well-being of their employees. From the “job demands–resources theory” by Bakker and Demerouti (2017), it can be deduced that due to COVID-19, there has been varying degrees of demand and resources for different types of jobs in industries. Evidence suggests that working conditions have worsened for many employees. In lieu of such stresses, COVID-19 has increased the risk of employees experiencing work related burnout that could include prolonged feelings of fatigue and can result in employees developing an unfavourable attitude towards work (Demerouti, Mostert, and Bakker, 2010).

The continuous exposure to COVID-19 news in the media repeatedly focuses on symptoms of distress and the causes with possible consequences of these symptoms (Nolen-Hoeksema, Wisco and Lyubomirsky, 2008). According to Obradovich *et al.*, (2018), studies have shown that people that were exposed to Hurricane Katrina showed symptoms of stress and depression a year after the disaster. This indicates that mental health problems persist long after the crisis is over.

Past studies have shown that people who were exposed to Hurricane Katrina had above-baseline stress and depression symptoms a year after the event (Obradovich *et al.*, 2018), indicating that mental health problems may remain long after a crisis.

The emphasis on the promotion of employee well-being in organisations can be traced back to the concept of corporate social responsibility (CSR) (Hediger, 2010). CSR reflects the initiatives that an organization undertakes to positively influence society and contribute to the well-being of citizens.

The concept of well-being can be viewed from different dimensions. On a macro level, it encompasses aspects of life expectancy, environmental influences, and poverty levels (Juchnowicz and Kinowska, 2021). On an individual level, it comprises psychological measures which can be a subjective assessment of an individual's quality of life. This is determined by physical, social, and psychological factors. Well-being can therefore be a state where a person experiences a sense of healthiness, happiness, and goodness, which connects to all aspects of life, amongst which work related activities have a special role.

A comprehensive definition of employee well-being has been given by the World Health Organization, "it is the state of each employee in which they understand their capabilities, cope with life stresses, work productively, and contribute to their community" (Misselbrook, 2014)

2.9. Work Life Balance (WLB)

Due to COVID-19 and remote working there has been renewed interest in work-life balance. Work- life balance has been studied to help organizations understand the impact on employees as well as develop policies to achieve it. According to Kelliher, Richardson and Boiarintseva (2018), as employees shift to flexible or non-traditional working arrangements, it is vital to understand their experiences and what can be done to improve it.

According Casper *et al.*, (2018), work life balance refers to the balance between work activities and non-work activities as observed from the individual's perspective of values, goals, and aspirations.

An employee that works more than 48 hours per week will most likely experience work life imbalance. According to Macdonald *et al.*, (2005), time, involvement and satisfaction are the three aspects of balance that can be used to measure work-life balance.

WFH is a generic term used for a variety of work practices that takes place at a location away from the main office. WFH can either have a positive or negative impact on the employee's work-life balance. According to Kossek, Valcour and Lirio (2014), work life balance has specific benchmarks that can have different results which are influenced by the employee's values and priorities. On one hand WFH can improve the employee's relationship with their families but on the other hand it can result in blurred boundaries between family and work. This can result in difficulty separating family time and work time.

2.10. Remote Leadership

According to Avolio *et al.*, (2014) the terms "remote leadership", "e-leadership" and "virtual leadership" can be used interchangeably. According to Cowan (2014), a definition of remote leadership would involve the management of remote teams taking into consideration the organization's communication policies, practices, technological solutions, and socio-emotional factors.

Holmberg and Petrelius (2020), conducted a study to determine how COVID-19 had affected the leadership styles of 34 managers. According to the study many of the managers experienced challenges with their own roles as well as their view of leadership. Most of the managers experienced the common challenge of not being able to provide in person monitoring of their staff but also had to find the balance between encouraging their staff to be independent and self-motivated. The study also indicated that the transition from corporate offices to remote working made it difficult to build and sustain trust with employees. As physical contact diminished due to remote working, managers had to implement new work practices and trust their employees. Holmberg and Petrelius (2020), concluded that the most important qualities for managers to embrace during this pandemic is communication and trust in themselves as leaders and trust in their employees.

Virtual settings make tacit communication difficult (Sobel and Reilly, 2020). A common loss amongst managers is the informal interactions that occur at the coffee station or in the kitchen. According to Malhotra *et al.*, (2007) dialogues and decision making are initiated by informal discussions and “small talk” that occur during a normal, physical workday. This suggests that COVID-19 has necessitated the restructuring of work practices and the move towards remote working has initiated the development of new leadership practices.

Schmidt (2014) wrote an article entitled "Virtual Leadership: An important Leadership Context", which explored the transformational trends in leadership styles in the information age and emphasized the enhancement of leadership competences of the different styles of leadership.

The potential disadvantages of remote working require leaders to adopt pioneering communication systems to reinforce the distribution of information within the company and communication between employees. With the adoption of remote working face-to-face communication is not easily achievable. The option of online methods such as email, virtual meetings, and online team platforms are also affecting the dissemination of information within organizations. Remote working allows leaders to use advances in technology to make plans for future information sharing more flexible.

As work transitions from physical offices to remote work, there must be collaboration from leaders and employees to ensure a smooth transition of workplaces (Barrios and Pitt, 2020). Barrios and Pitt (2020), positively identified how leaders can help their employees transition from the physical office to remote working. Leaders need to accurately communicate the most important tasks and improve the delegation of work to their teams. Communication is vital when employees are working remotely to ensure that all employees receive a common message. In a remote working environment, it is a necessity for leaders to be available for their employees to discuss work related matters and issues relating to remote working (Barrios and Pitt, 2020). With remote working, employees feel less engaged in the organization and leaders need to be more involved with employees to ensure that stress levels and feelings of anxiety are reduced (Barrios and Pitt, 2020). Leaders must find an alternative to physical contact in order to keep employees motivated.

2.11. Summary

The COVID-19 pandemic has created a major disruption globally. To understand the extent of the disruption the economic impact of the pandemic in different countries was examined as well as the impact on the global labour market. The impact of remote working in South Africa as well the challenges and readiness was discussed. This was important to provide a context for study being conducted at a South African company.

The key constructs of employee retention, employee wellbeing and work-life balance have been examined as well as applicable theoretical frameworks that support the study.

The next chapter focuses on research methodology. It provides a detailed discussion on the chosen research philosophy, research design, population and setting of the study, sampling method, unit of analysis, instrumentation, survey design, data gathering process, approach to data analysis and the methodological limitations

CHAPTER THREE:

RESEARCH METHODOLOGY

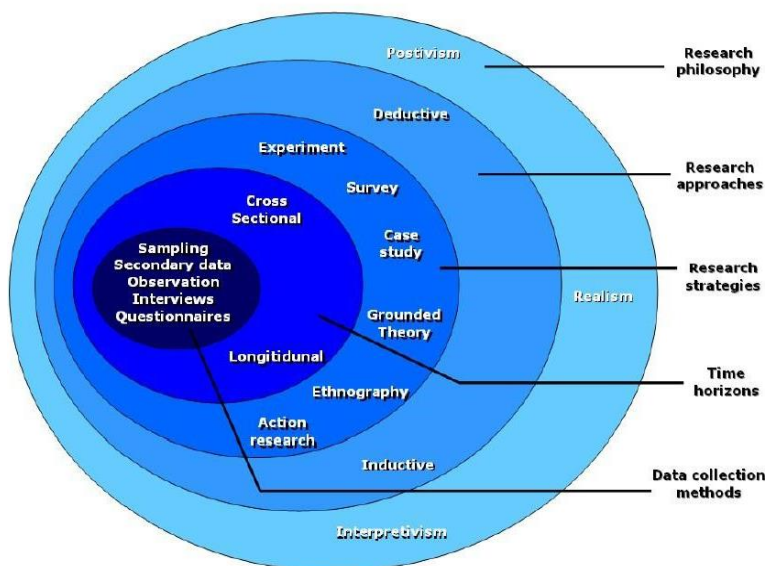
3.1. Introduction

This study focuses on remote working in Engen Petroleum Limited and its impact on employee retention and work life balance due to the COVID-19 pandemic.

This chapter discusses the research philosophy and the different types of research methods that can be used to conduct the study in order to identify the best method for data collection. This will be followed by an outline of the selected research design and research approach for the study. The sampling method as well as the selected type of research method are discussed together with the procedure for data analysis, limitations of the study and ethical considerations.

3.2. Research Philosophy

Figure 6: Saunders Research Onion



Source: Saunders, Lewis and Thornhill, 2007

The research onion above suggests there are many factors that were considered when undertaking research (Saunders, Lewis and Thornhill, 2007). The first stage was the research philosophy that directs how the research was conducted.

The two philosophical viewpoints of epistemology and ontology were considered. According to Horn (2009), epistemology is related to the study of knowledge and how knowledge can be created and developed. Positivism and interpretivism are the two aspects of epistemology. According to Bryman and Bell (2011), positivism could involve quantitative research as it is associated with the natural sciences. A positivist view of the world believes in the existence of an objective truth (Sekaran and Bougie, 2017). Interpretivism affords the researcher the opportunity to understand the differences amongst individuals (Saunders, Lewis and Thornhill, 2007).

Ontology is concerned with the existence of reality and the first perspective is objectivism which suggests that social existences are peripheral and independent of social actors (Saunders, Lewis and Thornhill, 2007). The second perspective is constructivism, which advocates that social practices are constructed from the beliefs and actions of social actors (Bryman and Bell, 2011).

Considering the nature of the study where the researcher must obtain feedback from employees that worked remotely, the epistemology approach was selected. A positivist perspective was selected due to the quantitative nature of the study. The positivist approach is deductive in nature. It uses scientific methods to arrive at the truth (Sekaran and Bougie, 2017).

The deductive approach allows for the establishment of the general theory followed by the specific knowledge obtained from the research process and the research is then tested against the general theory (Kothari, 2004). The deductive approach in this study made use of a questionnaire that allowed for the comparison of empirical data.

3.3. Research Design

Quantitative or qualitative research are two primary methods of research that can be used in a study. Qualitative research is used when a detailed understanding of behaviours, attitudes, and views are required (Barnham, 2015).

Quantitative research utilises questionnaires and statistics to produce numerical data (Saunders, Lewis and Thornhill, 2007). Quantitative methods are used to test theories as it uses a deductive approach that statistically measures variables.

A combination of both qualitative and quantitative methodologies can be employed to form a mixed methodology approach to research (Saunders, Lewis and Thornhill, 2007).

The researcher has chosen a quantitative approach. Quantitative research will best support this study as it involves the collection of data. This data can then be quantified and statistically analysed to prove or repudiate “alternate knowledge claims” (Creswell, 2003).

The researcher has chosen a quantitative approach to best utilize the results from the online survey. The online survey was conducted to allow the use of numerical analysis to explore the fundamental relationships between remote working, employee retention and work life balance by requesting the selected participants to respond to close-ended questions that were created using the Likert scale (Kraska and Kraska, 2010). This study employed a non-experimental design as there was no change in the variables during the research process (Kraska and Kraska, 2010).

The quantitative approach was chosen so that the results of the survey could be statistically analysed. The statistical analysis provided factual numerical data. This type of analysis allowed for the incorporation of beneficial visual graphics derived from the data. The adoption of a quantitative approach allowed for the data to be collected and analysed in a time-bound manner. This approach allowed for the participant responses to be anonymous. The time horizon adopted for this study was cross sectional as the results were required in a short period of time. In cross sectional studies the data is collected at once or in a short period of time (Sekaran and Bougie, 2017).

3.4. Population and Setting

The aim of this research was to explore the impact of COVID-19 on remote working, employee retention and work life balance and therefore the target audience were remote workers.

The population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran and Bougie, 2017).

The population chosen comprised of 120 remote workers. The population selected for this study were employees of Engen Petroleum Limited South Africa who have been subjected to a rapid switch from office-based work, to remote work because of the lockdown in South Africa as of March 2020. The population chosen had to be either permanent or temporary employees of the company that were working remotely due to the COVID-19 pandemic. A mix of management and non-management staff were selected, with a spread across departments and tenure at Engen.

3.5. Sampling Method

The researcher has chosen nonprobability purposive sampling based on the researcher's knowledge of the selected population (Creswell, 2003).

Nonprobability sampling is non- random, subjective, and purposive. This means that results from the study cannot be generalized to the population (Sekaran and Bougie, 2017). The aim was to select a sample that will allow for the capture of a wide range of statistics. Respondents from the organization were selected in a deliberate and controlled manner. The chosen sample methods for this study are judgement sampling.

Judgement sampling is a form of purposive sampling (Sekaran and Bougie, 2017). This method involves the choice of respondents that were in the best position to provide the required information. It is used when there is a limited number of people that can provide the information that is required. In the case of this study, it was remote workers employed at Engen South Africa.

3.6. Unit of Analysis

A unit of analysis is defined as the very basic element of a scientific research study (Sekaran and Bougie, 2017). It is described as the subjects or participants of the study. The subjects of this study are permanent or temporary employees of Engen Petroleum Limited South Africa that were working remotely due to the COVID-19 pandemic.

3.7. Instrumentation

The survey questionnaire comprised of 22 questions that were chosen by the researcher. The questions were adapted from previous research studies and some questions were designed to be study specific (Saunders, Lewis and Thornhill, 2007).

The data for the study was obtained from the online survey that was voluntarily answered by chosen participants. Each participant answered the same set of survey questions. Using a standardized online survey allowed for the easy comparison of responses. The survey questions were based on a 5-point Likert scale and were close ended. The first six question of the survey requested consent from the participants and demographic information. The remaining sixteen questions focused on employee retention, work life balance, employee well-being and leadership competencies.

3.8. Survey Design

The survey was designed such that multiple research objectives could be met. The researcher reiterates the research objectives:

- To examine the concept of remote working or working from home during the COVID-19 pandemic
- To analyse the factors affecting employees working remotely.
- To understand the impact of COVID-19 on employee retention and work life balance when working from home.
- To understand the challenges and change experienced by leadership / management in managing a remote workforce
- To provide insights on how the organization enabled employees to successfully perform their jobs remotely

The survey comprised of 22 individual questions, several of which contained multiple parts for which participants were asked to “agree” or “disagree”. This culminated in a total of 75 pieces of information captured from each participant.

From the research objectives above, there are 5 research questions (RQ's) that must be answered and each question has its own data analysis.

- RQ1: Why are the above mentioned factors important to employee wellbeing and how can the organization adequately address these factors.
- RQ2: Is remote working an appropriate response to the pandemic and how does it influence the organization's digital strategy.
- RQ3: What leadership competencies are required to manage remote working during the pandemic
- RQ4: Are employees adequately equipped to handle increased job demands and that can lead to increased stress levels
- RQ5: What are the good practices that can be adopted post the pandemic to improve efficiency in the organization.

3.8.1. *Likert Scale*

For the objectives outlined above to be explored (and achieved), an extensive survey was designed. Influences of psychometrics are considered to allow for the quantification of insights coming from the survey. In particular, the Likert scale, which was developed for the specific reason of measuring and contrasting attitudes (Likert, 1932).

A Likert scale is designed to be symmetric and balanced in the candidate values presented as possible answers. This requires a "zero" central point, and an equal spread of equally spaced options in both directions.

The format of a typical five-level Likert scale, as used in this survey, follows the outline below:

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree

One of the advantages coming from the use of the Likert scale, is there is an intuitive understanding of the survey responses on an ordinal scale, and an easy

transformation of this data into insight. The author elects to map the responses onto a numeric scale (Strongly disagree = -2; Disagree = -1; Neutral = 0; Agree = +1; Strongly agree = +2). To mitigate known biases coming from the Likert scale approach (*social desirability bias* or *norm defiance bias*) the anonymity of the survey was clearly outlined to all participants.

3.9. Data gathering process

The survey was distributed to Engen Petroleum Limited employees that were working remotely. The link to the online survey created on Microsoft forms was sent via e-mail to selected participants. This was a practical and cost effective method of conducting the survey. Using an online survey ensured anonymity of the participants without a requirement for identification. The use of a standardised questionnaire allowed the researcher to compare individual responses. The participants were chosen from the Engen personnel database. The Engen Human Resources department gave consent for the study to use Engen personnel.

3.9.1. Pre Test

The link to the survey was distributed to respondents within the researcher's network as a pilot survey before the larger group of respondents were invited to complete the survey. The respondents provided feedback on the understanding of the questions, clarity of the questions, duration of the survey as well as whether the consent question directed respondents to the end of the survey as per design of the survey.

The pilot was completed by three individuals who provided feedback on the rewording of ambiguous questions as well as rephrasing questions for easier understanding and clarity. The feedback from the pilot indicated that the survey was easy to answer, interesting and were able to complete it within a reasonable time-frame that averaged 20 minutes. Changes were made as per the recommendations of the pilot survey.

3.9.2. Data collection

Data for this study was collected via an online survey. The answers provided by the survey participants were kept anonymous. The researcher was aware to whom the survey was distributed but was not aware of which participants out of the chosen population had submitted responses. Microsoft Forms was used by participants to

respond to the survey. Microsoft forms offered flexibility with the design of the questionnaire, no restriction on the number of questions created and the responses can be downloaded in an Excel format. The survey was designed such that a respondent can only complete the survey once. The survey was open from 2 December 2021 to 13 December 2021. The link to the survey was sent via e-mail to 115 respondents. A total of 67 responses were received. This represents a response rate of 58%.

3.9.3. Initial Coding

This Ms Excel data file was converted into a CSV file and imported into Python for analyses. The survey questions that required a “Yes” or “No” answer and the questions that made use of string variables on the Likert Scale were assigned numeric values before importing into Python.

