



What is the perceived impact of Covid-19 regulations
pertaining to entry-level employees in the office interior design
environment?

By

Maresa Maartens



A research project submitted in fulfilment of the requirements for the
BA Honours in Interior Design

at the

Independent Institute of Education: Vega School

Supervisor: JD Eksteen

Module: RESE8419

Submission date: December 2022

Word Count: 13 615

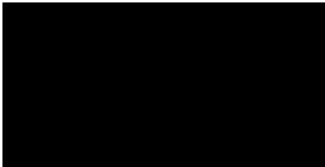
ABSTRACT

The purpose of this study is to determine the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment. More specifically, whether the employees work performance and well-being are affected by the implementation of the Covid-19 protocols. The study aims to explore what makes the ideal office environment through investigating the design theory of “prospect and refuge”. Furthermore, evidence-based design will be explored to further understand the surrounding debates of open-plan offices versus cellular office layouts, and lastly, Indoor Environment Quality (IEQ) will be explored to investigate the impact of the office interior environment on employee performance and well-being. The study reviews existing literature to gain a deeper understanding of the problem in a South African context, where South African office spaces are discussed pre- and post-Covid-19. Two data collection methods were used in the qualitative study, namely, focus groups and interviews, in hopes to determine the perceived impact of Covid-19 regulations pertaining to entry-level employees. As a result, four key themes were derived from the findings namely, the office layout and productivity; the ideal office environment; Covid-19 and the office environment; and offices that support remote working. The exploratory study aims to possibly contribute to a deeper understanding of the phenomenon. Furthermore, the study could prove beneficial to organisations as a decrease in workplace productivity could be detrimental to the business. Employees could benefit from the research as an improvement could be made as the research findings prove that Covid-19 regulations do impact their perceived well-being and performance. The anticipated contribution of the study is to add to the existing body of knowledge regarding office layouts and to contribute to the elimination of a gap in the present literature regarding the new challenges faced in the work environment due to the global pandemic. Furthermore, the study can be further explored where more research can be conducted on flexible office environments.

Key words: Office Environment, Well-being, Entry-level employee, Employee performance, High performance workplace, Productivity, Covid-19 regulations, Perceived impact

DECLARATION

I hereby declare that the research report submitted for the BA Honours in Interior Design to The Independent Institute of Education (The IIE) is my own work and has not previously been submitted to another University or Higher Education Institution for a postgraduate qualification.

A solid black rectangular box used to redact the signature.

02/12/2022

Signature

Date

Table of Contents

ABSTRACT	I
DECLARATION	II
TABLE OF CONTENTS.....	III
LIST OF TABLES	VI
LIST OF FIGURES.....	VII
LIST OF ANNEXURES	VIII
 CHAPTER 1: INTRODUCTION	 1
1.1. Introduction	1
1.2. Contextualisation	1
1.3. Rationale and Relevance	1
1.4. Problem Statement.....	2
1.5. Purpose Statement.....	2
1.6. Research Question.....	2
1.6.1. Primary Research Question	2
1.6.2. Secondary Research Questions	2
1.7. Aims and Objectives.....	2
1.8. Chapter Summary	3
 CHAPTER 2: LITERATURE REVIEW	 4
2.1. Introduction	4
2.2. Conceptualisation.....	4
2.2.1. Well-being	4
2.2.2. Employee Performance	5
2.2.3. High-Performance Workplace	6
2.3. Theoretical Foundation.....	6
2.3.1. Prospect-Refuge Theory.....	7
2.3.2. Evidence-Based Design	7
2.3.3. Indoor Environmental Quality.....	8
2.4. Literature Review	9
2.4.1. Introduction.....	9

2.4.2. The Impact of the Office Environment on Productivity.....	9
2.4.2.1. Indoor Air Quality (IAQ).....	10
2.4.3. Open-Plan Office versus Cellular Office Layout on Productivity	12
2.4.4. South African Office Spaces pre-Covid-19 and post-Covid-19.....	13
2.5. Chapter Summary	15
CHAPTER 3: METHODOLOGY	16
3.1. Introduction	16
3.2. Research Paradigm.....	16
3.3. Research Design/Approach.....	17
3.4. Population	19
3.5. Sampling	20
3.6. Data Collection	21
3.6.1. Data Collection Methods.....	21
3.6.2. Application of the Data Collection Methods.....	22
3.7. Data-Analysis Method	23
3.7.1. Preparing the data	24
3.7.2. Defining the coding unit to be analysed	24
3.7.3. Developing categories and a coding scheme.....	24
3.7.4. Testing your coding scheme on a sample text	25
3.7.5. Coding all text.....	25
3.7.6. Assessing your coding consistency	25
3.7.7. Drawing conclusions from the coded data (interpreting your data).....	26
3.7.8. Reporting your methods and findings	26
3.8. Trustworthiness in Qualitative Studies.....	26
3.8.1. Credibility.....	26
3.8.2. Transferability	26
3.8.3. Dependability.....	27
3.8.4. Confirmability.....	27
3.9. Chapter Summary	27
CHAPTER 4: FINDINGS AND INTERPRETATION.....	28
4.1. Introduction	28
4.2. Analysis of Findings from the Interview Data	28
4.2.1. Participation and Response Rate in Interviews	28
4.2.2. Interview Data: Emerging Themes.....	29
4.3. In Compliance with Trustworthiness	39

4.4. Chapter Summary	39
CHAPTER 5: CONCLUSION.....	41
5.1. Introduction	41
5.2. Research Question and Objectives Addressed.....	41
5.2.1. Secondary Questions	41
5.2.2. Primary Question.....	43
5.3. Anticipated Contribution	43
5.4. Ethical Considerations.....	44
5.4.1 Ethical issues pertaining to participants include:	44
5.4.2. Ethical issues pertaining to researcher include:	45
5.5. Limitations	45
5.6. Chapter Summary	46
REFERENCES.....	47
ANNEXURES.....	54