3.10. Approach to data analysis

The data that was collected by the researcher and was analysed with the help of a statistician. The data collected via the online survey was analysed and descriptive statistics were used to describe significant relationships. This was followed by the “one-sample t-test” to determine if observations are generated by a process with a specific mean. This was followed by the “Chi-squared test of independence”. This test shows the existence of a relationship between two variables and concludes if the two variables are related or not. The test helps the researcher to determine the plausibility of the proposed hypothesis.

3.11. Methodological Limitations

The sample size of 67 respondents could be a limitation as the correlations might differ with a larger sample size. The study was cross-sectional due to time constraints and remote working over a longer period could have a different influence on employee retention and work-life balance. The data for this study was collected at Engen Petroleum Limited and the responses were limited to the perceptions of respondents, on remote working within the organization.

The validity and reliability of the survey was verified by the pre-testing of the survey questionnaire. This was done by three individuals that provided feedback on the questionnaire. This has been discussed in 3.9.1 above.

The elimination of bias was addressed by the use of non purposive random sampling.

Ethical considerations were addressed by the University of Kwazulu Natal's ethical clearance process. Ethical clearance was obtained prior to the study being done.

3.12. Summary

A quantitative approach was used for this study. The aim of the study was to confirm the existing theories on remote working, employee retention and work life balance. The research philosophy of positivism and the deductive approach was used. The study was cross-sectional in nature as the data was collected via an online questionnaire at a single point in time. The online questionnaire was created using Microsoft Forms and was piloted on selected respondents. A total of 67 responses were used in the statistical analyses.

All statistical analyses were done using Excel, Jupyter Notebooks and Python. The statistical analysis of the data are discussed in the next chapter.

CHAPTER FOUR:

RESEARCH RESULTS

4.1. Introduction

In this chapter the statistical analysis of the data collated from the online survey is discussed. The data was cleansed and coded to allow for statistical analysis in Jupyter Notebooks and Python. Statistical testing was done on the variables to test relationships that exist in literature. The tests performed to prove the validity of the constructs will also be discussed in this chapter.

This chapter begins by discussing the data overview, followed by data analysis and finally the statistical analysis of the data.

4.2. Data Overview

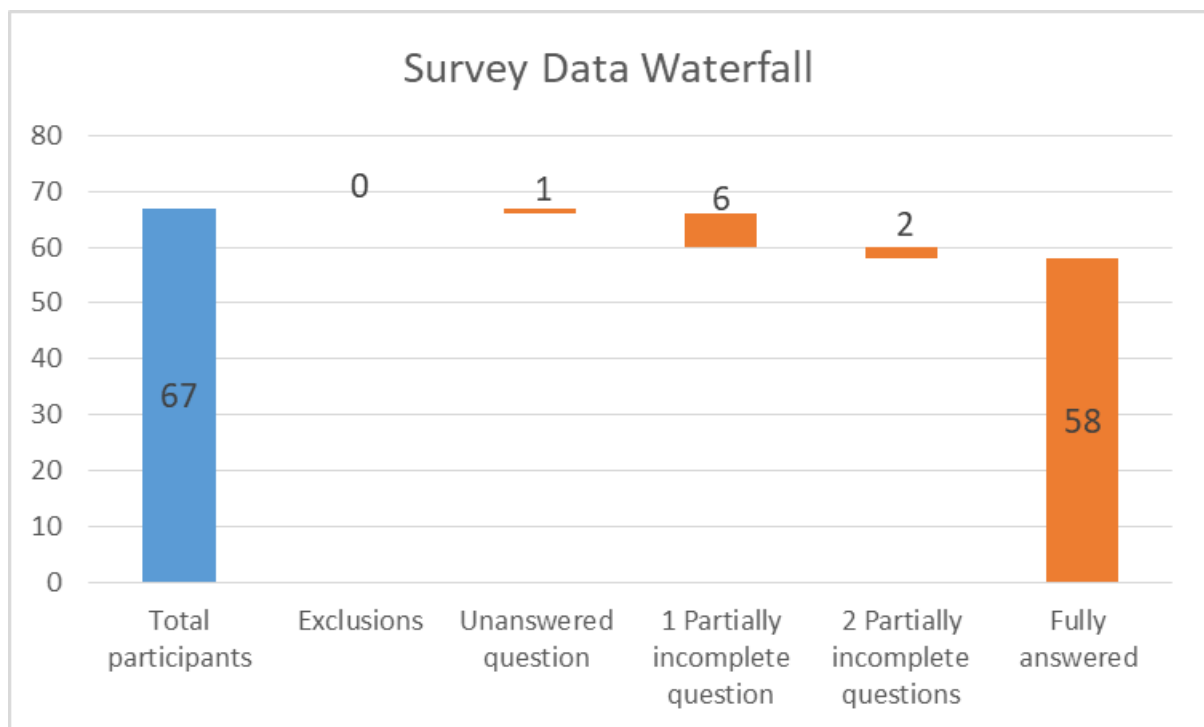
To address the research problem, a survey was compiled in Microsoft Forms and released online to 115 respondents. The response rate received was 58% meaning that 67 respondents completed the online survey. The results from the survey were analysed with the aid of visualisation tools and statistical software. This will be further explained and unpacked in this chapter.

The survey was opened for a period of 12 days, from 02 December 2021 to 13 December 2021.

4.3. Survey Data Waterfall

We begin by using a Survey Data Waterfall to introduce the collated data that was gathered from 67 respondents and it must be noted that there were no exclusions. Of the 67 respondents, 58 (86%) fully answered each survey question. One question of the 22 survey questions was entirely unanswered, and a few other questions were partially unanswered.

Figure 7: Survey Data Waterfall



Source: Authors' own research results

4.4. Initial View of Data

Expanding the information in the waterfall, we analyse the data to obtain a view on the missing data pertaining to the unanswered questions. The researcher has identified that two respondents have not fully answered Q10 and Q12. It was also noted that the sub questions of Q16 and Q18 have not been unanswered by a single respondent. Table 2 below, provides a complete view of the number of completed survey answers received per question.

Table 2: Number of complete responses per question

Question	Topic	Complete Answers
Q1	Age	67
Q2	Gender	67
Q3	Tenure at Engen	67
Q4	Department	67
Q5	Seniority level	67
Q6	Remote-work culture perception	67
Q7	Remote productivity	67
Q8	Remote workload	67
Q9	Factors enabling successful remote working	67
Q10	Technology enabling successful remote working	65
Q11	Ability to perform job remotely	67
Q12	Pre-COVID communication and interaction	65
Q13	Post-COVID communication and interaction	67
Q14	Leadership Competencies	67
Q15	Employee Wellbeing: Work stress	67
Q16	Employee Wellbeing: Work Life Balance	66
Q17	Employee Retention: Job Satisfaction	67
Q18	Employee Retention: Job Embeddedness	66
Q19	Remote work pain points	64
Q20	Post-pandemic remote working vs. efficient practices	67
Q21	Post-pandemic remote working preference	67
Q22	Post-pandemic in-office preference	67

Source: Authors' own research results

The highest impacted question was Q19 which touched on remote working pain points and contained 12 sub questions. It was noted that 3 respondents did not fully answer Q19 and may have indicated answers only to the pain points they most identified with. The “missingness” in the data was not considered to be a problem, as it is considered to be missing at random, and analysis can still be done.

4.5. Data Pre-processing

Data analysis was performed by using Jupyter Notebooks and Python, which has allowed for the efficient visualisation and robust exploratory data analysis, and statistical testing with open-source python packages. Data was imported and converted into a multi-index panda DataFrame, for ease-of-access. The first index is for the question number, and the second is for the sub-question(s) where relevant.

4.5.1. Data Cleaning

- Data was analysed and assessed for missing data, and irrelevant data. Several categories, such as age and employment tenure were been cleansed.
- Due to inconsistent usage of decimals to represent months, age and tenure have both been formatted to remove partial years, and now count only the completed years of employment as well as age (i.e., “2.4” years would be regarded as “2 years”).
- Data type casting was performed as and where required, to retain relevant numerical data.
- Staff seniority was restructured for consistency - identifying managerial roles not explicitly stated as “management level 4” and allocating them to “management level 3” and identifying all other non-management positions to be “Staff Member”.

4.6. Feature Engineering

Feature engineering is the process of the researcher imposing domain knowledge and constructing features which will allow for the target variable, or patterns in the data, to be better captured relative to the use of the data in its raw format (Wikipedia, 2021b).

Features which were constructed include:

- Age bands
- Tenure bands

4.7. Data Analysis

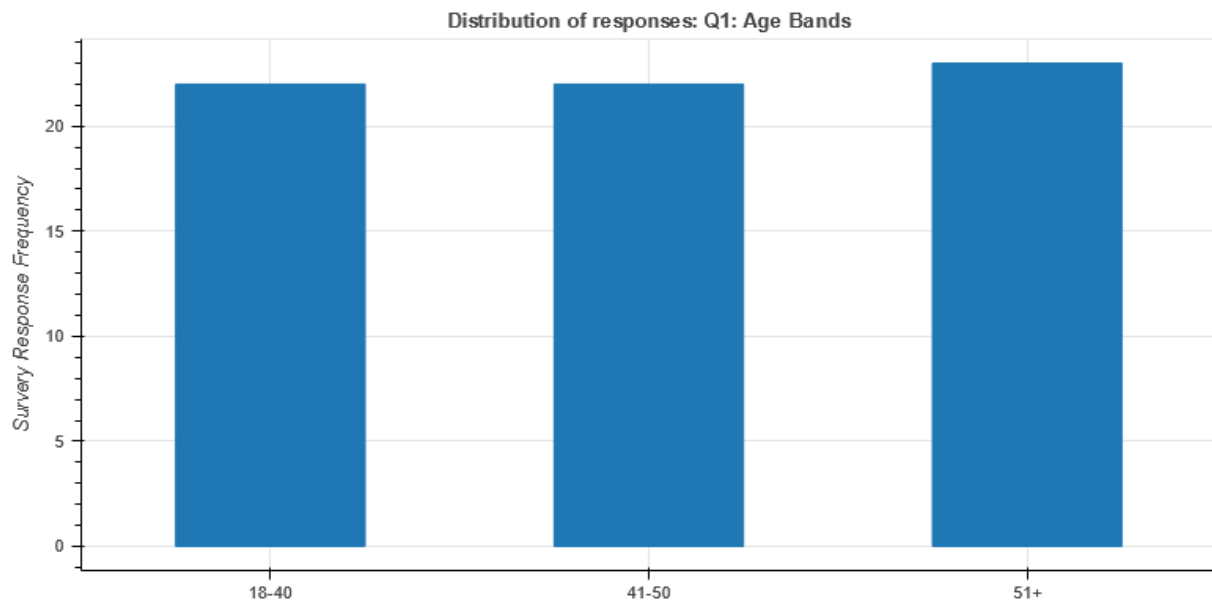
Exploratory data analysis was pioneered in the year 1977 by statistician John Tukey (Wikipedia Contributors, 2019). This is the process of analysing data, and assessing it for patterns, or for anomalies, and essentially growing the understanding of one’s insights. This enhanced understanding leads to deducing and understanding conclusions on the current data and identify the direction and additional features to be captured in a subsequent round of data gathering.

4.8. Survey Demographics

A total of 67 responses were received from the online survey and was deemed adequate for the statistical analyses.

4.8.1. Age

Graph 1: Q1 Distribution of responses – Age Bands

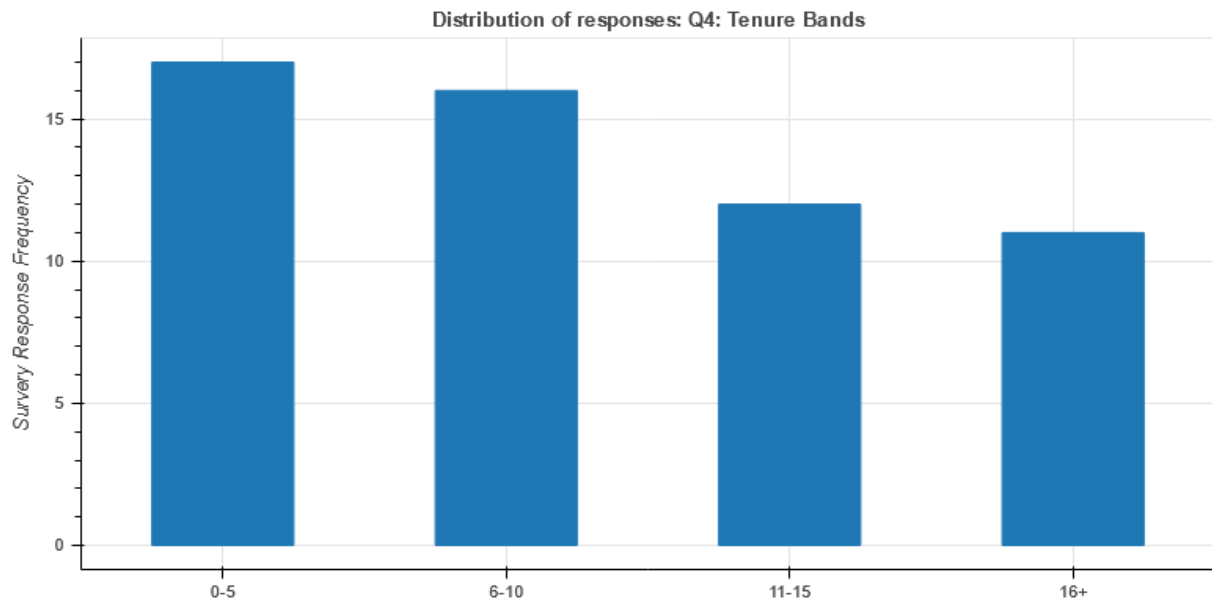


Source: Authors' own research results

Data was analysed and grouped into bands of below 40 year olds (coincidentally, "millennials") and two subsequent age bands 41 – 50 years old and 51 years and older (51+) which hold equivalent group sizes.

4.8.2. Tenure

Graph 2: Q4 Distribution of responses -Tenure Bands

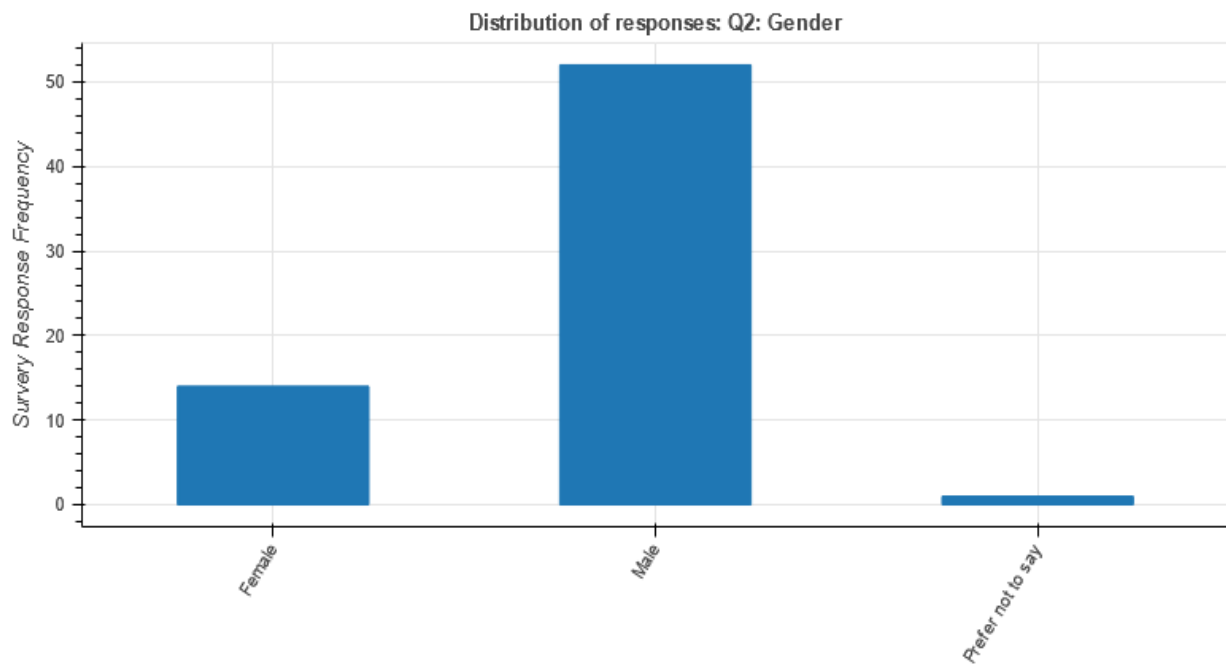


Source: Authors' own research results

Tenure refers to the period of employment at Engen. This has been separated into 4 bands, each containing 5-year-intervals with the final band including all individuals up to the highest tenure of 38 years at Engen. The majority of employees have been with Engen for shorter tenures, and there is a positive correlation between age and tenure of the 17 individuals with a tenure under 5 years, 9 are millennials (under 40), and 8 are in the second age group of 41-50, with none of the individuals aged 51+ having a short tenure.

4.8.3. Gender

Graph 3: Q2 Distribution of responses - Gender

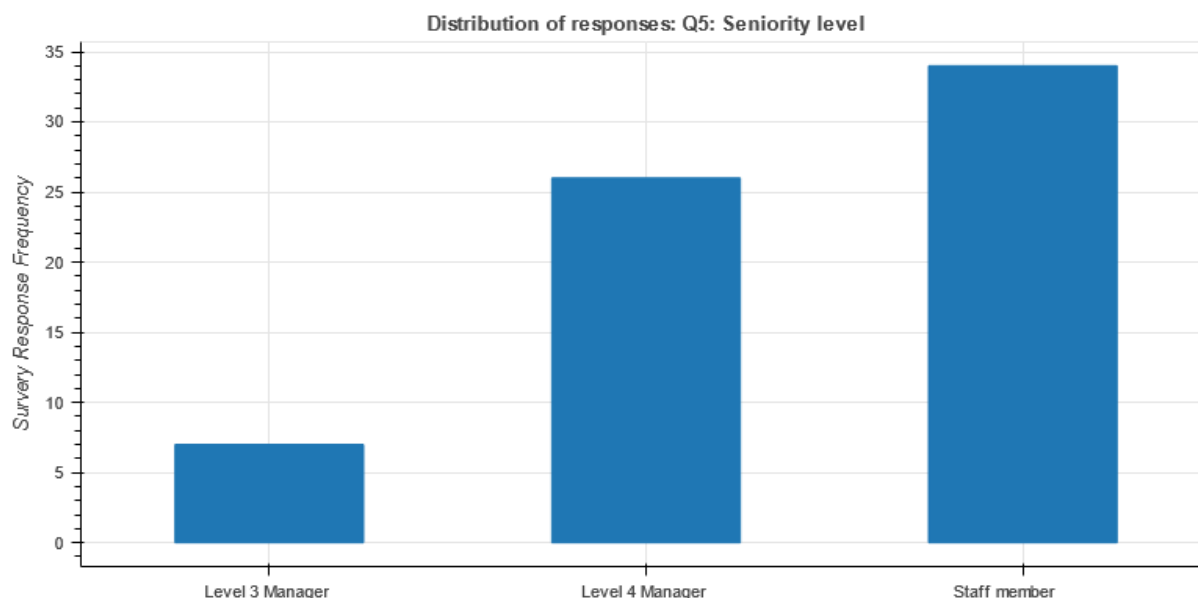


Source: Authors' own research results

The survey data has a class imbalance when we analyse the gender of the respondents, with 51 of the 67 respondents (76.1%) disclosing their gender as male. This is reflective of the male-dominated work force within the company and within the petroleum industry (Zali, 2021). This should not be viewed as misrepresentative or gender bias.

4.8.4. Survey demographics within the organization

Graph 4: Q5 Distribution of responses - Seniority Level



Source: Authors' own research results

There is an approximate 50-50 split between management (7 level 3 or equivalent managers, 26 level 4 or equivalent managers) and non-management (34 non-managers) within the survey sample.

Table 3: Survey responses per department

Department	Number individuals
procurement	15
maintenance	5
corporate strategy	2
engineering	2
finance	2
projects	2
hseq	2
financial services	2
other	35

Source: Authors' own research results

There were 44 departments indicated, with the majority being single-mentions. The most popular department was "Procurement". The departments with only a single mention are grouped under the categorisation "other" in the table below.

4.9. Descriptive Statistics

In this section we expand on each research question, and we identify the survey questions which are foundational to answering the research questions (RQs). This is the equivalent of forming hypotheses based on the results of the survey. From this section of data analysis and hypotheses formation, the researcher will pivot into statistical analysis, in which the hypotheses will be tested, and the researcher then delivers statistically robust conclusions.

We define a metric “performance score” as the aggregated score from a survey question, post-mapping (Bhandari, 2020).

As discussed in the survey design section, due to the nature of the Likert scale, the answers can be transformed to a numeric scale and the researcher elects to map the responses onto a numeric scale as follows:

Strongly disagree = - 2; Disagree = -1; Neutral = 0; Agree = +1; Strongly agree = +2.

4.9.1. Research Question 1 (RQ1)

Why is employee retention and work life balance important to employee wellbeing and how can the organization adequately address these factors.

Remote working has been a sudden and drastic change that has potentially impacted an employee’s ability to work, as well as manage relations and interactions with colleagues and family. Job satisfaction and embeddedness are assessed through several sub questions, as well as the perceptions of stress, productivity, workload, and general concerns.

Survey questions Q6; Q7; Q8; Q9; Q17; Q18 and Q19 were designed to answer this research question. Appendix 1 contains the complete list of survey questions.

Table 4: Responses to Research Question 1 (RQ1)

		Modal answer	Extreme negative	Extreme positive	Performance score
Q6	Remote-work culture perception	Positive	1	19	0.97
Q7	Remote productivity	Substantially more than in the office	0	29	1.18
Q8	Remote workload	Substantially more than your normal	32	0	-1.34
Q9	Colleague relationships	2. Agree	1	24	1.15
Q9	Team connectivity	2. Agree	1	20	0.79
Q9	Noise free area at home	2. Agree	1	22	0.87
Q9	Discipline	1. Strongly agree	0	43	1.55
Q9	Managerial trust	1. Strongly agree	1	37	1.37
Q17	Job satisfaction	2. Agree	1	25	1.12
Q17	Content with co-workers	2. Agree	1	17	1.03
Q17	Happy with manager	2. Agree	2	21	0.96
Q18	Career alignment within organisation	2. Agree	1	17	0.87
Q18	Valued by organisation	2. Agree	1	8	0.60
Q18	Cultural fit	2. Agree	1	14	0.91
Q19	Overworking	2. Agree	12	3	-0.61
Q19	Need for motivation	4. Disagree	1	13	0.58
Q19	Distractions at home	4. Disagree	3	14	0.66
Q19	Loneliness	4. Disagree	3	19	0.66
Q19	Communication issues	4. Disagree	1	15	0.73
Q19	Technology issues	4. Disagree	0	15	0.67
Q19	Inconsistent goals	4. Disagree	4	19	0.79
Q19	Too many deadlines	2. Agree	6	3	-0.21
Q19	Time wasting activities	4. Disagree	8	7	-0.01
Q19	Unfulfilling job	4. Disagree	2	19	0.84
Q19	Manager's attitude	4. Disagree	4	10	0.40
Q19	Colleague's attitude	4. Disagree	3	7	0.24

Source: Authors' own research results

It is important to note that the "Performance score" was calculated through the mapping as described above, with a particular note on Question 19 - over which the negation is applied to the performance score. The Likert scale is applied as an agreement metric, over a negative condition. Hence, a "Disagree" answer would be regarded as a "+1" as it is the negation of a negative.

We can interpret the performance scores with the understanding that they fall within the range of (-2) to (+2). A score above 1 indicates that the average sentiment is more positive than a unanimous "agreement" and similarly, a score below (-1) indicates that the average sentiment is more negative than a unanimous "disagreement".

The performance score is particularly high for Q9- discipline (1.55); Q9 - managerial trust (1.37), Q7- remote productivity (1.18), Q9 - colleague relationships (1.15), Q17 - job satisfaction (1.12) and Q17 - contentedness with co-workers (1.03). The performance score was particularly low for one aspect of Q8 -remote workload (-1.34).

Across all dimensions, we find that the sentiment is positive, with an overall performance score of 0.6. This indicates that the average individual is more likely to hold a positive sentiment towards the concerns raised in the survey, as opposed to either a negative or neutral sentiment.

Overall productivity, wellbeing, and job satisfaction appear to be conducive within the remote working environment. The researcher advises caution in terms of scope-creep in remote work, as the single (and common) issue identified, with 32 (48%) of the respondents indicating an “extreme negative” perception of the workload burden in a remote environment.

4.9.2. Research Question 2 (RQ2)

Is remote working an appropriate response to the pandemic and how does it influence the organization’s digital strategy.

This research question naturally extends from RQ1, as we assess whether the usage of “remote working” has been adequately enabled. One of the key concerns is how communication is structured, and whether there has been a shift in the level and method of engagement within teams.

Survey questions Q10; Q11; Q12 and Q13 were designed to answer this research question. Survey questions Q10 and Q11 feed in through the Likert scale, these questions were assessed in a similar manner to RQ1. Questions 12 and 13, assesses the communication methods and frequency thereof, and will be looked at separately.

Table 5: Responses to survey questions Q10 and Q11 (RQ2)

		Modal answer	Extreme negative	Extreme positive	Performance score
Q10	Engen technological provision	2. Agree	0	29	1.27
Q10	Access to relevant Engen data	2. Agree	0	28	1.27
Q10	IP & data protection stress	4. Disagree	0	2	-0.16
Q10	Remote skills and knowledge	1. Strongly agree	0	34	1.43
Q10	Support from Engen	2. Agree	0	24	1.13
Q11	My job can be performed remotely	2. Agree	8	22	0.79

Source: Authors’ own research results

In the assessment of the shift in frequency of engagement, we look at a simple quantification of whether there was an increase or decrease in frequency. The

frequency hierarchy is indicated in the list below, and an increase up the line will create a “positive shift”, implying an increase in engagement frequency.

1. 'Never'
2. 'Approx. once per week'
3. 'Multiple times per week'
4. 'Approx. once per day'
5. 'Multiple times per day'

Table 6: Responses to survey questions Q12 and Q13 (RQ2)

	Modal before	Modal after	Group frequency shift
Meetings in person	Multiple times per day	Never	-47
Meetings online	Never	Multiple times per day	38
Phone calls	Multiple times per day	Multiple times per day	7
Physical documents	Multiple times per day	Never	-52
Whatsapp communications	Never	Never	9
MS teams interactions	Never	Multiple times per day	45
In person conversations	Multiple times per day	Never	-49

Source: Authors' own research results

There is a drastic decrease in meetings in person, as well as physical documents, and in person conversations. There is a huge increase in online meetings and MS teams interactions. Phone calls and Whatsapp communications have also shifted positively, but overall have remained comparable as prior to the introduction of remote-work considering that the nett effect is fewer than 10 individuals experiencing an increase. It is clear that the working paradigm of engagement is vastly different in the era of remote working.

4.9.3. Research Question 3 (RQ3)

What leadership competencies are required to manage remote working during the pandemic

Management and non-management have a differing role in any organisation. The shift to remote working, therefore, may have impacted the competencies of management and non-management roles differently. Survey questions Q14 and Q19 were designed to answer this research question.

Table 7: Responses to survey question Q14 and Q19 (RQ3)

		Modal answer	Extreme negative	Extreme positive	Performance score
Q14	Manager feedback	2. Agree	2	15	0.85
Q14	Clear objectives	2. Agree	2	19	0.97
Q14	Clear communication	2. Agree	3	20	0.91
Q14	Consistent manager feedback	2. Agree	3	15	0.91
Q14	Consistent manager responsiveness	2. Agree	3	17	0.84
Q19	Overworking	2. Agree	3	12	0.61
Q19	Need for motivation	4. Disagree	13	1	-0.58
Q19	Distractions at home	4. Disagree	14	3	-0.66
Q19	Loneliness	4. Disagree	19	3	-0.66
Q19	Communication issues	4. Disagree	15	1	-0.73
Q19	Technology issues	4. Disagree	15	0	-0.67
Q19	Inconsistent goals	4. Disagree	19	4	-0.79
Q19	Too many deadlines	2. Agree	3	6	0.21
Q19	Time wasting activities	4. Disagree	7	8	0.01
Q19	Unfulfilling job	4. Disagree	19	2	-0.84
Q19	Manager's attitude	4. Disagree	10	4	-0.40
Q19	Colleague's attitude	4. Disagree	7	3	-0.24

Source: Authors' own research results

The researcher identified a less extreme indication across the RQ3 responses, relative to the RQ1 and RQ2 responses, with a highest score at 0.97 ("Clear objectives") and a lowest score at -0.84 ("Unfulfilling job"). Note that the lowest score is for a negative sentence, hence the statement is equivalent to stating that the job is fulfilling. Overall, there is consistency in individuals feeling positive towards their jobs, and their ability to both be managed, to be able to set clear goals and be given the required tools in order to complete their tasks.

One missing component of the results in this format is the *difference* in performance between staff and management. This research question is further assessed with verification from statistical testing of the relationships from the data in the next section of this dissertation.

4.9.4. Research Question 4 (RQ4)

Are employees adequately equipped to handle increased job demands that can lead to increased stress levels

Employee wellbeing and overall ability to perform their jobs is arguably one of the key questions to be answered in this dissertation. Employee ability to perform their jobs

and employee retention is directly impacted by their work-life balance, job embeddedness and happiness with the environment.

Survey questions Q15 & Q16 were designed to answer this research question (RQ4).

Table 8: Responses to survey question Q15 and Q16 (RQ4)

		Modal answer	Extreme negative	Extreme positive	Performance score
Q15	Feeling of a lack of control	4. Disagree	10	3	-0.52
Q15	Desire to give up	5. Strongly disagree	32	1	-1.30
Q15	Inability to stop working	2. Agree	0	0	0.00
Q15	Feelings of being trusted	5. Strongly disagree	24	2	-0.91
Q16	Personal life suffering	4. Disagree	13	5	-0.45
Q16	Work suffers	4. Disagree	26	2	-1.13
Q16	Work-life balance difficulty	4. Disagree	17	5	-0.78
Q16	Personal time allocation	2. Agree	6	4	-0.04
Q16	Better work-life balance pre-COVID	2. Agree	8	10	0.18
Q16	Better work-life balance post-COVID	4. Disagree	8	13	0.10

Source: Authors' own research results

Overall work-life balance insight is intractable from this question. We find that respondents strongly disagree with the thought of “giving up”, with a low score of -1.3. There is also a strong rejection of the prospect of work being affected, with a score of -1.13. Otherwise however, there is a roughly neutral feeling with respect to a shift in work-life balance when asked directly.

The indicative questions of a work-life balance will be expanded in detail, and this research question is further assessed with verification from statistical testing of the relationships coming from the data in the next section.

4.9.5. Research Question 5 (RQ5)

What are the good practices that can be adopted post the pandemic to improve efficiency in the organization?

The fifth research question is centred around an individual's forecast of two aspects of the future. Firstly, their future thoughts as to what they believe the role of remote working will be, and secondly, their preferences on how much remote working they would like to retain if the office and remote working were both viable options.

Survey questions Q20, Q21 and Q22 were designed to answer this research question.

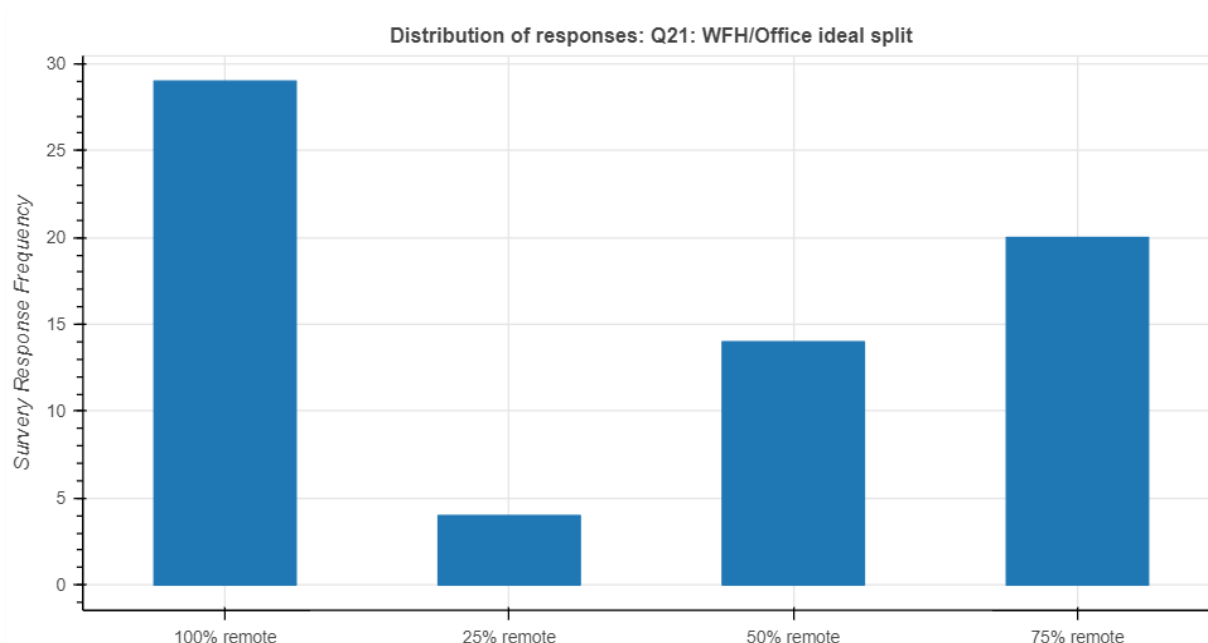
Table 9: Responses to survey question Q20 (RQ5)

	Modal answer	Extreme negative	Extreme positive	Performance score
Q20 Remote work vs company functioning	Significantly improve the functioning of the organization	0	29	0.97

Source: Authors' own research results

Respondents tend to agree with the sentiment of remote working remaining a tool to be used, with the modal response being that the perception is for a “significant improvement of the functioning of the organisation”. 10 Individuals indicated that they anticipated a decline in the functioning of the organisation because of remote work.