List of Tables

Table 1: Proposed and Actual Interview Participants	30
---	----

List of Figures

Figure 1: What High-Performance Workplaces Do Differently. (Desimone, 2019)	6
Figure 2: Adaption of Saunder's Research Onion. (Maartens, 2022)	16
Figure 3: A diagrammatical representation of a coding scheme. (Maartens, 2022) .	25
Figure 4: A diagrammatical representation of categorising questions under themes. (Maartens, 2022).....	29
Figure 5: A word cloud displaying keywords derived from all responses. (Maartens, 2022).....	30
Figure 6: A word cloud displaying keywords derived from all responses. (Maartens, 2022).....	31
Figure 7: A diagrammatic showing the percentages on how frequently an IEQ factor was mentioned. (Maartens, 2022)	35
Figure 8: A diagrammatic showcasing the protocols followed in both companies. (Maartens, 2022).....	37

List of Annexures

Annexure A – Consent Form.....	54
Annexure B – Consent Form for Audio or Video Recording	57
Annexure C – Interview Schedule	58
Annexure D – Gatekeeper’s Letter Herotel	60
Annexure E – Gatekeeper’s Letter King Price Insurance	63
Annexure F – Ethical Clearance Form	66
Annexure G – Originality Report	68
Annexure H – Concept Document.....	69
Annexure I – Vega Ethics Checklist	78

CHAPTER 1: INTRODUCTION

1.1. Introduction

This chapter aims to provide a summary of the study's structure and importance to give grounds for further exploration into the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment.

1.2. Contextualisation

Massoudi and Hamdi (2017) state that the organisational environment plays a crucial role for the employees. They further state that employees have numerous working alternatives, therefore, the workplace environment becomes a critical factor for employees accepting and/or keeping their jobs. The quality of the workplace environment determines the level of employee's motivation, performance, and productivity (Massoudi and Hamdi, 2017). Research conducted by architect Gensler (2005) can back the previous statement, where Gensler identified that a well-designed workplace could potentially increase productivity by 19% and improve job satisfaction. Approximately 79% of respondents from the study associated their work environment with their job satisfaction (Gensler, 2005).

1.3. Rationale and Relevance

In today's era comes a lot of uncertainty regarding a well-designed workplace. As the global pandemic – Covid-19, brings new challenges to the design of environments, due to the regulations pertaining to the pandemic. The uncertainty regarding a well-designed workplace also results from the current debates surrounding the different types of office layouts, open-plan versus cellular offices, and the impact it has on workplace performance. While there has been ample research conducted on the indoor environmental quality (IEQ) of a workplace environment and how it affects employee's (Mahbob et al, 2013; Al Horr et al., 2016; Budaiova and Vilcekova, 2015), little to no research has been conducted on the implication the new regulations pertaining to Covid-19 has on the workplace environment.

1.4. Problem Statement

The office environment plays a major role in the well-being of employees. As aforementioned, the workplace environment becomes a critical factor for employees accepting and/or keeping their jobs. The quality of the workplace could be affected by Covid-19 regulations pertaining to interior environments, which could prove detrimental to the success of a business as the quality of the workplace environment determines the level of employee motivation, performance, and productivity (Massoudi and Hamdi, 2017).

1.5. Purpose Statement

The purpose of this study is to determine the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment. More, specifically, whether the employee's work performance and well-being are affected by the implementation of the regulations. Little research has been conducted on the phenomenon, thus, the study aims to add to the existing body of knowledge regarding office layouts and to contribute to the elimination of a gap in the present literature regarding the new challenges faced in the work environment due to the global pandemic.

1.6. Research Question

1.6.1. Primary Research Question

What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?

1.6.2. Secondary Research Questions

What is the impact of open-plan offices versus cellular offices on workplace performance?

How do office layouts affect performance and well-being?

Which Covid-19 Regulations were Implemented in the Office Environment?

1.7. Aims and Objectives

The objective of this qualitative study is to determine whether entry-level employees' perceived well-being and performance is impacted by the new regulations implemented in the corporate office environment due to Covid-19. The aim of this

study is to add to the existing body of knowledge regarding the layouts of offices and to contribute to the elimination of a gap in the present literature regarding the new challenges faced in the work environment due to the global pandemic. The research is relevant as it is vital to understand how to prevent new regulations from reducing the perceived performance and well-being of employees, as it could be detrimental to the success of an organisation.

1.8. Chapter Summary

This chapter provided a broad overview of the study's context, relevance, and aim, to form as an introduction for the literature review. Additionally, the problem and purpose statements, research questions, and objectives listed above will act as guidance in the researcher's investigation into existing literature regarding the impact of the office environment on productivity, the impact of open-plan office versus cellular office layouts on productivity, and office spaces pre- and post-Covid-19.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The following literature review serves to contextualise the research study, identify the key models and ideas that are pertinent to the research investigation, and determine what previous academics have published on the subject (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). The purpose of the study is to act as a standard by which the researcher may contrast and compare their findings. In turn, this helps guide the research in the right direction (du Plooy-Cilliers et al., 2014). Reviewing the literature will allow the researcher to gain an in-depth understanding of the phenomenon and to explore the possible factors that impact productivity and well-being within the workplace. As a prologue to the review, the researcher will clarify the key concepts and theories significant to this study. Additionally, the literature review will be written in an effort to address the primary and secondary research questions.

2.2. Conceptualisation

Conceptualisation refers to the elaboration and specification of abstract concepts in order to develop specific meanings for the needs of a particular research topic (du Plooy-Cilliers et al., 2014). The definitions of the following key concepts are presented to provide the reader with the terminology needed to comprehend the importance and relevance of this study.