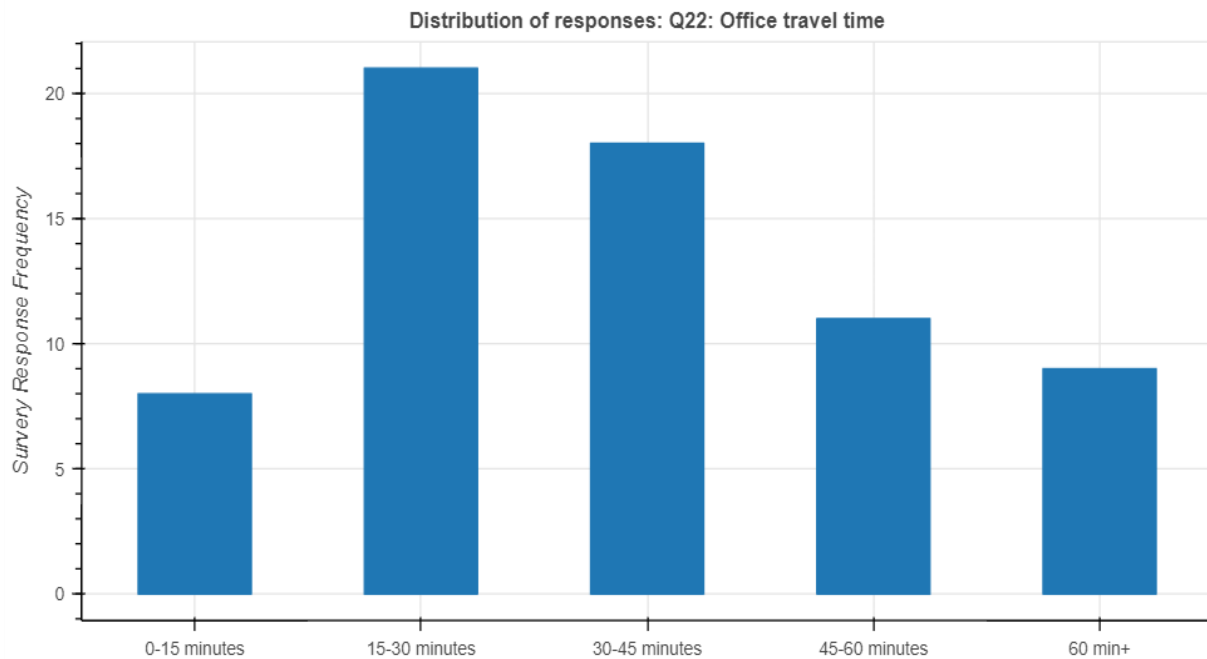
Graph 5: Distribution of responses - Q21



Source: Authors' own research results

We find that the majority of respondents (29) would prefer the prospect of full time remote working (100%) as opposed to going back to the office. The combined majority consensus, however, is a mixture of remote and in-office working.

Graph 6: Distribution of Responses - Q22



Source: Authors' own research results

It is predicted that travel time to the office is a deterrent of overall interest in coming into the office. All participants who indicated desiring 50% and less time remote working, live within 30 minutes of the office. Additionally, individuals living further away from the office tend to prefer a higher proportion of time remote working. This positive correlation indicates that the respondents have a rational preference of being interested in a higher percentage of remote work, when they live further away from the office.

4.10. Inferential Statistics

In this section the researcher introduces the statistical tests that will be used in the dissertation, and the steps used to implement them. The researcher will be utilising the Chi-squared test of independence, as well as the t-test as the two statistical tools by which to extract a statistically robust conclusion.

4.10.1. The Central Limit Theorem

The central limit theorem (CLT) allows for parametric statistical tests to be used to conduct a statistical analysis such as t-tests on the sum, and therefore average, of non-normal data (Wikipedia Contributors, 2018)

According to Estevez, 2021, the CLT is defined as follows: “*The central limit theorem states that the distribution of sample means approximates a normal distribution as the sample size gets larger, regardless of the population's distribution. Sample sizes equal to or greater than 30 are often considered sufficient for the CLT to hold.*”

4.10.2. One-sample t-test and Wilcoxon signed rank test

The one-sample t-test is used to determine whether observations are generated by a process with a specific mean. If an observation is from a normal distribution, one could use the t-test. This process was used by (Chen *et al.*, 2020). As an alternative to using the t-test (if the assumption of normality is not held) then one could use the Wilcoxon signed-rank test. This is a non-parametric test which can be used to test the location of two populations.

From the assessment Sullivan and Artino (2013), orchestrated, the researcher sees a conclusion on the ability to substitute ordinal data (individual Likert scale questions) for interval data. The ability to analyse and interpret data from Likert-type scales can be done using a t-test; however, as discussed in the article, there is limited value where the data does not come from a normal distribution.

There are 5 steps in the One-sample t-test:

1. Construct the null hypothesis and alternative hypothesis:

a. H_0 : True mean is μ

b. H_1 : True mean $\neq \mu$

2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n= number of observations

3. Calculate critical values $t^{0.025}_{d.o.f.=n-1}$ & $t^{0.975}_{d.o.f.=n-1}$ (t statistics for a 2-tailed t-test)
4. Compare 2 & 3
5. If the value from 2 does not fall into the range outlined in 3, we reject H_0 and conclude True mean $\neq \mu$, alternatively, we would fail to reject H_0 and conclude that the true mean is not significantly different from μ .

The One-sample t-test has the following assumptions:

- Data follows an ordinal or cardinal scale
- Observations are independent
- Data is approximately normal, and represents the target population
- The data does not contain outliers

4.10.3. Chi-squared test of independence

The purpose of the Chi-Squared test of independence is to determine if a difference in observed counts in a variable of interest (depending on the value a second variable takes) are due to chance, or whether they are due to a relationship between the variables. In the same way that the *Pearson correlation* can be calculated between numeric variables to quantify their relationship, so too the *Pearson Chi-square* test of independence allows us to calculate a statistical measure of the relation between variables.

For the Chi-squared test of independence, the researcher has two variables, and will construct a contingency table across the combined levels of the variables. At a high-level, the researcher is assessing the distribution of variable A, and seeing if the distribution changes depending on the level of variable B.

There are 7 steps in the Chi-squared test:

1. Construct the null hypothesis and alternative hypothesis:
 - a. H_0 : Variable A and variable B are independent (no association)
 - b. H_1 : Variable A and variable B are not independent (association exists)

2. Construct a contingency table from the data - which will provide the observed cell counts
3. Calculate the expected cell counts, under H_0
 - a. For each row k , and column j : the k^{th} category of variable A and j^{th} category of variable B, we calculate the expected observations
 - b. The expected value is the row total, multiplied by the column total, divided by the grand total.
 - c. Mathematically, this is calculated as follows: $E_{jk} = \frac{\sum_j O_{jk} \times \sum_k O_{jk}}{\sum_{jk} O_{jk}}$
4. Calculate the test statistic:
$$\chi^2 = \sum_{i \in G} \frac{(O_i - E_i)^2}{E_i}$$

O_i = observed value

E_i = expected value

G = Variable groups
5. Calculate the Chi-square degree of freedom $(r - 1)(c - 1)$
6. Calculate the Chi-square p-value as $P(\chi^2 > \chi^2_{(r-1)(c-1)})$
7. Conclude a rejection, or failure to reject, the null hypothesis

The calculation from a Chi-squared test will allow for the assertion that categorical variables are not independent of one another if the null hypothesis is rejected through the test.

The Chi-squared test has the following assumptions:

- Two variables are used, which are categorical
- When the contingency table is constructed, the data in the cells should be frequencies, or counts
- Cells in the table are mutually exclusive
- Values in the cells should be greater than 5 in at least 80% of cells

- As with most statistical tests, there is an assumption of random sampling, and when this assumption is violated, in order to retain confidence in the result, several replication studies should be performed with similar results being obtained.

4.11. Statistical Hypotheses

To test the constructs of job productivity, perception of remote working culture, work life balance, job satisfaction and job embeddedness the researcher has used univariate analysis. Univariate analysis individually examines the variables in a data set (Kotz,1988). It examines the range and central tendencies of the values. It also describes the response patterns of the variables.

To test the constructs of seniority level verses job performed remotely, age group verses productivity and job satisfaction verses job embeddedness the researcher has used multivariate analysis. This type of analysis considers observations and analysis of multiple statistical outcome variables at once. Multivariate analysis is designed for the simultaneous analysis of data sets for each construct being studied.

The researcher has conducted a total of eight tests (univariate and multivariate) that are discussed below.

4.11.1. Univariate Test 1: Survey Question 7 – Job Productivity

Univariate test was done for survey question 7 – (Job productivity), using mapping of Likert scale to the -2: +2 range, and using the t-test.

The univariate test assesses whether individuals feel that their jobs can be performed remotely. Preparing for this test requires mapping the associated question onto an ordinal scale, centred around 0, as described above. A positive score is equivalent to stating that the job can be performed remotely.

1. Construct the null hypothesis and alternative hypothesis:
 - a. H_0 : True mean ≤ 0
 - b. H_1 : True mean > 0
2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{1.179 - 0}{0.886/\sqrt{67}} = 10.88$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

3. Find the critical values $t^{0.95}_{d.o.f.=66} = 1.671$ (t statistics for a 1-tailed t-test)
4. Compare 2 & 3: $10.88 > 1.67$
5. We reject H_0 and conclude that the true mean is greater than 0.

There is a close to unanimous indication, at 63 responders (94.0%) coming back from responders indicating ability to perform their job remotely, and 54 (80.6%) indicating an improved ability to perform their job remotely. The results are statistically significantly greater than a neutral outcome. The p-value of the test is 0.000, which is highly significant

4.11.2. Univariate Test 2: Survey Question 6 - Perception of remote work culture

Univariate test was done for survey question 6 (Perception of remote work culture), using mapping of Likert scale to the -2: +2 range, and using the t-test.

The univariate test assesses whether individuals have a perception of remote work culture which is statistically far from neutrality. Preparing for this test requires mapping the associated question onto an ordinal scale, centred around 0, as described above. A positive score is equivalent to stating that the work culture is positive.

1. Construct the null hypothesis and alternative hypothesis:
 - a. H_0 : True mean ≤ 0
 - b. H_1 : True mean > 0
2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{-0.149 - 0}{1.328/\sqrt{67}} = -0.919$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

3. Find the critical values $t^{0.95}_{d.o.f.=66} = 1.671$ (t statistics for a 1-tailed t-test)
4. Compare 2 & 3: $-0.919 < 1.67$
5. We fail to reject H_0 and conclude that the true mean is not statistically significantly greater than 0. The p-value of the test is 0.361.

There is a split perception, with 34 respondents indicating a positive perception of remote work, and 24 indicating an overall negative perception of remote work. There is no statistical indication of a positive perception of remote work culture.

4.11.3. Univariate Test 3: Survey Question 16 – Work life balance

Univariate test was done for survey question 16 using the average of Q16.1; Q16.3 and Q16.5, using mapping of the Likert scale to the -6: +6 range, and using a 2 sided t-test.

The objective of this test is to determine if the perception of work-life balance has deteriorated after the introduction of COVID-19 and remote work.

The univariate test assesses whether individuals have a work-life balance as indicated by the 3 questions tailored for this understanding. Preparing for this test requires mapping the associated 3 questions onto ordinal scale, centred around 0, then adding the three values together:

- Personal life suffering (Q16.1)
- Difficulty in separating work and non-work activities (Q16.3)
- Better work-life balance pre-COVID (Q16.5)

A positive score is equivalent to stating that the work-life balance has been challenging to maintain.

1. Construct the null hypothesis and alternative hypothesis:

- a. H_0 : True mean is 0
- b. H_1 : True mean \neq 0

2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{-1.044 - 0}{3.03/\sqrt{67}} = 2.82$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

- 3. Calculate critical values $t^{0.025}_{d.o.f.=66} = -1.997$ & $t^{0.975}_{d.o.f.=66} = 1.997$
- 4. The observed t-statistic falls outside of the 95% confidence range in (3)
- 5. We reject H_0 and conclude that the true mean is significantly different from 0.
The p-value of the test is 0.006.

A total of 19 respondents (28.3%) held a score above 0, indicating a nett negative impact of remote working on a work-life balance. There were 42 respondents (62.7%) who experience a nett positive impact of remote working on work-life.

4.11.4 Multivariate Test 4: Survey Question 5 vs Survey Question 11

Performance shifts experienced by management differs from the experience of non-management. Survey question Q5 (seniority level) vs Q11 (job can be performed remotely) was used to test this construct. A contingency table was constructed between the two variables and the Chi-squared test was done to test if the stresses are significantly different across different levels of seniority.

- 1. Construct the null hypothesis and alternative hypothesis:
 - a. H_0 : There is no association between ability to perform job, and managerial level
 - b. H_1 : Managements ability to perform their jobs are affected differently from non-management staff

2. Construct a contingency table from the data - which will provide the observed cell counts

Table 10: Observed Frequencies Q5 vs Q11

Observed Frequencies			
Seniority Level	Agreement	Disagreement	Grand Total
Staff member	30.00	4.00	34.00
Level 3 Manager	5.00	2.00	7.00
Level 4 Manager	16.00	10.00	26.00
Grand Total	51.00	16.00	67.00

Source: Authors' own research results

3. Calculate the expected cell counts, under H_0
 - a. For each row k , and column j : the k^{th} category of variable A and j^{th} category of variable B, we calculate the expected observations
 - b. The expected value is the row total, multiplied by the column total, divided by the grand total.
 - c. Mathematically, this is calculated as follows: $E_{jk} = \frac{\sum_j O_{jk} \times \sum_k O_{jk}}{\sum_{jk} O_{jk}}$

Table 11: Expected Frequencies Q5 vs Q11

Expected Frequencies			
Seniority Level	Agreement	Disagreement	Grand Total
Staff member	25.88	8.12	34.00
Level 3 Manager	5.33	1.67	7.00
Level 4 Manager	19.79	6.21	26.00
Grand Total	51.00	16.00	67.00

Source: Authors' own research results

4. Calculate the test statistic:

$$\chi^2 = \sum_{i \in G} \frac{(O_i - E_i)^2}{E_i} = 5.871$$

O_i = observed value

E_i = expected value

G = Variable groups

5. Calculate the Chi-square degree of freedom $(r - 1)(c - 1) = 2$
6. Calculate the Chi-square p-value as $P(\chi^2 > \chi^2_{(r-1)(c-1)}) = 0.0531$
7. Conclude rejection of the null hypothesis. There is a statistically significant difference in efficacy of ability to conduct a management job verses a non-management job when working remotely. The difference is more stark across Level 4 managers, who deviate further from the expected frequencies than Level 3 managers.

4.11.5. Multivariate Test 5: Survey Question 1 vs Survey Question 7

Tests if shifts in productivity when working remotely, are statistically significantly different across different age groups. Survey question 1 (Age group) vs Q7 (Productivity) was used to test this construct. A contingency table was constructed between the two variables and the Chi-squared test was used.

1. Construct the null hypothesis and alternative hypothesis:
 - a. H_0 : There is no association between productivity and generation (age group)
 - b. H_1 : Productivity with remote working differs across age groups
2. Construct a contingency table from the data - which will provide the observed cell counts

Table 12: Observed Frequencies Q1 vs Q7

Observed Frequencies			
Age Bands	Millennial	Gen X / Baby Boomer	Grand Total
Increased productivity	36.27	8.73	45.00
No increased productivity	17.73	4.27	22.00
Grand Total	54.00	13.00	67.00

Source: Authors' own research results

3. Calculate the expected cell counts, under H_0

- a. For each row k , and column j : the k^{th} category of variable A and j^{th} category of variable B, we calculate the expected observations
- b. The expected value is the row total, multiplied by the column total, divided by the grand total.
- c. Mathematically, this is calculated as follows: $E_{jk} = \frac{\sum_j O_{jk} \times \sum_k O_{jk}}{\sum_{jk} O_{jk}}$

Table 13: Expected Frequencies Q1 vs Q7

Expected Frequencies			
Age Bands	Millennial	Gen X / Baby Boomer	Grand Total
Increased productivity	37.50	7.50	45.00
No increased productivity	16.50	5.50	22.00
Grand Total	54.00	13.00	67.00

Source: Authors' own research results

4. Calculate the test statistic:

$$\chi^2 = \sum_{i \in G} \frac{(O_i - E_i)^2}{E_i} = 0.61$$

O_i = observed value

E_i = expected value

G = Variable groups

5. Calculate the Chi-square degree of freedom $(r - 1)(c - 1) = 1$
6. Calculate the Chi-square p-value as $P(\chi^2 > \chi^2_{(r-1)(c-1)}) = 0.4179$
7. Conclude failure to reject the null hypothesis. There is no statistically significant difference in the impact of shifting to remote working, across different generations. Millennials and older generations can perform their jobs at Engen equivalently.

4.11.6. Univariate Test 6- Survey Question 17

The aim of this test is to test the construct of Job Satisfaction. The average of survey questions Q17.1; Q17.2 and Q17.3 were used by mapping of Likert scale to the -6: +6

range and using a 1-sided t-test. The objective of this test is to determine if the reported job satisfaction is statistically significantly greater than 0.

The objective is to assess whether the respondents have job satisfaction, and for this question there are three components asked of the respondents. This is a balance of their direct perception of satisfaction, as well as their overall perception of their colleagues. Preparing for this test requires mapping the associated 3 questions onto an ordinal scale, each between -2 and +2:

- Job satisfaction
- Content with co-workers
- Content with manager

The variable mappings are centred around 0, and the three values are added together, hence the combined score falls into the possible range of -6 to +6. A positive score is equivalent to stating that the job satisfaction and general environment is positive.

1. Construct the null hypothesis and alternative hypothesis:

a. H_0 : True mean ≤ 0

b. H_1 : True mean > 0

2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{3.104 - 0}{2.195/\sqrt{67}} = 11.57$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

3. Find the critical values $t^{0.95}_{d.o.f.=66} = 1.671$ (t statistics for a 1-tailed t-test)

4. Compare 2 & 3: $11.57 > 1.67$

5. We reject H_0 and conclude that the true mean is greater than 0.

55 responders (82.1%) indicated a positive response to Job satisfaction, 57 (85.1%) indicated agreement with the contentment of co-workers, and 52 (77.6%) agreed that they were content with their manager. Overall, we have 5 individuals scoring negatively, with an additional 2 individuals that score 0. There is a positive correlation between the aspects of job satisfaction, and an individual who is unsatisfied is less likely to be content with their colleagues as well. Whilst we note the negative existence, the majority (and therefore, the average) of participants score above zero, and the cohort score is statistically significantly greater than 0.