2.2.1. Well-being

Evidence-based design is based on user health and well-being (Nemeth, 2014). Well-being is widely viewed as a multidimensional phenomenon, the question of how to define the term remains largely unresolved (Dodge, Daly, Huyton and Sanders, 2012). This is because of the historical background of the study of well-being. According to Dodge et al. (2012) two approaches emerged. The first being the hedonic tradition, where constructs such as happiness, positive effect, low negative effect, and satisfaction with life, were accentuated (Dodge, Daly, Huyton and Sanders, 2012). The second being the eudaimonic tradition, which highlighted psychological functioning and human development (Dodge, Daly, Huyton and Sanders, 2012). The issue

identified was the lack of a definition, as the early “definitions” were descriptions of well-being.

According to Diener and Suh (1997) “subjective well-being consists of three interrelated components: life satisfaction, pleasant effect, and unpleasant effect. Effect refers to pleasant and unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life (Diener & Suh, 1997; 200). Early definitions such as Ryff’s (1989) work are examples of descriptions, where he identified that well-being is made up of autonomy, mastery, positive relationships with others, purpose in life, realisation of potential and self-acceptance. For the purpose of this study, the aforementioned hedonic tradition of well-being will be applied.

Additionally, the Oxford English Dictionary definition will be applied, where well-being is defined as “the state of being comfortable, healthy, or happy”. In this study examples of questions on well-being, could be questions regarding satisfaction in life, and questions based on different aspects of life, such as the individual’s comfort, health, and happiness within their work environment.

2.2.2. Employee Performance

Employee performance is a core issue in latter-day organisations (Pradhan and Jena, 2016). The term “employee performance” refers to people’s work achievement after applying required effort on the job, which is correlated to receiving meaningful work, an engaged profile, and compassionate employers and co-workers (Hellriegel, Slocum and Jackson, 1999). According to Pradhan and Jena (2016) to increase organisational success, it is crucial for the business to have an effective employee performance management system. A simpler definition by Wainwright (2018) states that employee performance refers to how an employee fulfils the duties of their role, completes essential tasks, and behaves in the workplace. Employee performance is a key construct to the study as it could be affected by the implementation of new Covid-19 regulations pertaining to the office interior design environment, as performance can be affected by the physical work environment.

2.2.3. High-Performance Workplace

High-performance workplace refers to the physical environment created for workers to work as effectively as possible to support business goals and provide value (Gartner, n.d.). According to Duggan (n.d.) teams in a high-performance workplace produce more effectively than other groups. She further states that employees miss work less frequently due to high morale, they also function more productively and cost-effectively in these environments. The characteristics of a high-performance workplace involve setting clear goals, maintaining open communication, valuing diversity, and, most importantly, fostering collaboration (Duggan, n.d.). High-performance workplaces allow for collaboration, where team members rely on each other's individual skills and experience, employees tend to work harder in these settings.



Figure 1: What High-Performance Workplaces Do Differently. (Desimone, 2019)

This construct is relevant to the study because as aforementioned, the environment determines the level of employee motivation, performance, and productivity (Massoudi and Hamdi, 2017). However, these environments could be affected by the implementation of Covid-19 regulations.

2.3. Theoretical Foundation

The following theories will be used in the research paper, the design theory of “prospect and refuge”, evidence-based design (EBD), and indoor environmental quality (IEQ).

2.3.1. Prospect-Refuge Theory

The design theory of “prospect and refuge” was originally developed by Appleton (1975), it defines the preferences for particular landscapes. Prospect-refuge theory claims that we gain feelings of safety and pleasure from inhabiting environments that provide both views and a sense of enclosure (Dosen and Ostwald, 2016). The theory will be applied to the office environment and will, therefore, be investigated in the context of an office space.

Cindrich (2020) uses Herman Millers case study as an example, where employees previously worked in traditional office cubicles as opposed to an open-plan office design. The study found that 70% of employees felt more productive in the new open-plan space compared to the 29% before the move. Cindrich (2020) further states the manufacturing company, Knoll, supported Herman Miller’s data by adding research that shows the type of spaces needed to gain optimal productivity. The ideal office environment includes primary workspaces, team meeting areas, community spaces, and refuge spaces. This relates to the design theory of “prospect and refuge” as multiple spaces of differing complexity are included (Cindrich, 2020).

Cindrich (2020) continues by stating that the theory is deeply researched and proposes that people prefer large, open spaces with unobstructed views, however, have safety areas to retreat to. Thus, the theory is relevant to the study, as it takes into account the ideal office environment for employees’ well-being and to optimise productivity. By investigating the design theory of “prospect and refuge” one can understand whether Covid-19 regulations hinder with what the ideal office environment could be.

2.3.2. Evidence-Based Design

Hamilton (2020) provides a fine definition of EBD where he states “An evidence-based designer makes decisions – with an informed client – based on the best available information from credible research and evaluations of projects. Critical thinking is required to draw rational inferences about design from information that seldom fits a unique situation precisely.” (Hamilton, 2006; 1). Hamilton’s (2006) definition describes different elements, namely, design processes, research skills, and elements of

creativity and experience on the designer's part, that allow for design solutions that will assure positive effects (Nemeth, 2014).

Evidence-based design is relevant to the study as Nemeth (2014) states that it integrates vital and influential current issues in the interior design profession to help identify problems and define solutions. Nemeth (2014) further states that EBD is an accepted approach in design of not only healthcare spaces, but educational institutions, corporate office environments, and retail spaces. Looking specifically at corporate office design, many companies such as Knoll, Steelcase, and Herman Miller utilise findings from research on ergonomics and human behaviour to convince designers to use their products in the design of corporate environments (Nemeth, 2014). EBD is relevant to the study as the area of research is frequently based on ergonomics and human factors, user health and well-being, and human behaviour (Nemeth, 2014). An example of this includes the debates surrounding the use of open-plan versus cellular office layouts which contribute to noise transfer, privacy, and communication effectiveness, which brings the next theory, Indoor Environmental Quality (IEQ).

2.3.3. Indoor Environmental Quality

According to researchers Esfandiari, Zaid, Ismail and Aflaki (2017) IEQ may change occupants' behaviour through various conditions. They further state that IEQ is dependent on factors such as lighting, noise, thermal quality, and air quality which directly or indirectly influence the occupants' behaviour and work productivity. This theory is relevant to the study as it is vital to improve and support work productivity of occupants, as well as consider the employee's physical condition and well-being, as it could be detrimental to a business (Esfandiari et al., 2017). Research conducted by Esfandiari et al. (2017) and Abdulaali et al. (2020) state that IEQ includes significant parameters, namely thermal condition quality, Indoor Air Quality (IAQ), lighting quality, and acoustic quality. For this study thermal quality, acoustic quality, and office layout will be further investigated as these are the parameters affected by the design of office environments. Additionally, the study compares open-plan versus cellular office layouts, to understand the impact of new Covid-19 regulations within these spaces.

2.4. Literature Review

2.4.1. Introduction

The literature review entails analysing and summarising as much of the accessible literature that is related to the study both directly and indirectly (du Plooy-Cilliers et al., 2014). This focuses the researcher on what has been written about the topic and where there is a gap in the present literature, thus, forming a crucial part in the research process.

2.4.2. The Impact of the Office Environment on Productivity

As previously mentioned, a work environment refers to anything that exists around the employee and can affect the performance of employees (Al-Omari and Okasheh, 2017). Researchers Al-Omari and Okasheh (2017) state that a strong relationship is found between job performance and the physical work environment. They further state that the physical work environment is vital to employees' performance, well-being, and job satisfaction. Research found that employees' behaviour in the workplace is largely impacted by the layout and design of the physical environment (Al-Omari et al., 2017). Thus, it is crucial to understand office design and the environmental conditions of the workplace as they could affect organisational performance.

Through research Al-Omari et al. (2017) found that the conditions of a decent working environment are where individuals are able to comfortably do their jobs in an ideal, secure, and healthy environment. Palvalin, van der Voordt and Jylhä (2017) found that previous studies (Haynes, 2008) concluded that the physical office environment allows an increase in individual performance by 5% and team performance by 11%. Furthermore, studies have classified five main factors within the work environment that affects employees, namely indoor air quality, temperature comfort, lighting quality, acoustics quality, and layout (Badayai, 2012). These factors make up Indoor Environmental Quality (IEQ), which, as previously mentioned, can simply be defined as the conditions within a building. Further investigating IEQ will allow for a deeper understanding of the potential effects new Covid-19 regulations may have within the workplace. As the investigation allows for an understanding of the physical elements that may be affected by these regulations.

2.4.2.1. Indoor Air Quality (IAQ)

Indoor air quality refers to the state of air within a building, it has a significant impact on employees' health, comfort, and performance (Al-Omari et al., 2017; Esfandiari et al., 2017). Al-Omari et al. (2017) further explain that the quality of air can be contaminated by pollutants. Pollutants that can cause critical discomfort and reduce productivity, include odours and dust (Al-Omari et al., 2017; Esfandiari et al., 2017).

Safety measures taken during the pandemic with regard to ventilation include ensuring a well-ventilated place through natural or mechanical means (gov.za, n.d.). Furthermore, ventilation systems with filtration systems need to be regularly cleaned and maintained (gov.za, n.d.). This is always beneficial to employees, as aforementioned, a well-ventilated space will provide employees with health, comfort, and increase performance. Employees are required to wear cloth masks in the workplace (gov.za, n.d.), this could pose as a threat to performance, as it can be uncomfortable in long periods of time, and thus, cause distraction.

2.4.2.2. Temperature Comfort

Temperature can affect employees' performance, specifically with cognitive, physical, and perceptual duties (Badayai, 2012). High-temperature levels increase body temperature and can result in tiredness, ultimately leading to employees being less efficient. Lower temperature levels decrease body temperature resulting in shivering, ultimately distracting employees from performing (Al-Omari et al., 2017; Esfandiari et al., 2017). Researchers Esfandiari et al. (2017) found a study that concluded the ideal temperatures for productivity range between 21-22 °C. Covid-19 regulations do not affect this IEQ factor.

2.4.2.3. Lighting Quality

Lighting affects employees' concentration, alertness, and performance (Al-Omari et al., 2017). According to Al-Omari et al. (2017) the most wanted natural feature within the workplace is daylight. They further explain that researchers discovered exposure to natural light within the office environment positively influences employees' quality of life. Whereas poor lighting is a source of distress, resulting in lower job performance (Al-Omari et al., 2017). Employees can be exposed to poor lighting through high glare,

dim lighting, or lack of natural daylighting (Al-Omari et al., 2017). The quality of light within the office environment is not affected by Covid-19 regulations.

2.4.2.4. Acoustic Quality

Not only can noise pollution in the workplace reduce employees' productivity, but it can also directly affect the health and psychology of employees (Esfandiari et al., 2017). Noise within the office environment is produced by common office equipment, conversation of employees, and external noise. Often, unpredictable noise or noise that the workers have no control over, distracts employees the most (Al-Omari et al., 2017). Noise levels may be affected by Covid-19 regulations due to the possibility of installing barriers between the workstations. More hard, smooth surfaces within the space will lengthen sound travel as the surfaces will not absorb sound.

2.4.2.5. Office Layout

Al-Omari et al. (2017) state that the office layout is vital when it comes to optimising employee performance. Contemporary office environments allow for new ways of working, it allows for ease of communication and interpersonal access (Al-Omari et al., 2017). Closed office layouts with individual workstations become crowded and restricted, leading to stress and pressure, resulting in lower performance from the employee. However, this is dependent on the type of work performed, as work that requires privacy will need to be done in a closed-office environment. Furthermore, performance is largely impacted by office furniture, research by Al-Omari et al. (2017) states ergonomic office furniture is essential to workplace performance.