4.11.7. Univariate Test 7: Survey Question 18 – Job embeddedness

Univariate test was done for survey question 18 using the average of Q18.1; Q18.2; Q18.3 and by mapping of Likert scale to the -6: +6 range and using a 1-sided t-test. The objective of this test is to determine if the reported job embeddedness is statistically significantly greater than 0.

The aim is to assess whether individuals have job embeddedness. For this question there are three components asked of the respondents. This is a balance of their direct perception of embeddedness, as well as their overall perception of their colleagues. Preparing for this test requires mapping the associated 3 questions onto an ordinal scale, each between -2 and +2.

- Career aspirations are alignment with organisation
- Valued by organisation
- Cultural fit

The variable mappings are centred around 0, and the three values are added together, hence the combined score falls into the possible range of -6 to +6. A positive score is equivalent to stating that the job embeddedness is positive.

1. Construct the null hypothesis and alternative hypothesis:

a. H_0 : True mean ≤ 0

b. H_1 : True mean > 0

2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{2.373 - 0}{2.334/\sqrt{67}} = 8.32$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

3. Find the critical values $t^{0.95}_{d.o.f.=66} = 1.671$ (t statistics for a 1-tailed t-test)
4. Compare 2 & 3: $8.32 > 1.67$
5. We reject H_0 and conclude that the true mean is greater than 0.

49 respondents (73.1%) indicated a positive response to career alignment, equal to the 49 responding positively to feeling valued by the organisation. A slightly higher number, at 52 (77.6%) found agreement of culture fit.

Overall, we have 9 individuals scoring negatively, with an additional 7 who score 0. There is a positive correlation between the aspects of job embeddedness, and an individual who is not aligned in the organisation, is also less likely to feel valued. Whilst we note the negative existence, the majority (and therefore, the average) of participants score above zero, and the average embeddedness score is statistically significantly greater than 0.

4.11.8. Univariate Test 8: Survey Question 17 – Job satisfaction and Survey Question 18 – Job embeddedness

Univariate test was done for survey questions 17 and 18 using the average of Q17.1; Q17.2; Q17.3 – job satisfaction and Q18.1; Q18.2; Q18.3 - job embeddedness, using mapping of Likert scale to the -12: +12 range, and using a 1-sided t-test. The objective of this test is to determine if the reported overall score for job satisfaction and job embeddedness is statistically significantly greater than 0.

Preparing for this test requires mapping the associated 6 questions onto an ordinal scale, each between -2 and +2:

- Job satisfaction.

- Content with co-workers.
- Content with manager.
- Career alignment within organisation.
- Valued by organisation.
- Cultural fit.

The variable mappings are centred around 0, and the six values are added together, hence the combined score falls into the possible range of -12 to +12. A positive score is equivalent to stating that the job satisfaction and general environment is positive.

1. Construct the null hypothesis and alternative hypothesis:

a. H_0 : True mean ≤ 0

b. H_1 : True mean > 0

2. Calculate the test statistic:

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}} = \frac{5.477 - 0}{4.050/\sqrt{67}} = 11.06$$

\bar{x} = sample mean

μ = test value

s = sample standard deviation

n = number of observations

3. Find the critical values $t^{0.95}_{d.o.f.=66} = 1.671$ (t statistics for a 1-tailed t-test)

4. Compare 2 & 3: $11.06 > 1.67$

5. We reject H_0 and conclude that the true mean is greater than 0.

62 respondents (92.5%) had a positive value, and the participant average settled at 5.477 out of a maximum of 12. Overall, there is a statistically significant positive response, indicating strong joint job embeddedness and job satisfaction.

4.12 Summary

This research study utilizes a quantitative approach. The data presented was obtained from an online survey that was anonymous. The voluntary respondents were employees of Engen Petroleum limited that are working remotely. A total 67 respondents took part in the study. The results of the online survey were presented using descriptive statistics as well as inferential statistics. The constructs of employee retention, worklife balance, employee wellbeing, job satisfaction and job embeddedness were statistically tested. The results of the tests are discussed in the next chapter.

CHAPTER FIVE:

DISCUSSION OF RESULTS

The aim of this study is to determine the impact of remote working on employee retention and work-life balance of remote workers at Engen Petroleum Limited South Africa.

It is important to understand the driving forces that govern the concepts of employee retention and work-life balance. The concept of employee retention was statistically analysed using the job embeddedness theory. Work-life balance (WLB) was analysed using the constructs of employee well-being, job satisfaction and productivity.

The results were statistically analysed in Chapter 4 but to understand the impact of remote working on these constructs, the results are discussed in the next section.

5.1. Demographics

5.1.1. Age

The respondents were evenly spread across the three age bands of below 40 year olds, 41-50 year olds and 51 years and older. 32.8% of respondents were below 40 years of age; 32.8% of respondents were in the 41-50 age band and 34.3% were 51 years and older. This represents an almost even split across the age bands.

From the multivariate analysis done in section 0 above, age did not influence the respondent's ability to work remotely. However, according to research age and work experience positively correlate to the construct of job embeddedness (Kiazad *et al.*, 2020).

5.1.2. Tenure

The tenure of respondents ranged from under 5 years to the highest tenure of 38 years. The respondents were representative of the mixture of age groups within the Engen workforce. Most respondents have a short tenure at Engen (under 5 years). This could be the result of most respondents being from Procurement and this department has many new entrants. Respondents aged 51 and older have a longer tenure at Engen. Thus, age can be positively correlated to the construct of job

embeddedness (Kiazad *et al.*, 2020). According to their research employees are willing to contribute their time and effort to support the organizations goals provided that the organization fulfils its promises to the employees. This embeds employees in the organization and increases their cost of leaving. This is related to the element of “sacrifice” in the construct of job embeddedness.

5.1.3. Gender

Gender does not influence the outcome of this study. The data on gender was collated for statistical purposes only. The gender imbalance amongst respondents must not be viewed as skewness in the data collected. It was interesting to note that 76.1% of the respondents were male. This is indicative of the predominately male work force in the petroleum industry (Zali, 2021). According to Zali (2021), women make up only 20% of the employees in South Africa’s petroleum industry and only 17% of middle-management and senior leadership positions. Globally there are about 10 million people employed in the renewable energy sector and only 32% are women.

5.1.4. Survey demographics within the organization

Respondents to the survey were almost evenly split between managers and non-managers with 33 responses from level 3 and level 4 managers and 34 responses from non-managers or staff members. The responses received were regarded as balanced and representative of the workforce.

The survey respondents were from 44 departments across the organization with the Procurement department having the highest number of respondents. With respondents representing the various departments within the organization the researcher was able to obtain a broader and more representative understanding of the perception of remote working across the organization.

5.2. Discussion of Research Question 1 (RQ1)

Why is employee retention and work life balance important to employee wellbeing and how can the organization adequately address these factors?

Research question one (RQ1) addresses the key constructs of employee retention, work life balance and employee wellbeing. Survey questions Q6, Q7, Q8, Q9, Q18

and Q19 were designed to address RQ1. The complete list of survey questions is available in Appendix 1.

The main themes of these survey questions are:

Q6 - Remote working culture

Q7 - Productivity during remote working

Q8 - Assessment of workload during remote working

Q9 – Factors enabling successful remote working

Q17 – Job satisfaction as a determinant of the concept of job embeddedness

Q18 – Job embeddedness using the aspect of “Fit” as the main determinant.

Performance scores were used to describe the positive or negative sentiment associated with each question. The “performance score” is a metric that defines the aggregated score from a survey question, post mapping (Bhandari, 2020). The performance scores are within a range of (-2) to (+2). A score above (+1) indicates that the average sentiment is more positive than a unanimous “agreement” and similarly, a score below (-1) indicates that the average sentiment is more negative than a unanimous “disagreement”.

The researcher focused on the particularly high performance scores obtained. The performance score was particularly low for one aspect of Q8 - remote workload. The scores are summarised in descending order in Table 14.

Table 14: RQ1 Performance Scores

Survey Question Number	Aspect / Sub Question	Performance Score
Q9	Discipline	1.55
Q9	Managerial trust	1.37
Q7	Remote productivity	1.18
Q9	Colleague relationships	1.15
Q17	Job satisfaction	1.12
Q17	Content with co-workers	1.03
Q8	Remote Workload	(-1.34)

Source: Authors’ own research results

The overall performance score is 0.6 across all dimensions measured and represents a positive sentiment. This indicates that employees hold a positive sentiment towards the themes tested in the survey questions.

The results of the survey reflect that productivity, wellbeing, and job satisfaction appear to be positive sentiments in the remote working environment. The researcher notes an extreme negative perception with 48% of respondents indicating concerns over workload burden in the remote working environment.

Survey question Q18 had a performance score of 0.91 indicating that the “fit” component of job embeddedness has a positive sentiment. This correlates positively to the job embeddedness theory discussed in the literature review in chapter 2. “Fit” considers factors such as individual values, career aspirations and future career plans. It is defined by the employee’s comfort levels with the workplace elements. 55.9% of respondents agreed with the “fit” element of job embeddedness.

To answer RQ1, five hypotheses were proposed by the researcher. Each hypothesis is discussed below.

The results of the survey are in keeping with the literature surveyed in chapter 2.

The results indicated a positive sentiment for productivity. This is in keeping with the results obtained by the World-Wide Worx, (2020). According to the results of the (WWW) survey when remote working became compulsory only 37% of companies had a fully implemented strategy for digital transformation. Companies with fully implemented digital strategies reported a 70% increase in productivity, (World-Wide Worx, 2020). The results of this study indicate that productivity either remains unchanged or increases but the quantum 70% was not achieved as indicated by the World-Wide Worx, (2020) survey.

The positive sentiment obtained for the construct of well-being related to the literature surveyed in chapter 2. The concept of well-being on a macro level encompasses aspects of life expectancy, environmental influences, and poverty levels (Juchnowicz and Kinowska, 2021). Well-being can therefore be a state where a person experiences a sense of healthiness, happiness, and goodness, which connects to all aspects of

life, amongst which work related activities have a special role. The results indicate the positive contribution of work related activities the construct of well-being.

The positive sentiment obtained for the construct of job satisfaction correlates with the findings of Cotton *et al.*, (1986), where job satisfaction is considered to be one of the most significant and dependable factors to predict employee turnover. As reviewed in chapter 2, most levels of Maslow's hierarchy of needs can be linked to job satisfaction (Wikipedia, 2021). Jobs are a vehicle to fulfil the daily needs of individuals such as food and clothes. For many individuals a job is an enabler to achieving one's goals in life and the contribution they seek to make to society. When this is applied to an organization, there tends to be better correlation between retention and the employees' esteem and self-actualization needs (Wikipedia, 2021).

5.2.1. Hypothesis 1 – Job Productivity (Univariate Test 1)

The first hypothesis was proposed to test the construct of “job productivity” (survey question Q7. The aim was to assess if individuals could perform their jobs remotely.

The null hypothesis was rejected with a p value of 0.00, which is highly significant. 94% of respondents indicated their ability to perform their jobs remotely with 80.6% indicating improved ability to perform their jobs remotely. The results are statistically significantly greater than a neutral outcome. This implies that there is an increase in productivity with the adoption of remote working.

The results indicated a positive sentiment for job productivity. As discussed in 5.2 above, this positively correlated to the results obtained by the World-Wide Worx, (2020).

5.2.1.1. Hypothesis 1A - Survey Question 1 vs Survey Question 7 (multivariate test 5)

Hypothesis 1A was used to test if shifts in productivity when working remotely, are statistically significantly different across different age groups. Survey question Q1 (age group) vs Q7 (productivity) was used to test this construct. A contingency table was constructed between the two variables and the Chi-squared test was used.

- H_0 : There is no association between productivity and generation (age group)
- H_1 : Productivity with remote working differs across age groups

The null hypothesis (H_0) is accepted with a p value of 0.4179. There is no statistically significant difference in the impact of remote working across different age groups. It is noted that irrespective of age, millennials and older generations can perform their jobs remotely. Successful remote working is not a factor of age.

5.2.2. Hypothesis 2 - Perception of remote working culture (Univariate Test 2)

The second hypothesis was proposed to test the construct of “perception of remote working culture” (survey question Q6).

The null hypothesis was accepted with a p value of 0.361. Due to the split in perception with many respondents (34) indicating a positive perception and 24 respondents indicating an overall negative perception of remote work, it can be concluded that there is no statistical indication of a positive perception of remote work culture. This could be due to the respondents not being fully aware of what practices are acceptable in the remote environment. The organization needs to ensure that policies and procedures are implemented to guide remote workers.

With a greater number of respondents indicating a positive perception of remote working culture, this result can be correlated to the findings of Turetken et al. (2010) who reported significant cost benefits, along with improvements in employee motivation and work culture.

5.2.3. Hypothesis 3 – Job Satisfaction (Univariate Test 6)

The third hypothesis was proposed to test the construct of job satisfaction using survey questions Q17.1; Q17.2 and Q17.3. The aim was to assess the respondent’s direct perception of job satisfaction as well as satisfaction with colleagues and their respective managers.

The null hypothesis was rejected concluding that there was a positive response to job satisfaction. 82.1% of the respondents indicated a positive response to job satisfaction, 85.1% were content with their colleagues and 77.6% were content with their managers. It is therefore concluded that there is a positive correlation between job satisfaction and an employee’s contentment with their colleagues and manager.

The construct of job satisfaction and its correlation to literature has been discussed in 5.2 above. The positive correlation between job satisfaction and an employee's contentment with their colleagues and manager correlates to the construct of job embeddedness. This construct was developed by Mitchell *et al.*, (2001), and provided insight into the factors that encouraged employee retention. The Job Embeddedness concept found fit, links and sacrifice were the three main determinants that must be considered for internal embeddedness (related to the job) and external embeddedness (external environment or community). The concept of "Fit" correlates with this finding. Fit is related to internal embeddedness and considers individuals' values and career aspirations. It is defined by the employee's comfort levels with the workplace elements such as colleagues and their manager.

5.2.4. Hypothesis 4 – Job Embeddedness (Univariate Test 7)

The fourth hypothesis was proposed to test the construct of job embeddedness using the average of survey questions Q18.1; Q18.2 and Q18.3. The objective was to determine if the reported job embeddedness is statistically significantly greater than 0.

The null hypothesis was rejected concluding that there is an overall positive correlation to job embeddedness. 73.1% indicated a positive response to career alignment and an equal number of respondents felt valued by the organization. 77.6% responded positively to a cultural "fit" with the organization. It must be noted that 17 respondents responded negatively. Overall, there was a positive correlation between the aspects of job embeddedness.

It can be concluded that an employee that is not aligned with the organization will also not feel valued by the organization. While the researcher notes the negative existence, majority of the respondents positively correlate to the construct of job embeddedness.

This finding also correlates to the construct of job embeddedness developed by Mitchell *et al.*, (2001). It directly correlates to the concept of "Fit" discussed in 5.2.3 above.

5.2.5. Hypothesis 5 – Relationship between Job satisfaction (Q17) and Job embeddedness (Q18) (Univariate Test 8)

The fifth hypothesis was proposed to test if the reported overall scores for job satisfaction and job embeddedness were statistically significantly greater than 0.

The null hypothesis was rejected concluding a positive relationship between the constructs. 92.5% of respondents reacted positively to both job satisfaction and job embeddedness. The statistically significant positive response indicates a strong positive correlation between the constructs of job embeddedness and job satisfaction. From the survey results the researcher can conclude that employees who exhibit a high level of job satisfaction also exhibit a high level of job embeddedness and are less likely to seek alternate employment.

The relationship between job satisfaction and job embeddedness has been extensively discussed and correlated to literature in 5.2.3 above.

5.3. Discussion of Research Question 2 (RQ2)

Is remote working an appropriate response to the pandemic and how does it influence the organization's digital strategy.

This research question is an extension of RQ1, and the aim is to assess whether remote working has been adequately enabled. As previously mentioned, one of the key concerns is around how communication is structured, and whether there has been a shift in the level and method of communication within the teams.

Survey questions Q10; Q11; Q12 and Q13 were designed to answer this research question. The complete list of survey questions is available in Appendix 1.

The main themes of these survey questions are:

Q10 – Technology enablers for remote working

Q11 – Can the job be performed adequately via remote working

Q12 – Communication methods used by teams before COVID-19

Q13 – Communication methods used by teams after COVID-19

The Likert scale was used to assess Q10 and Q11. This entailed the calculation of performance scores. The researcher focuses on the particularly high performance scores obtained. The scores are summarised in Table 15.

Table 15: RQ2 Performance Scores

Survey Question Number	Sub Question	Performance Score
Q10	Engen technological provision	1.27
Q10	Access to relevant Engen data	1.27
Q10	IP & data protection stress	(-0.16)
Q10	Remote skills and knowledge	1.43
Q10	Support from Engen	1.13
Q11	My job can be performed remotely	0.79

Source: Authors' own research results

The average performance score is 0.96 across all dimensions measured and represents a positive sentiment. It must be noted that the performance score for one aspect of Q10 – IP and data protection stress was (-0.16), this represents a positive sentiment as the question was framed in the negative voice.

The results obtained indicates that employees hold a positive sentiment towards the information technology infrastructure that the organization is providing to successfully enable remote working. The employees also strongly indicated that their jobs can be performed remotely. This illustrates that the organization's digital strategy was aligned to remote working prior to the pandemic as remote working was a forced phenomenon during the pandemic. The organization had no time to plan for remote working at the start of the pandemic.

The results correlate with the literature surveyed in chapter 2. This is in keeping with the results obtained by the World-Wide Worx, (2020). According to the results of the (WWW) survey when remote working became compulsory only 37% of companies had a fully implemented strategy for digital transformation. For these companies the transition to remote working was seamless and employees had a positive experience and hence a positive sentiment towards information technology infrastructure. The results indicates that Engen had a well-developed digital infrastructure before the start of the pandemic.

Survey questions Q12 and Q13 were assessed using the method of communication and the increase or decrease in frequency. The “group shift in frequencies” has been summarised in Table 6. The researcher notes a negative shift in frequencies for:

- Meetings in person
- Physical documents handed to team members
- In person conversations

The findings of the survey correlate to the literature on the philosophies of remote working. According to Sobel and Reilly, 2020, virtual settings make tacit communication difficult. According to Sobel and Reilly, 2020, a common loss amongst managers is the informal interactions that occur at the coffee station or in the kitchen. According to Malhotra *et al.*, (2007) dialogues and decision making are initiated by informal discussions and “small talk” that occur during a normal, physical workday.

The shift in frequencies of communication illustrate this.

The researcher also notes a positive shift in frequencies for

- Meetings online
- Phone calls
- Microsoft teams interactions

Phone calls and Whatsapp communications have also shifted positively but the increase has not been as drastic as in the other modes of communication. The results remain comparable to the era prior to the introduction of remote working.

The trends noted above are expected in a remote working environment and in keeping with literature reviewed in chapter 2. It must be noted that there is a paradigm shift in the communication methods in the virtual environment.

5.3.1. Hypothesis 6 – Seniority level (Q5) vs Remote Job Performance (Q11) (Multivariate Test 4)

Survey questions Q5 and Q11 were used to test if the shift to remote working resulted in different job performance experiences for managers and non-managers. A contingency table was constructed between the two variables and the Chi-squared

test was done to test if the stresses are significantly different across different levels of seniority. The results are summarised in Table 10 and Table 11.

Based on the results the alternate hypothesis was accepted meaning that management's ability to perform their jobs are affected differently from non-management staff. There is a statistically significant difference in the ability required to conduct a management job verses a non-management job when working remotely. As per Table 11, the difference is more evident across level 4 managers as this management group shows a greater deviation from the expected frequencies.

The results obtained from the survey correlate to the literature reviewed in chapter 2. According to the findings of the World-Wide Worx (WWW) survey, the companies that had a fully implemented digital strategy reported a 70% increase in productivity. Although the survey was not designed to measure the increase or decrease in productivity, it can be deduced that that productivity has either increased or remain unchanged. It can therefore be concluded that based on the results obtained, remote working for this organization has been an appropriate short term response to the pandemic. The long term response requires more detailed studies, and the results could differ over a longer period.

5.4. Discussion of Research Question 3 (RQ3)

What leadership competencies are required to manage remote working during the pandemic

Research question three (RQ3) addresses the key constructs of leadership competencies in the remote environment. Survey questions Q14 and Q19 were designed to address RQ3. It must be noted that Q19 was also used in the analysis of RQ1 as it embodies components of job satisfaction and job embeddedness. The complete list of survey questions is available in Appendix 1.

Q14 assesses leadership competencies required to manage remote teams while Q19 examines some of the pain points or concerns that could affect remote working.

The Likert scale was used to assess Q14 and Q19. This entailed the calculation of performance scores. The performance scores are summarised in Table 16.

Table 16: RQ3 Performance Scores

Survey Question	Sub Question	Performance score
Q14	Manager feedback	0.85
Q14	Clear objectives	0.97
Q14	Clear communication	0.91
Q14	Consistent manager feedback	0.91
Q14	Consistent manager responsiveness	0.84
Q19	Overworking	0.61
Q19	Need for motivation	-0.58
Q19	Distractions at home	-0.66
Q19	Loneliness	-0.66
Q19	Communication issues	-0.73
Q19	Technology issues	-0.67
Q19	Inconsistent goals	-0.79
Q19	Too many deadlines	0.21
Q19	Time wasting activities	0.01
Q19	Unfulfilling job	-0.84
Q19	Manager's attitude	-0.40
Q19	Colleague's attitude	-0.24

Source: Authors' own research results

The is a less extreme indication across the RQ3 responses. This denoted by highest performance score at 0.97 (Q14 - clear objectives) and a lowest score of -0.84 (Q19- Unfulfilling job). It must be noted that the lowest score is for a negative sentence, hence the statement is equivalent to stating that the job is fulfilling.

There is a consistency in the responses to Q14 that indicate the leaders within the organization are creating a positive remote working environment. The leadership team within the organization must be commended for their ability to embrace and adapt to leading teams in the remote environment in a relatively short period of time. The respondents feel positive that leadership is setting clear goals and objectives and are providing the motivation and tools to succeed.

Q19 also indicates a consistency in individuals feeling positive towards their managers, colleagues, and their work environments.

Remote leadership has been discussed in the literature review in chapter 2. The results obtained for RQ3 agree with the findings of the study conducted by Holmberg and Petrelius, 2020. Their study focussed on determining how COVID-19 has affected

the leadership styles of 34 managers. They concluded that the most important qualities for managers to embrace during the pandemic is communication, trust in themselves as leaders and trust in their employees.

5.5. Discussion of Research Question 4 (RQ4)

Are employees adequately equipped to handle increased job demands that can lead to increased stress levels

RQ4 examines the effect of increased workload and stress as an aspect of employee wellbeing. This impacts the employee's ability to perform their jobs and is a central theme of this study. Employee wellbeing impacts employee retention, work-life balance, and job embeddedness.

Survey questions Q15 & Q16 were designed to answer this research question.

The main themes of these survey questions are:

Q15 – Employee Wellbeing – Work Stress

Q16 – Employee Wellbeing – Work-life balance

The Likert scale was used to assess Q15 and Q16. This entailed the calculation of performance scores. The performance scores obtained are summarised in Table 17.

Table 17: RQ4 Performance Scores

Survey Question	Sub Question	Performance score
Q15	Feeling of a lack of control	-0.52
Q15	Desire to give up	-1.30
Q15	Inability to stop working	0.00
Q15	Feelings of being trusted	-0.91
Q16	Personal life suffering	-0.45
Q16	Work suffers	-1.13
Q16	Work-life balance difficulty	-0.78
Q16	Personal time allocation	-0.04
Q16	Better work-life balance pre-COVID	0.18
Q16	Better work-life balance post-COVID	0.10

Source: Authors' own research results

Overall work-life balance insight is intractable from this question. Q15 has the highest performance score of 0.00 and lowest score of (-1.30 -desire to give up). 86.7% of

respondents expressed a negative sentiment to “desire to give up”. It must be noted that the low scores are for negative statements, hence the responses must be interpreted as positive. The responses received for Q15 suggests that work stress is not a major problem for the respondents.

In Q16 there is a strong rejection to the prospect of “work suffers” being affected, with a score of (-1.13). Again, these scores are for negative statements, hence the responses must be interpreted as positive.

With regards to the shift in work-life balance pre COVID verses post COVID there is an approximate balanced response when asked directly. This illustrates that employees have adjusted to remote working conditions and are able to balance work life and their personal lives. This also indicates that the respondents have attained a level of maturity and are able to set clearly defined boundaries between work and their personal lives to ensure balance in the remote working environment.

The findings of survey question RQ4, correlated to the studies done by Studies done by Fonner and Roloff (2010) and Contreras, Baykal and Abid (2020). These studies have shown positive outcomes of remote working on work-life balance and reduced stress levels. These findings contrast with the findings by Song and Gao (2018), that revealed remote working as more stressful and reduced levels of happiness.

5.5.1. Hypothesis 7 – Survey Question 16 – Work life balance (Univariate test 3)

This hypothesis was proposed to test the construct of work-life balance using survey question Q16. The following sub questions were used.

- Personal life suffering (Q16.1)
- Difficulty in separating work and non-work activities (Q16.3)
- Better work-life balance pre-COVID (Q16.5)

The objective is to determine if the perception of work-life balance has deteriorated after the introduction of COVID-19 and remote work. Univariate test 3 details the calculations and the assumptions made.

The null hypothesis was rejected, and the alternate hypothesis (H_1) was accepted. The p value was 0.060, were the observed t-statistic falling outside of the 95% confidence range. A positive score is equivalent to stating that the work-life balance has been challenging to maintain.

A total of 19 respondents (28.3%) held a score above 0, indicating a nett negative impact of remote working on a work-life balance. There were 42 respondents (62.7%) who experience a nett positive impact of remote working on work-life balance.

The results obtained from the hypothesis testing confirms the positive sentiments observed in the survey results for RQ4.

5.6. Discussion of Research Question 5 (RQ5)

What are the good practices that can be adopted post the pandemic to improve efficiency in the organization?

RQ5 was designed to test post pandemic preferences. Firstly, the question aimed to understand the respondents' thoughts on the impact of remote working on the functioning or operational activities of the organization. Secondly, the respondent's preference on the allocation of remote working they would prefer to retain if both the office and remote working were options available to them.

Survey questions Q20, Q21 and Q22 were designed to answer this research question.

The Likert scale was used to assess Q20. This entailed the calculation of a performance score to gauge the if the sentiment was positive or negative. A performance score of 0.97 was obtained (refer to Table 9). A total of 29 respondents (46%) agrees with remote working remaining a tool to be used, with the modal response being that the perception is for a "significant improvement of the functioning of the organisation". At total of 10 respondents (14.9%) indicated that they anticipate a decline in the functioning of the organisation because of remote working. An overall positive sentiment was noted.

The aim of Survey question 21 was to elicit a response on the respondent's preference to retain remote working as well as the preferred time allocation. The responses are summarised in Graph 7 with most respondents (29) preferring the option of full time

remote working (100%) as opposed to working from an office. The combined majority consensus, however, is a mixture of remote and in-office working.

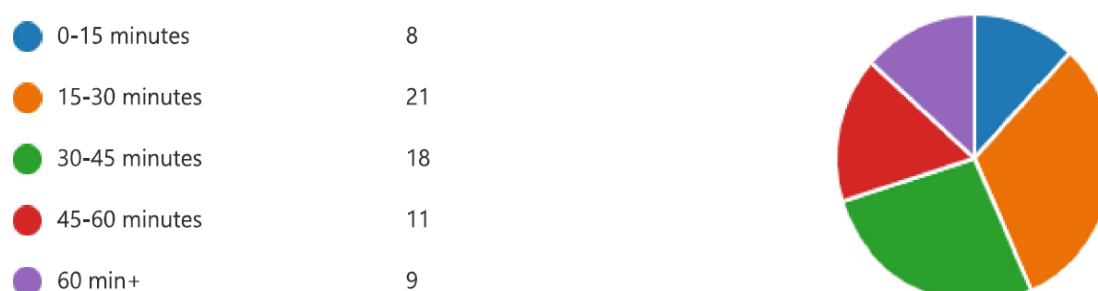
Graph 7: Summary of responses - Q21



Source: Authors' own research results

The aim of Q22 was to assess the relationship between travel time to the office and remote working. The number of respondents and the travel time in one direction is summarised below and in Graph 8.

Graph 8: Summary of responses Q22



Source: Authors' own research results

From the survey results obtained, it can be predicted that travel time to the office is regarded as a deterrent of overall interest in coming to the office. All respondents who indicated, 50% and less remote working time, live within 30 minutes of the office. Individuals living further away from the office tend to prefer a higher proportion of time remote working. This positive correlation indicates that the respondents have a rational preference of being interested in a higher percentage of remote work, when they live further away from the office.

The findings indicate a similar trend identified during the Global Work-from-Home Experience Survey, (2020). According to the results of the above mentioned survey,

respondents preferred remote working and reduced commuting to the office as it resulted in time saving and cost. It was also found to positively contribute to the triple bottom line (people, planet, and profit) of the organization.

5.7. Theoretical Correlation

This study is underpinned by the theoretical frameworks of job embeddedness, Maslow's theory of needs, systems theory, and perceived organization support.

5.7.1. Job Embeddedness (JE)

This theory of job embeddedness provides insight into the factors that encourage or contribute to employee retention (Mitchell *et al.*, 2001). The three determinants of job embeddedness are fit, links and sacrifice. This study only examined the construct of fit. This construct considers factors such as individual values, career plans and career aspirations. 77.6% of respondents responded positively to a cultural "fit" with the organization. 25.4% of respondents responded negatively. Conversely, majority of the respondents positively correlate to the construct of job embeddedness. Overall, there was a positive correlation between the aspects of job embeddedness.

5.7.2. Maslow theory of needs

Maslow's hierarchy of needs explains the motivation of individuals in the workplace. It hypothesizes that individuals have five levels of needs that must be attained. These needs are physiological, safety, love and belonging, self-esteem and self-actualization (Maslow, 1981).

While the study did not explicitly examine Maslow's theory of needs, there was an implicit application of the theory. Employee motivation has a direct impact on job productivity. The construct of job productivity was statistically analysed, and it was concluded that there was an increase in productivity with the adoption of remote working.

5.7.3. Systems theory

Systems theory explains the interdependencies and the relationships between a system (the organisation), its components (employees) and the environment.

Communication at an internal, external and inter organizational level is essential to the organization's growth and efficiency

Organizations need to develop communication processes that facilitates the exchange of information from internal and external sources. This helps the organisation to adapt to changing environments. The current pandemic is a rare event that encourages organizations to review and revise current practices and response mechanisms for future incidents (Lai and Huili Lin, 2017). Crisis management such as the COVID 19 pandemic has also become a major empirical application of systems theory. Organizations can use systems theory to study the aftermath of the pandemic. The understanding of the diverse use of systems theory allows stakeholders to examine in hindsight how the pandemic was handled by the organization. It enables the organization to develop foresight and crisis management plans that will assist the organization in future crisis situations.

Communication by leadership and management is crucial during the time of a crisis. Survey questions Q12 and Q13 were designed to assess the method of communication and the increase or decrease in frequency. The results reveal a paradigm shift in the methods of communication in the remote environment. The adoption of remote working and the introduction of new cloud based technology solutions clearly demonstrates the organization's ability to adapt to the environmental changes that the pandemic has introduced. By doing this the organization has demonstrated the use of systems theory.

5.7.4. *Perceived organization support*

Perceived organizational support (POS) is an important concept that considers the extent to which organizations provide support for their employees' contributions to the organization and considers how the organization provides for the employees' welfare. According to Rhoades and Eisenberger (2002) the dimensions of POS are justice, support of superiors, rewards from the organization and work conditions.

Perceived organizational support received from the organization becomes helpful in reducing the negative influence of remote work on work-life balance.

The construct of perceived organizational support was tested by survey question Q16 - work-life balance, Q9 – factors enabling successful remote working and Q10 – technology as an enabler for successful remote working. The overall responses to the above survey questions were positive indicating that the organization provided the required support to its employees. This is also illustrated by the balanced response received for with regards to the shift in work-life balance pre COVID verses post COVID.

5.8. Summary

The researcher utilized the results of the survey to statistically test the constructs of job productivity, perception of remote working culture, job satisfaction and job embeddedness. These constructs underpinned the broader concepts of employee wellbeing and work-life balance. Leadership competencies and the organizations digital strategies were also examined as an enabler to employee wellbeing and work-life balance. With an increased number of employees working remotely it is important for management to understand the relation between remote working, employee wellbeing and work-life balance.

The researcher also linked the theoretical frameworks to the results obtained from the online surveys

CHAPTER SIX:

CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the key findings of the study, limitations of the study, suggestions for future research and conclusion.

6.1. Key findings

The study has revealed several key findings through the use of electronic data analysis and by the analytic mapping of the Likert scale into numeric figures.

There has been a notable shift because of remote working in types of engagement, communication methods, and the work pressure on employees. Employees are coping well with the shift, with consistent disagreement of negative assertions and consistent agreement with positive work, and personal associations, such as work-life balance and overall productivity.

Engen employees have managed to use their own efforts and the support from Engen to enable successful remote working environments that maintain positive remote work interactions. There has been a statistically significant increase in productivity, and work-life balance. The data suggests that the most consistent negative shift in the remote working environment has been an increase in workload. The increase in workload could have caused the increase in productivity. The positive perception held by employees at Engen is indicative of management creating a positive remote working environment that allows for an increase in productivity, positive work-life balance, and increased job satisfaction.

The perception of the remote-work culture is lower than the office based work culture. This could be attributed to employees viewing the current remote working situation as a short term response to the pandemic and have not fully embraced the culture of remote working. This also implies that management needs to invest in a substitute for “water cooler conversations” and similar social interactions that are lacking in the remote working environment.

6.2. Limitations of study

Due to the use of non-probability sampling, the results from the tests conducted are not generalisable to the full population. The study was confined to Engen Petroleum Limited South Africa and not to the rest of Africa and the world. The time horizon adopted for the study was cross sectional as the results were required in a short period of time and hence the study could not delve into the rest of Africa and the world.

Survey questions requesting perspective on ability to do the job, allowed for participants to give a biased and potentially unrepresentative view of reality. In addition, the global perspective may be better understood by managers as opposed to non-managers. This may lead to a manager rating their ability more poorly than a non-manager.

Respondent's biases in the Likert scale may be present. The researcher is cognisant that questions are subject to potential issues that may include a restricted choice of predetermined responses, subjective interpretation that may differ by respondent, fatigue, or inattention due to the length of the survey and finally response bias in which respondents may feel a need to represent themselves in a more favourable manner.