Covid-19 regulations pertaining to corporate office environments can affect the layout of the office space. As social distancing measures require the workplace to be arranged to ensure minimal contact between workers (gov.za, n.d.). A minimum of one and a half metres is required between workers. If it is not practical to arrange workstations to be spaced at least one and a half metres apart, physical barriers need to be placed between the workstations (gov.za, n.d.). This could potentially affect employee performance if the work requires collaboration and an open-plan office layout.

2.4.3. Open-Plan Office versus Cellular Office Layout on Productivity

2.4.3.1 Open-Plan Office

Researchers, Oldham and Brass (1979) characterised open-plan workplace designs as large office spaces filled with multiple desks in different arrangements, with no physical barriers. Most private offices and meeting areas are eliminated by this type of office floor plan (Muzaffar, Noor and Mahmud, 2020). Research by Haynes (2008) found a longitudinal study conducted by Brennan et al. (2002) that aimed to assess the transition of employees from a traditional cellular office to an open-plan office environment. Satisfaction with the physical environment, physical stress, relations with others, and perceived performance, were measures that were included in the study by Brennan et al. (2002). The study found that the employees were dissatisfied as they found the environment counterproductive, as a result of increased disturbance and distractions. A more recent study conducted by Lee and Aletta (2019) found that distraction caused by noise can drain employees' time and job performance.

Muzaffar et al. (2020) identified a study by Bernstein and Turban (2018) that concluded open-plan office environments have a lack of privacy and personal space. They further explain that this could hinder with performance as employees struggle to concentrate and focus on the task at hand. As opposed to the need for privacy, Haynes (2008) identified the need for interaction to exchange knowledge and information. This may be limited within the cellular office environment. James, Delfabbro and King (2021) state that increased communication and collaboration between workers is a benefit of open-plan offices. Majority of workplaces have been redesigned to facilitate employees working together and thus, minimise physical barriers (James et al., 2021). The positive effects of open-plan offices include cost-effectiveness, increased collaboration, enhanced communication, flexibility to work, accommodates more employees, and it is more energy efficient (James, Delfabbro and King, 2021).

Based on this knowledge, Covid-19 regulations may impact performance in the workplace due to barriers being set in place. Individual workstations are created as a result of barriers, and therefore, decreases the chance of collaboration, which ultimately impacts job performance.

2.4.3.2. Cellular Office

The cellular office environment is a type of working area where individual working spaces are created using dividers such as walls, cubicles, or panels (Muzaffar et al. 2020). Studies have shown that this office layout boosts performance, as concentration levels are maximised. However, evidence has shown employees may feel oppressed, as they are restricted to cubicles for several hours a day (Muzaffar et al. 2020). Muzaffar et al. (2020) further explain cellular office environments include higher costs, low supervision, and limited opportunities for collaboration. This may pose as a threat to productivity, for example, low supervision of work, where supervisors have to move from office to office to keep updated with each employee. Muzaffar et al. (2020) continue by stating employees could take advantage of higher levels of privacy and the lack of supervision, by using the time to engage in negative behaviour, such as using social media.

From gaining the knowledge above one can hypothesise that Covid-19 barriers set between workstations, can create a cellular office in what was previously an open-plan office. With this comes both the positive and negative impacts cellular offices may have on performance.

2.4.4. South African Office Spaces pre-Covid-19 and post-Covid-19

Office environments found in South Africa range between open-plan offices, cellular offices, and flexible offices. As aforementioned, the design theory of “prospect and refuge” proposes that people prefer large, open spaces with unobstructed views, however, have safety areas to retreat to. Furthermore, research based on the theory has determined that the ideal office environment includes primary workspaces, team meeting areas, community spaces, and refuge spaces. Office environments should include multiple spaces of differing complexity.

2.4.4.1. Pre Covid-19

South African office spaces had their challenges before Covid-19. Green (2015) found that according to local interior designer, Bill Helyar, open-plan offices are popular in South Africa as they are inexpensive to build and maintain. As previously mentioned, open-plan offices have multiple negative impacts on the perceived well-being and

performance of employees. One that relates to the design theory of “prospect and refuge” is the ability to retreat to private areas if needed. Green (2015) states providing the need for privacy is conflicted with the desire for openness and communication in open-plan offices.

Furthermore, Green (2015) states that South African office environments have high levels of noise. Whereas previously mentioned, could hinder with the employee’s productivity levels. Local workplaces have, however, started to include alternative work settings in open-plan offices, such as phone booths, quiet rooms, and library areas (Green, 2015). This falls in line with the design theory of “prospect and refuge” as the office environment provides multiple spaces of differing complexity. Companies are advised to also provide ergonomically sound environments. Paragon Interiors recommend “stand-up” spaces for meetings, where high tables are provided with no chairs, this reduces time spent sitting.

2.4.4.2. Post-Covid-19

Majority office environments across the globe have experienced the effects of the Covid-19 pandemic. According to French (2020) South African workspace provider Workshop17, identified local trends regarding the effects of the pandemic. These trends include offices that support remote working, through both physical and virtual offices (French, 2020). French (2020) further states that large corporate companies are considering more flexible workspaces, better virtual options, and smaller offices. CEO and co-founder of Workshop17, Paul Keursten, states that the future of offices will no longer be a specific space in one building but be a combination of physical workspaces and virtual office resources to allow for online meetings, planning, and collaboration (French, 2020). This falls in line with the design theory of “prospect and refuge” as multiple spaces of differing complexity are offered. However, if large corporate companies are considering smaller offices this could pose as an issue as the theory suggests that people prefer larger, open spaces.