Finally, the demographics did not account for the ethnicity of the respondents. This has been identified as a limitation of the study. Different ethnic groupings within the Engen workforce will react differently to remote working.

6.3. Future research

To gauge the true effect of remote working on employee retention, work-life balance and employee well-being warrants a post pandemic study to allow for the comparison of results pre and post the pandemic. There are also aspects of remote working that require longitudinal studies such as productivity, organizational cohesion, physical and mental health.

The study highlights the effect of job embeddedness on employee retention. To further assist management, it is recommended that future research be done on the determinants of fit, links and sacrifice to understand which determinant is most effective in increasing employee retention.

It is also recommended that a qualitative study utilizing interviews be conducted to allow for a wider range of responses. This may provide further insights on the constructs of employee wellbeing, work-life balance, and employee retention as the researcher can pose open-ended questions that permit the participants greater freedom in their responses.

6.4. Recommendations

- Considering that managers lacked trust, this study recommends that the building of trust between managers and employees will assist in determining the effectiveness of remote working. Remote working arrangements must be formalised and adhered to so that both parties benefit from it.
- The recommendation for managers to explore innovative ways of improving communication will ensure remote workers are included in the ongoing activities and processes of the organisation.
- Remote meetings can be challenging therefore discipline regarding discussions must be maintained. Meeting agendas must be agreed to before the meetings to ensure effective time management, seamless communication, and effective contributions from participants.
- The organization should have mechanisms in place to inform office-based workers and other remote colleagues about the availability of remote workers should the person be on leave or absent from work.
- Considering that organization does not have direct control of the remote workers home environment, it is recommended that the organization has an awareness of the setup that remote workers have at their homes to provide the required human resource support, equipment, and time management skills.
- Given that remote working can pose a communication challenge, it is recommended that the organization must have guidelines on regular communication and feedback from remote workers to their managers, their remote colleagues, and other office-based colleagues without creating difficulties.

- The organization needs to provide trained personnel that will assist remote workers with settling into the mode of remote working, setting management and employee expectations as well measuring and evaluating their performance and productivity.

To emulate the office environment and create boundaries remote workers can adopt physical, behavioural, temporal, and communicative strategies (Biron and Van Veldhoven, 2016). These strategies will help remote workers develop boundaries that will safeguard their work and personal time.

- Physical strategies entail the use of a separate room with a separate computer and telephone that avoids the risk of work encroaching on personal time
- Temporal requires the setting up of appointments to plan the workday and limit time at work to the agreed working hours.
- Behavioural strategies require developing a disciplined approach to work activities. Ensuring that work activities are restricted to working times only. Ensuring that maximum output and productivity is achieved during the allocated working hours.
- Communicative strategies require that family members be aware of work times and there must be clearly defined boundaries with respect to space and time.

6.5 Conclusion

From the results of this study the researcher can conclude that both managers and staff members have made a positive transition to remote working. This was not the belief at the beginning of the study. There has been an increase in job satisfaction, productivity has improved or remained the same, and the frequency and methods of communication have increased. Overall, there is a positive future for remote working.

Although there is a large amount of people that have indicated a preference for remote working, there is an equivalent amount that have opted for a mixture of remote and office based work. This could be the result of employees wanting social interactions with their colleagues. The results of the survey also highlight those employees living further away from the office prefer a larger proportion of remote working. This could be attributed to the time and cost of commuting to the office. Greater flexibility is

expected from managers to help employees create an optimal balance between office and remote work.

The findings of this study correlate with the literature reviewed as well as previous research studies. Given the positive findings of this study, the researcher believes that remote working will continue post the pandemic if managers and staff members remain flexible and adaptable.

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APPENDIX 1: SURVEY QUESTIONNAIRE

CONSENT: Please select your choice below. You may print a copy of this consent form for your records. Clicking on the “Agree” button indicates that

- You voluntarily agree to participate
- You may refuse to take part in the survey or exit the survey at any time without penalty
- You are free to decline to answer any question/s you do not wish to answer for any reason.
- You will receive no direct benefits from participating in this research study
- You are 18 years of age or older
- You are an Engen employee

☐ Agree

☐ Disagree

1. What is your age? _____

2. What is your gender

a) Male b) Female c) Non- binary d) Prefer not to say

3. How long have you been employed at Engen? _____

4. Department: _____

5. Seniority level

a) Staff member b) Level 4 Manager c) Level 3 Manager d) Exco

EXPERIENCE WITH REMOTE WORKING (RQ1)

6. We acknowledge a general shift in workers in technical/support functions moving into a remote working environment. What is your perception of the remote-work culture which has been created from COVID-19?"

Highly negative	Negative	Neither positive nor negative	Positive	Highly positive
1	2	3	4	5

7. How productive were you while working remotely?

Substantially less than in the office	Somewhat less than in the office	Same as working in the office	Somewhat more than in the office	Substantially more than in the office
1	2	3	4	5

8. Describe your workload when working remotely

Substantially smaller than your normal workload	Somewhat smaller than your normal workload	Same as your normal workload	Somewhat more than your normal workload	Substantially more than your normal workload
1	2	3	4	5

FACTORS ENABLING SUCCESSFUL REMOTE WORKING (RQ1)

9. With respect to remote working, indicate if you agree or disagree with the following statements:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
9.1 I have a good relationship with my remote colleagues	1	2	3	4	5
9.2 I am closely connected to my team	1	2	3	4	5
9.3 I have a dedicated noise free area at home to perform my work	1	2	3	4	5
9.4 I possess the discipline to be productive when working remotely	1	2	3	4	5
9.5 I have my manager's trust when working remotely	1	2	3	4	5

TECHNOLOGY AS AN ENABLER FOR SUCCESSFUL REMOTE WORKING (RQ2)

10. With respect to technology enablers, indicate if you agree or disagree with the following statements:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
10.1 Engen has provided me with the technology I need to perform my work successfully	1	2	3	4	5
10.2 I have reliable access to the relevant Engen data and persons to do my job	1	2	3	4	5
10.3 I have increased stress because of IP, including data being less protected at my home vs in the office	1	2	3	4	5

10.4 I have the required skills and knowledge of technology to successfully work remotely	1	2	3	4	5
10.5 I receive adequate support from Engen when I experience hardware or software problems.	1	2	3	4	5

11. In your opinion, your job can be adequately performed remotely, and does not suffer because of the shift to remote working. (RQ2)

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

12. Before COVID-19 the communication methods listed below were used to communicate and interact with your team. Please indicate how frequently you used them. (RQ2)

Statement	Multiple times per day	Approximately once per day	Multiple times per week	Approx. once per week	Never
12.1 Meetings in the office	1	2	3	4	5
12.2 Meetings online (MS Teams, Skype)	1	2	3	4	5
12.3 Phone calls	1	2	3	4	5
12.4 Physical documents handed across to team members	1	2	3	4	5
12.5 Whatsapp messages & documents sent via Whatsapp	1	2	3	4	5
12.6 MS Teams messages & documents sent via MS Teams	1	2	3	4	5
12.7 In person conversations	1	2	3	4	5

13. During COVID-19 the communication methods listed below were used to communicate and interact with your team. Please indicate how frequently you used them. (RQ2)

Statement	Multiple times per day	Approx. once per day	Multiple times per week	Approx. once per week	Never
13.1 Meetings in the office	1	2	3	4	5
13.2 Meetings online (MS Teams, Skype)	1	2	3	4	5
13.3 Phone calls	1	2	3	4	5
13.4 Physical documents handed across to team members	1	2	3	4	5
13.5 Whatsapp messages & documents sent via Whatsapp	1	2	3	4	5
13.6 MS Teams messages & documents sent via MS Teams	1	2	3	4	5
13.7 In person conversations	1	2	3	4	5

LEADERSHIP COMPETENCIES REQUIRED TO MANAGE REMOTE WORKING (RQ3)

14. Please indicate the extent to which you agree or disagree with the following

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
14.1 My manager provided regular feedback on work performance	1	2	3	4	5
14.2 My manager set clear objectives and provided clear deadlines	1	2	3	4	5
14.3 My manager communicated the terms and conditions for remote working i.e. availability and working hours	1	2	3	4	5
14.4 Senior management provided regular feedback on organizational performance during the pandemic	1	2	3	4	5
14.5 Senior management responded promptly to ensure job security and maintain financial security of the company	1	2	3	4	5

EMPLOYEE WELLBEING: WORK STRESS (RQ4)

15. Please indicate the extent to which you agree or disagree with the following:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
15.1 Remote working makes me feel that some things are beyond my ability and outside my control	1	2	3	4	5
15.2 Remote working makes me feel like I want to give up on work	1	2	3	4	5
15.3 Remote working makes me feel like I am unable to stop working	1	2	3	4	5
15.4 Remote working makes feel frustrated	1	2	3	4	5

EMPLOYEE WELLBEING: WORK LIFE BALANCE (RQ4)

16. Please indicate the extent to which you agree or disagree with the following:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
16.1 Remote working makes my personal life suffer	1	2	3	4	5
16.2 During remote working my work suffers because of my personal life	1	2	3	4	5
16.3 I find it difficult to separate work and non-work activities when working from home	1	2	3	4	5
16.4 I set aside enjoying personal time to do work when working from home.	1	2	3	4	5
16.5 I enjoyed a better Work-life balance BEFORE COVID-19	1	2	3	4	5
16.5 I enjoy a better Work-life balance AFTER COVID-19	1	2	3	4	5

EMPLOYEE RETENTION – JOB SATISFACTION (RQ1)

17. Please indicate the extent to which you agree or disagree with the following:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
17.1 My current job is satisfying	1	2	3	4	5
17.2 I am content with my team of co-workers.	1	2	3	4	5
17.3 I am satisfied with my current manager	1	2	3	4	5

EMPLOYEE RETENTION – JOB EMBEDDEDNESS (RQ1)

18. Please indicate the extent to which you agree or disagree with the following:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
18.1 My individual values and career aspirations are a fit with the organization	1	2	3	4	5
18.2 I feel valued by the organization	1	2	3	4	5
18.3 I fit in with the organization's culture	1	2	3	4	5

19. Please indicate the extent to which you agree or disagree with the following concerns / pain points in the current working environment (RQ1/ RQ3)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
19.1 Overworking	1	2	3	4	5
19.2 Need for constant Motivation	1	2	3	4	5
19.3 Distractions at home	1	2	3	4	5
19.4 Loneliness	1	2	3	4	5
19.5 Communication issues	1	2	3	4	5

19.6 Technology issues	1	2	3	4	5
19.7 Inconsistent goals from manager	1	2	3	4	5
19.8 Too many deadlines	1	2	3	4	5
19.9 Time wasted on non-value adding work	1	2	3	4	5
19.10 Unfulfilling job role	1	2	3	4	5
19.11 Managers Attitude/approach	1	2	3	4	5
19.12 Colleagues Attitude/approach	1	2	3	4	5

POST PANDEMIC PRACTICES (RQ5)

20. Do you think that remote working in the future will:

Significantly decline the functioning the organization	Somewhat decline the functioning the organization	Neither improve nor decline the functioning the organization	Slightly improve the functioning of the organization	Significantly improve the functioning of the organization
1	2	3	4	5

21. Indicate preference to retain remote working post COVID.

100% remote	75% remote	50% remote	25% remote	0% remote
1	2	3	4	5

22. How much of time does it take you to travel between home and work (in one direction)

0-15 min	15-30 min	30-45 min	45-60 min	60 min+
1	2	3	4	5

APPENDIX 2: RESPONSE TO SURVEY QUESTIONNAIRE

Please note that due to the “Consent” being added as number 1 on the online survey the question numbering differs from the question numbers in Appendix 1. For example question 1 in Appendix 1 is question 2 in Appendix 2. Hence all questions numbers in Appendix 2 have moved up by one.

Please note that all references to the survey questions in the document are based on the question numbering in Appendix 1

12/11/21, 12:13 PM

MASTERS RESEARCH QUESTIONNAIRE (Edit) Microsoft Forms

Forms(<https://www.office.com/launch/forms?auth=2&from=FormsDomain>)

? AS

MASTERS RESEARCH QUESTIONNAIRE

67

Responses

20:10

Average time to complete

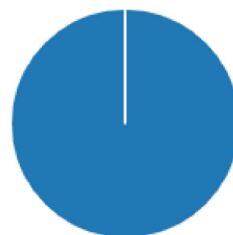
Active

Status

1. **Please select your choice below. You may print a copy of this consent form for your records. Clicking on the “Agree” button indicates that :**

- You voluntarily agree to participate
- You may refuse to take part in the survey or exit the survey at any time without penalty
- You are free to decline to answer any question/s you do not wish to answer for any reason
- You will receive no direct benefits from participating in this research study
- You are 18 years of age or older
- You are an Engen employee

● Agree	67
● Disagree	0



2. What is your age?

 Insights

67

Responses

Latest Responses

"44"





"59"

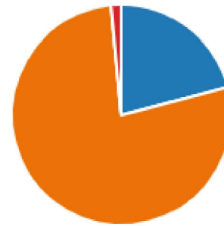
"35"

5 respondents (8%) answered **47** for this question.

3. What is your gender ?

 Insights

	Female	14
	Male	52
	Non-binary	0
	Prefer not to say	1



4. How long have you been employed at Engen ?

 Insights

67

Responses

Latest Responses

"10"

"19 years"

"12 years"

38 respondents (62%) answered **years** for this question.



5. Department

 Insights

67

Responses

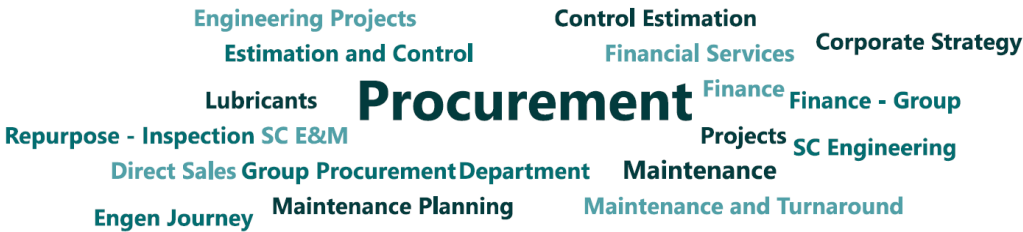
Latest Responses

"Engineering"

"Procurement"

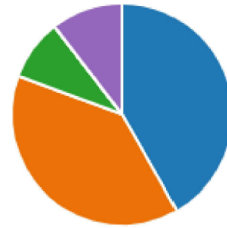
"Procurement"

17 respondents (28%) answered **Procurement** for this question.



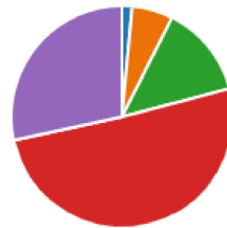
6. Seniority level

Staff member	28
Level 4 Manager	26
Level 3 Manager	6
Exco	0
Other	7



7. We acknowledge a general shift in workers in technical/support functions moving into a remote working environment. What is your perception of the remote-work culture which has been created from COVID-19?"