A survey conducted by Workshop17 identified that 54% of businesses had increased the use of technology, to work remotely and run their businesses during lockdown (French, 2020). French (2020) states that corporate companies do recognise that

employees can be productive when working remotely. However, companies have also identified that employees may not have all the required resources at home, such as adequate workspace, ergonomic furniture, a stable internet connection, etc. Working remotely could pose as a threat to performance as employees do not have access to different spaces. Whereas aforementioned, employees work at optimal performance in the ideal office environment which includes primary workspaces, team meeting areas, community spaces, and refuge spaces. Furthermore, regular in-person interaction and engagement with colleagues are restricted when working remotely.

Additionally, workplace performance can be affected by the above-mentioned information. As previously mentioned, employees can take advantage of the lack of supervision, where employees use work time to engage in negative behaviour, such as using social media. In some instances, employees could be less efficient due to the lack of collaboration.,

2.5. Chapter Summary

Through conducting this literature review the researcher was able to point out certain shortcomings in the existing literature regarding the phenomenon. There is sufficient research found on the effects varying factors in the office environment have on work performance, however, more research, based on the phenomenon, should explore in greater detail how the varying factors impact employee well-being. Additionally, publications regarding the effects of Covid-19 within the corporate office environment fail to mention the implications the new regulations have on employee well-being.

Furthermore, the researcher identified the varying IEQ factors that impact employee performance and well-being within the interior office environment. The researcher determined the distinction between open-plan office and cellular office layouts, as well as the impact these layouts have on employee performance. Additionally, the researcher was able to identify the office layout predominantly used in South Africa and discuss the layout pre- and post-Covid-19. The exploratory research study aims to contribute to minimising the shortcomings identified regarding the phenomenon to improve employee performance and well-being within the office interior design environment.

CHAPTER 3: METHODOLOGY

3.1. Introduction

This chapter aims to explain the selected research paradigm, approach, and design and to provide justification for why it is appropriate for this study. To ensure the research is trustworthy, a thorough overview of the population and sample groups will be presented, along with a step-by-step breakdown of the data retrieval and analysis procedures.

3.2. Research Paradigm

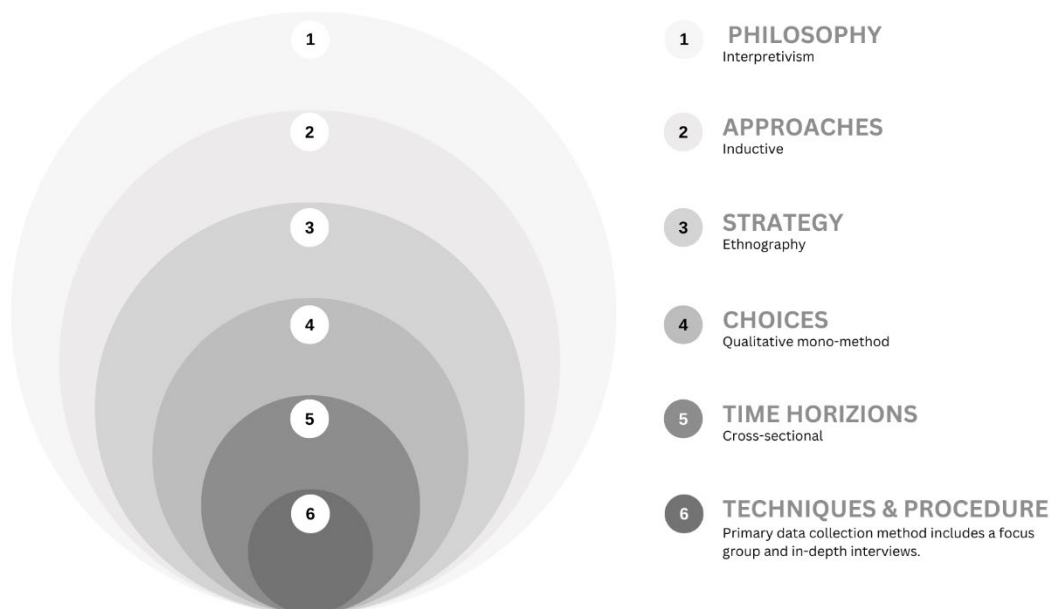


Figure 2: Adaption of Saunder's Research Onion. (Maartens, 2022)

Figure 2 is based on Saunders' research onion. As shown, it may be seen as a systemic approach where the researcher addresses the research design and paradigm. The appropriate paradigm for the study is interpretivism, where du Plooy-Cilliers, Davis, and Bezuidenhout (2014) state that interpretivism was developed as a response to the flaws and limitations of positivism. They further state that the central idea on which the paradigm rests is that people are inherently different from objects. Human beings cannot be studied in the same way objects are, as humans change constantly, and the environments in which they find themselves influence them (du Plooy-Cilliers, Davis and Bezuidenhout, 2014).

Du Plooy-Cilliers et al. (2014) further explain that the aim of interpretivist research is to obtain an in-depth understanding of human behaviour, thus, requires the researcher to spend many hours in direct contact with those being studied. Facts are not objective to interpretivists, what is factual depends on context and people's interpretation of information. Interpretivists believe that people may or may not experience reality in the same way, as it depends on circumstances, culture, and experiences (du Plooy-Cilliers et al., 2014).

The paradigm is appropriate for the study as values that shape the research will openly be discussed, as well as the researcher's own interpretation and those of the participants (du Plooy-Cilliers et al., 2014). The data collected for the study will be subjective, as it is the experience of employees within their work environment, where people may experience reality differently.

3.3. Research Design/Approach

The qualitative research will make use of a phenomenological research design. Which refers to research efforts that involve investigating phenomena through people's lived experiences (Sauro, 2015). Sauro (2015) further explains that this allows the researcher to gain deeper insights into how people understand these lived experiences. Using this research design will allow for the interpretation of the participants' feelings, perceptions, and beliefs regarding the phenomenon (Sauro, 2015). The researcher's prior assumptions about the experience and their own biases will need to be set aside when conducting the research.

Phenomenology is an appropriate research strategy as it falls in line with the epistemological and ontological position of interpretivism. The epistemological position of interpretivists is that the social context and people's interpretation of information is factual, facts are not objective to interpretivists (du Plooy-Cilliers et al., 2014). Phenomenologists aim is to interpret and gain an understanding of human actions, and then describe the experience from the participant's point of view, where the participant's point of view is considered factual (du Plooy-Cilliers et al., 2014). As aforementioned, phenomenology investigates phenomena through people's lived

experiences (Sauro, 2015). This falls in line with the ontological position of interpretivists as they believe that reality is a social construction and the social world is how people perceive it to be (du Plooy-Cilliers et al., 2014).

Phenomenological studies do not start with a well-formed hypothesis, instead, many interviews are conducted, to allow the researcher to build adequate data sets to look for emerging themes and validate findings (Bliss, 2016). In-depth interviews and focus groups are two methods from phenomenology, that will be used to answer the research questions.

A phenomenological research design will provide a deeper understanding of the objective of the research, as it allows for data to be collected based on the experiences of entry-level employees within their work environment and the impact Covid-19 regulations, pertaining to office interior design, may have on their perceived well-being and performance. Furthermore, the research design will contribute to the gap in the present literature, as it allows for an understanding of the new challenges faced within the work environment. The research design allows for the interpretation of entry-level employees' feelings, perceptions, and beliefs about the impact Covid-19 regulations may have within the office environment.

The qualitative research will make use of an inductive approach, where du Plooy-Cilliers et al. (2014; 30) state that interpretivists are more likely to use inductive approaches to theory formulation. Therefore, interpretivists would rather collect information, analyse it, and then formulate a theory based on the information, instead of first formulating a theory and then testing hypotheses to test the theory against reality. Furthermore, inductive reasoning allows the researcher to observe patterns, resemblances, and regularities in experience to gain conclusions. During this study, the subjective experience of entry-level employees will be investigated, whereas forementioned, their feelings, perceptions, and beliefs regarding the impact of Covid-19 regulations will be investigated.

Furthermore, an exploratory methodology approach will be used in the study. Which, according to du Plooy-Cilliers et al. (2014) and George (2022), refers to research used to investigate a problem that is not clearly defined. This research design is appropriate

for the study as it is conducted to gain a better understanding of the existing problem but will not provide conclusive results. Exploratory research has several research methods, as previously mentioned, the methods utilised in this study include a focus group and three in-depth interviews. This research approach is appropriate as it is used when the issue being studied is new.

Additionally, a cross-sectional research design will be used in the study. Thomas (2022) states that this research design allows the researcher to collect data from a large pool of subjects, which allows for a comparison between the groups. A cross-sectional study is appropriate for the study as it is a cheap and easy way to gather data and identify connections that can be further investigated (Thomas, 2022). Furthermore, it allows the researcher to look at the prevalence of a particular outcome at a specific point in time (Thomas, 2022). This is ideal for the study as it investigates a specific moment in time – the effects of Covid-19, an issue that is faced currently.

3.4. Population

According to du Plooy-Cilliers et al. (2014) researchers need to refer back to the research question in order to define who the population for the research is. In this case, the research question is “Is workplace performance and the well-being of entry-level employees affected by Covid-19 regulations in the corporate office environment?”. Therefore, answers can be found from entry-level employees. Du Plooy-Cilliers et al. (2014) further explain once the researcher knows whom to go to find answers, the researcher can ascertain what they all have in common. Again, we can return to the research question, where it is clear that the research is focusing on entry-level employees who work in a “corporate office environment”. Furthermore, the research focuses on entry-level employees affected by Covid-19 regulations within the corporate office environment. Thus, employees that work in a corporate office environment that do not follow Covid-19 regulations will not fall under the population parameters and therefore, not be used in the study.

According to du Plooy-Cilliers et al. (2014) for a person to be part of the sample they have to share the characteristics – they must be an **entry-level** employee that works in a **corporate** office environment, where the corporate office environment follows

Covid-19 protocols. The population parameters have now been set. The next step is to distinguish between the target population and the accessible population. Everyone that falls within the population parameters makes up the target population, thus, the population is too large to include in the study. Therefore, the accessible population refers to a section of the population (du Plooy-Cilliers et al., 2014). The accessible population for the study includes people who live in Pretoria, and who work for King Price and/or Herotel. The population is made up of a total of eight entry-level employees who operate in a corporate office environment.

3.5. Sampling

A non-probability sampling method is appropriate for the study, where du Plooy-Cilliers et al. (2014) state that it is used when it is nearly impossible to gain access to the entire population. The sample from non-probability sampling will not be chosen at random from a list but will be chosen based on the researcher's judgment (du Plooy-Cilliers et al., 2014). This is useful as it falls in line with the aim of the research design – phenomenology, as the researcher will be able to choose a particular group of people to investigate the phenomenon through their lived experiences. Furthermore, the sampling method will allow for the interpretation of the specific group's feelings, perceptions, and beliefs regarding the phenomenon. The focus of non-probability sampling is to include enough people in the sample to reach the data saturation point (du Plooy-Cilliers et al., 2014).

Furthermore, purposive sampling is appropriate for the study, where the researcher looks at the population and research question, to see whether features from the population are relevant to the study (du Plooy-Cilliers et al., 2014). The advantage of this method of sampling is that the researcher can be certain that each element of the sample will contribute to the research since each element corresponds to the study's population parameters (du Plooy-Cilliers et al., 2014). The sample size will include eight entry-level employees that work in a corporate office environment where Covid-19 protocols are followed. These employees must work in Pretoria at either King Price and/or Herotel.