Highly negative	1
Negative	4
Neither positive nor negative	9
Positive	34
Highly positive	19



8. How productive were you while working remotely?

Substantially less than in the office	0
Somewhat less than in the office	4
Same as working in the office	9
Somewhat more than in the office	25
Substantially more than in the office	29



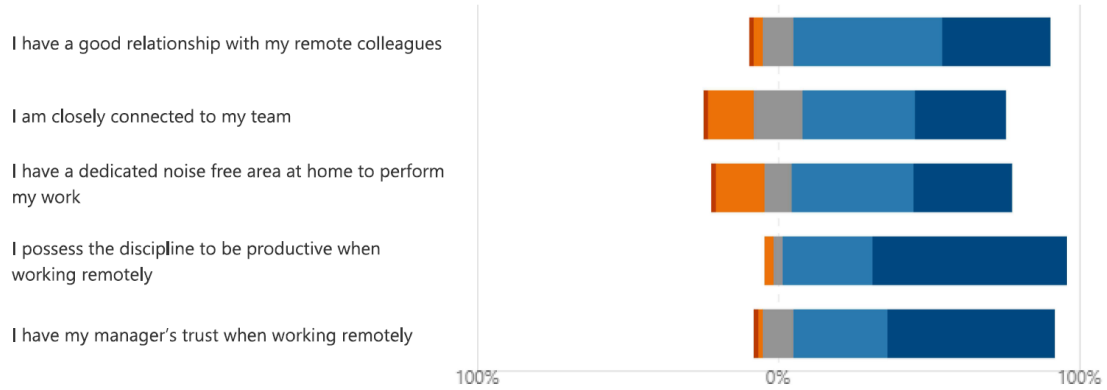
9. Describe your workload when working remotely

Substantially smaller than your normal workload	0
Somewhat smaller than your normal workload	1
Same as your normal workload	7
Somewhat more than your normal workload	27
Substantially more than your normal workload	32



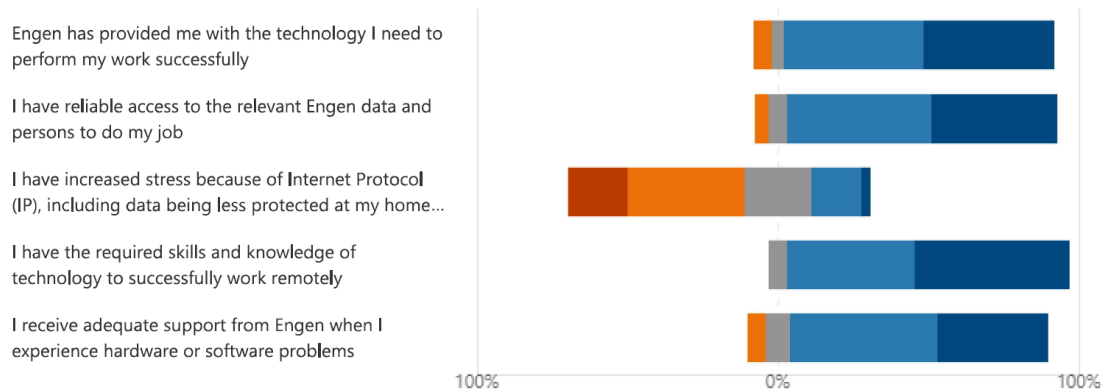
10. With respect to remote working, indicate if you agree or disagree with the following statements

Strongly Disagree Disagree Neutral Agree Strongly agree



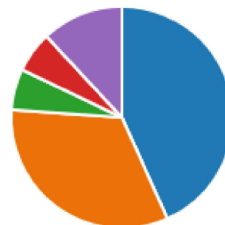
11. With respect to technology enablers, indicate if you agree or disagree with the following statements:

Strongly Disagree Disagree Neutral Agree Strongly Agree

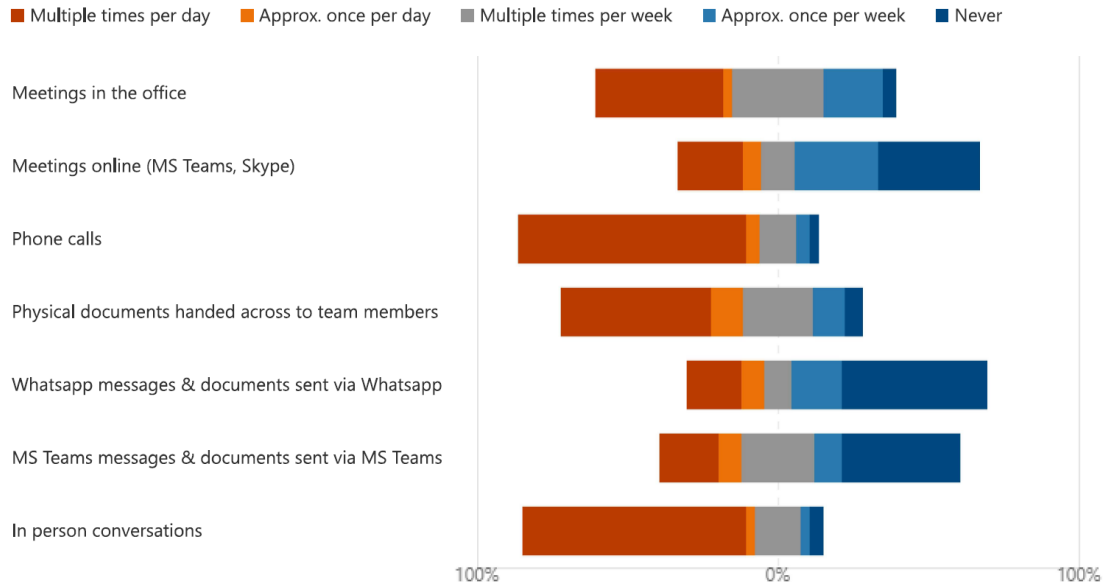


12. In your opinion, your job can be adequately performed remotely, and does not suffer because of the shift to remote working. (RQ2)

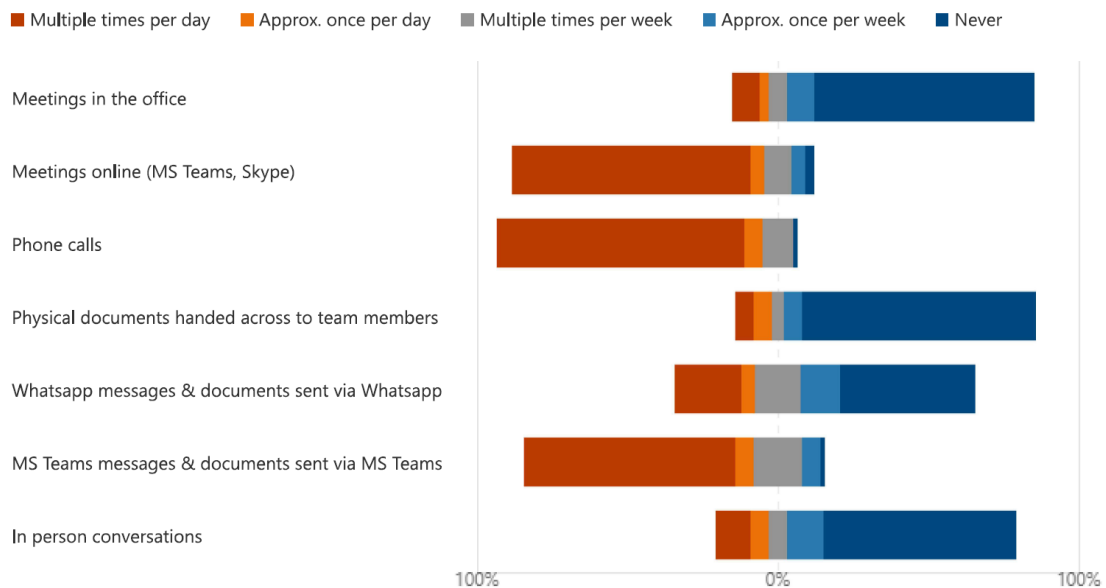
Agree	29
Strongly agree	22
Neutral	4
Disagree	4
Strongly disagree	8



13. Before COVID 19 the communication methods listed below were used to communicate and interact with your team. Please indicate how frequently you used them. (RQ2)



14. During COVID 19 the communication methods listed below were used to communicate and interact with your team. Please indicate how frequently you used them. (RQ2)



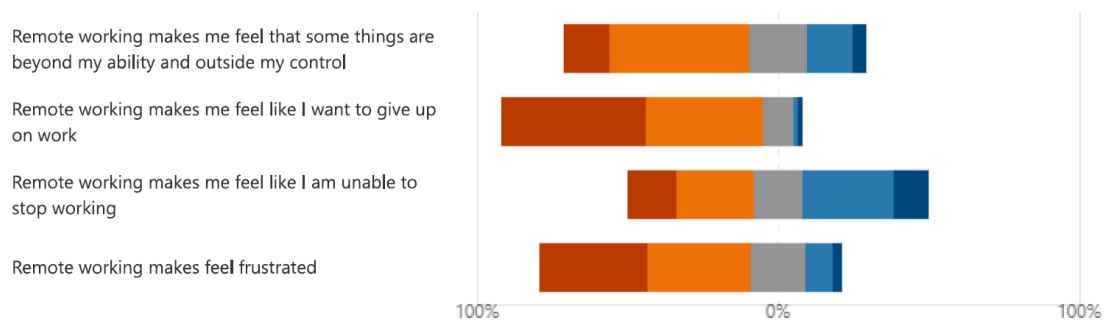
15. Please indicate the extent to which you agree or disagree with the following

Strongly Disagree Disagree Neutral Agree Strongly agree



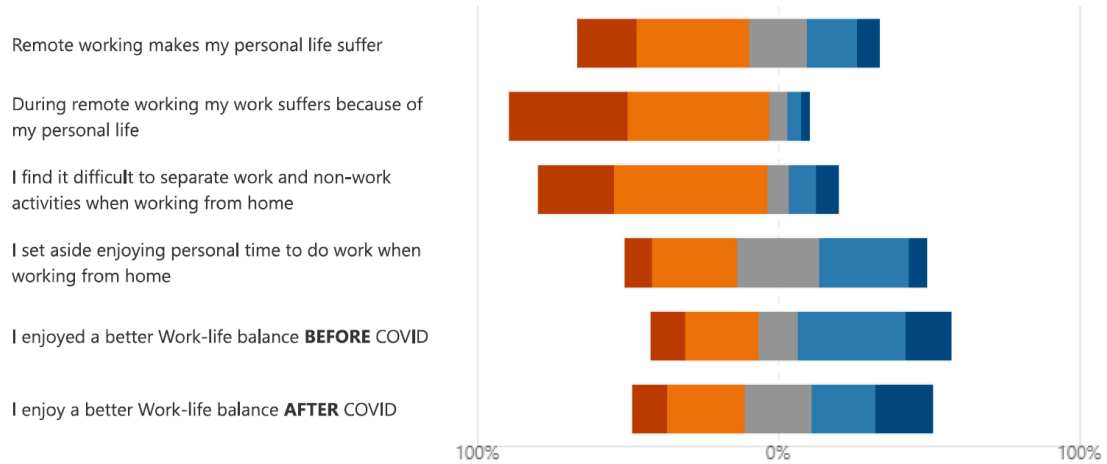
16. Please indicate the extent to which you agree or disagree with the following:

Strongly Disagree Disagree Neutral Agree Strongly agree



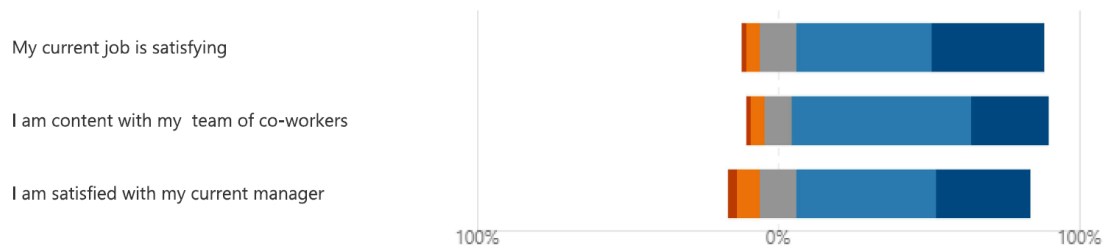
17. Please indicate the extent to which you agree or disagree with the following:

Strongly Disagree Disagree Neutral Agree Strongly agree



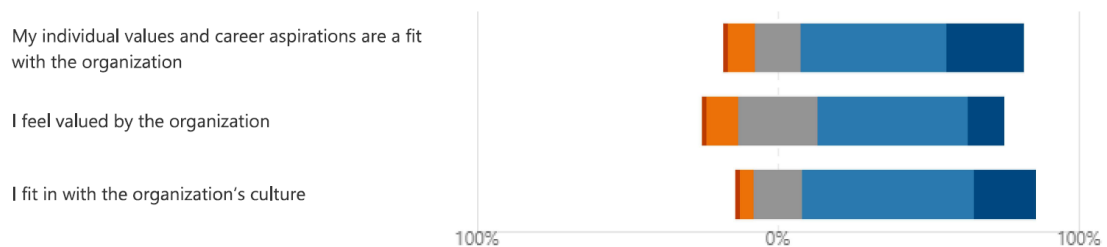
18. Please indicate the extent to which you agree or disagree with the following:

Strongly Disagree Disagree Neutral Agree Strongly agree

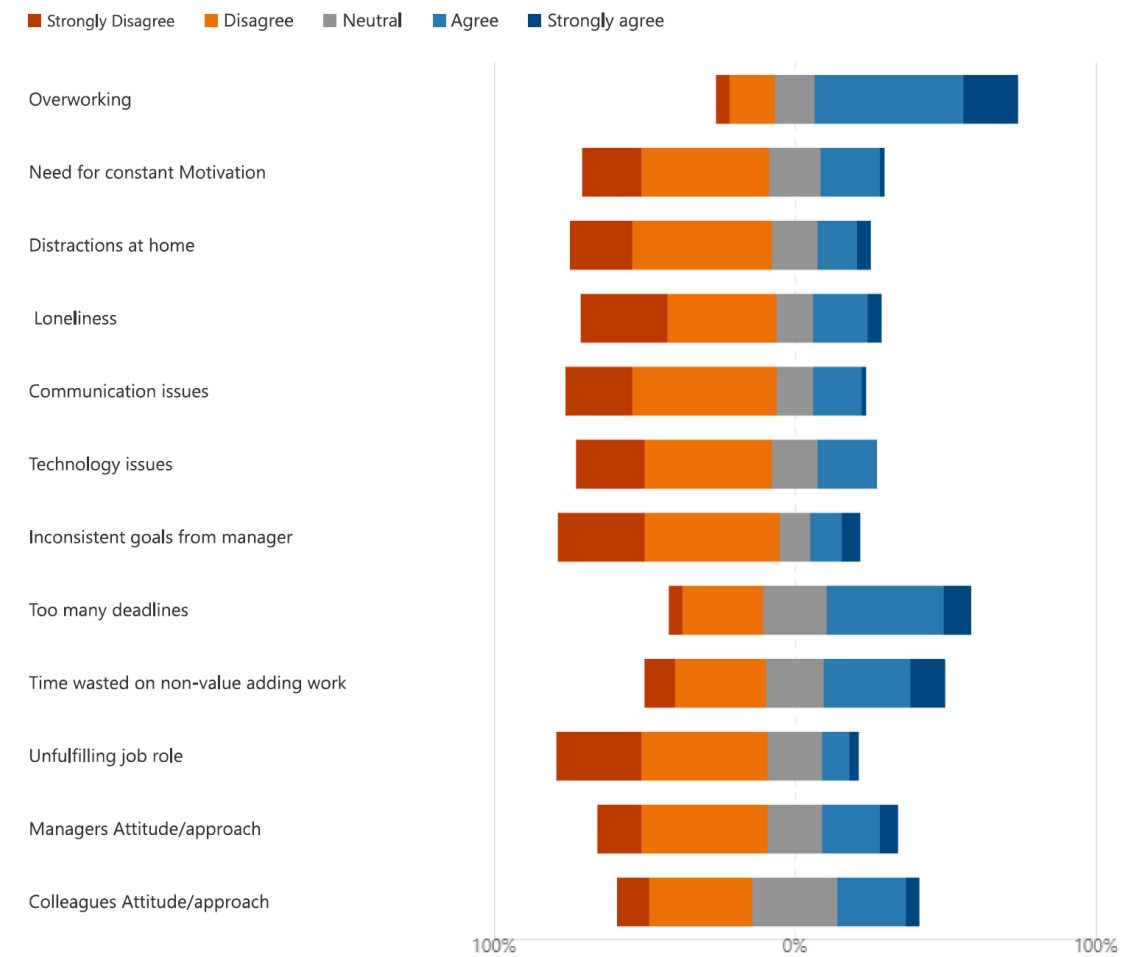


19. Please indicate the extent to which you agree or disagree with the following:

Strongly Disagree Disagree Neutral Agree Strongly agree



20. Please indicate the extent to which you agree or disagree with the following concerns / pain points in the current working environment (RQ1/ RQ3)



21. Do you think that remote working in the future will:

- Significantly decline the functi...

0
- Somewhat decline the functio...

10
- Neither improve nor decline t...


11
- Slightly improve the functioni...

17
- Significantly improve the func...

29



22. Indicate preference to retain remote working post COVID.

100% remote 	29
75% remote	20
50% remote	14
25% remote	4
0% remote	0



23. How much of time does it take you to travel between home and work (in one direction)

0-15 minutes	8
15-30 minutes	21
30-45 minutes	18
45-60 minutes	11
60 min+	9



APPENDIX 3: ETHICAL CLEARANCE



14 November 2021

Sudhir Rajendrapersadh Mohan (931318023)
Grad School Of Bus & Leadership
Westville Campus

Dear SR Mohan,

Protocol reference number: HSSREC/00003572/2021

Project title: The impact of remote working in Engen Petroleum Limited South Africa emanating from the COVID 19 pandemic

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 03 November 2021 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

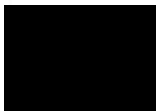
This approval is valid until 14 November 2022.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,








Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: hssrec@ukzn.ac.za Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

APPENDIX 4: GATE KEEPERS LETTER

Engen Petroleum Limited
Engen Court, Thibault Square
PO Box 35, Cape Town, 8000
Reg. No. 1989/003754/06
Tel: +27 (0)21 403 4911 Fax: +27 (0)21 403 5999
www.engenoil.com

04 November 2021

To whom it may concern

CONFIDENTIALITY AGREEMENT BETWEEN SUDHIR MOHAN AND ENGEN PETROLEUM LTD

This letter serves to acknowledge that Sudhir Mohan (Company number 76025) is hereby given permission to conduct research within Engen Petroleum Ltd for the purpose of obtaining his Master's in Business Administration (MBA) degree at the University of KwaZulu Natal. The following topic has been approved and supported by the organization for an employee to continue and investigate within the premises of the company:

The Impact of Remote Working in Engen Petroleum Limited South Africa Emanating from the COVID 19 Pandemic

The above approval is given provided Mr Sudhir Mohan adheres to the following conditions of access:

- Maintains the privacy and confidentiality of all accessible data and understands that unauthorized disclosure of confidentiality data may result in disciplinary, civil and/or criminal actions against him.
- May not disclose data or information to anyone other than those to whom he is authorized to do so.
- Should his employment be terminated or his work in relation to the project discontinues for any reasons, he will continue to be bound by his signed Confidentiality Agreement.

Requested by: Sudhir Mohan

Signed: Date ..04 November 2021..

Designation: Category Manager – Engineering Services

Approved by: Thabani Zondi

Signed: Date 05 November 2021

Designation: HR Manager – Engen Refinery

Email: thabani.zondi@engenoil.com

Telephone : 031-4603306

APPENDIX 5: TURNITIN SIMILARITY INDEX

MBA Dissertation - Final

ORIGINALITY REPORT

8%

SIMILARITY INDEX

8%

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