3.6. Data Collection

3.6.1. Data Collection Methods

Two data collection methods will be used in the study, namely, focus groups and interviews. Du Plooy-Cilliers et al. (2014) state that a focus group is essentially a group interview in which members are interviewed simultaneously by a facilitator to identify their views, behaviour, preferences, and dislikes. The method is frequently used to determine the experiences of participants. For the purpose of this study the focus group will be made up of five participants that meet the population parameters. The participants will be gathered to express their opinions and views regarding predetermined, open-ended questions relating to the perceived impact Covid-19 regulations may have on their perceived well-being and performance within their corporate office environment.

The discussion is conducted in an unstructured and spontaneous manner, where participants are allowed to voice their thoughts and ideas on the subject at hand. As a result, the selected participants can freely discuss ideas (du Plooy-Cilliers et al., 2014). A focus group is ideal for the purpose of this study as it allows for debates to be generated, which will allow the researcher to gain a deeper understanding of the varying viewpoints of the participants (du Plooy-Cilliers et al., 2014). The data-collection method allows the researcher to investigate and validate specific ideas and experiences that arise during meetings. It also allows the researcher to ask the participants detailed questions relating to specific aspects that are being investigated. This allows the researcher to obtain rich and thorough information since the participants can be prompted to comment on the areas of the debate that the researcher is interested in (du Plooy-Cilliers et al., 2014).

Additionally, three in-depth interviews will be conducted. Du Plooy-Cilliers et al. (2014) explain that in-depth interviews allow the researcher to ask participants questions in order to understand more about their perspectives, ideas, and beliefs about a particular phenomenon, namely, the perceived impact Covid-19 regulations may have on their perceived well-being and performance within their corporate office environment. The primary aim of in-depth interviews is to obtain information based on open-ended questions (du Plooy-Cilliers et al., 2014). For the purpose of this study a

standardised, open-ended interview will be conducted, where the same set of open-ended questions will be presented to all the participants (du Plooy-Cilliers et al., 2014). This will allow for an easier analysis and comparison of notes of the varying views and opinions of the participants. The three participants will be presented with the same set of eight open-ended questions, and the interviews will be between 20 to 30 minutes in duration. Each interview will take approximately two hours to transcribe.

Please note that the interview schedule is provided as **Annexure C**.

3.6.2. Application of the Data Collection Methods

A summary of the data collection procedure will be provided to help readers comprehend every step the researcher took to gather important data regarding the phenomenon.

The first step required the researcher to write a literature review to gain thorough knowledge of what has previously been discovered about the research problem. This aided the researcher in identifying gaps in the present literature, thus, allowing the research to gain a focus. Therefore, the primary data collection switched its attention to areas related to employee performance and well-being, to determine the perceived impact Covid-19 regulations may have on these factors.

Next, the researcher created a set of open-ended interview questions that addressed four themes, namely the office layout and productivity, the ideal office environment, Covid-19 and the office environment, and offices that support remote working. The researcher was then required to submit the interview schedule to the IIE board for ethical clearance before commencing with the interview process.

The third step required the researcher to identify interviewees to partake in the study. As aforementioned, the eight interviewees had to meet the population parameters to qualify as a participant - they had to be an entry-level employee that works in a corporate office environment, where the corporate office environment follows Covid-19 protocols.

Following this step, the researcher addressed an email to the relevant companies outlining the purpose of the study, its aims and objectives, and how the respondents' perspectives would prove helpful should they choose to participate. A sample of this email, along with the gatekeeper's letter sent to each company, the participant's consent forms, and audio recording consent forms was provided with the ethical clearance documents. The eight interviewees signed the consent forms on the day of the interview prior to conducting the interview.

The fifth step involved the researcher conducting the interviews, where the researcher handed physical copies of the interview schedule to the respondents before conducting the interviews. Additionally, the researcher provided the participants with a brief overview of the study and repeated the terms of all consent forms and permission slips. The first set of interviews took place at King Price Insurance offices in Pretoria, where three individual in-depth interviews were conducted in a private, closed area. The five participants making up the focus group were interviewed from a different company, namely, Herotel. The focus group interview was conducted at the Herotel office in Pretoria, where the participants were also presented with a physical copy of the interview schedule.

3.7. Data-Analysis Method

A suitable data analysis method is a qualitative content analysis, where du Plooy-Cilliers et al. (2014) explain that it can be defined as a research method for subjectively interpreting the content of text data using a systematic classification process of coding and finding themes or patterns. The transcription of three in-depth interviews with open-ended questions and a focus group will be analysed using this inductive method. A qualitative content analysis pays unique attention to the themes that demonstrate the range of meanings of the phenomenon (du Plooy-Cilliers et al., 2014). The qualitative content analysis will be conducted inductively, where raw data in the analysis will be used to identify themes and categories without using an existing conceptual framework (du Plooy-Cilliers et al., 2014).

The data analysis followed the following eight step process:

3.7.1. Preparing the data

The raw data collected from the recordings of the three in-depth interviews and one focus group of five participants was transcribed into written text before starting with the analysis. During this, step notes, as well as the researcher's impressions, were written down to improve their intimate understanding of the material (du Plooy-Cilliers et al., 2014). The industry norm is a 4:1 ratio or one hour of transcription time for a 15-minute recording. This translates to four hours of transcription work for one hour of clear audio.

3.7.2. Defining the coding unit to be analysed

The text was closely examined to decide how to break it down into parts. The text was then compared and grouped based on the relations, similarities, and dissimilarities of the text (du Plooy-Cilliers et al., 2014). Therefore, the varying parts were marked with the appropriate codes to identify them for further analysis (du Plooy-Cilliers et al., 2014). The main research question was used when identifying the coding units, therefore, the coding units are "Prospect and Refuge", "well-being and comfort", and "feelings of safety and pleasure".

3.7.3. Developing categories and a coding scheme

The coding units were grouped to form categories of codes. A coding scheme was inductively developed from raw data. 'In vivo' labelling was used, which refers to categorising codes by taking phrases used by participants during interviews, to label groupings of codes as seen in *figure 3* (du Plooy-Cilliers et al., 2014).

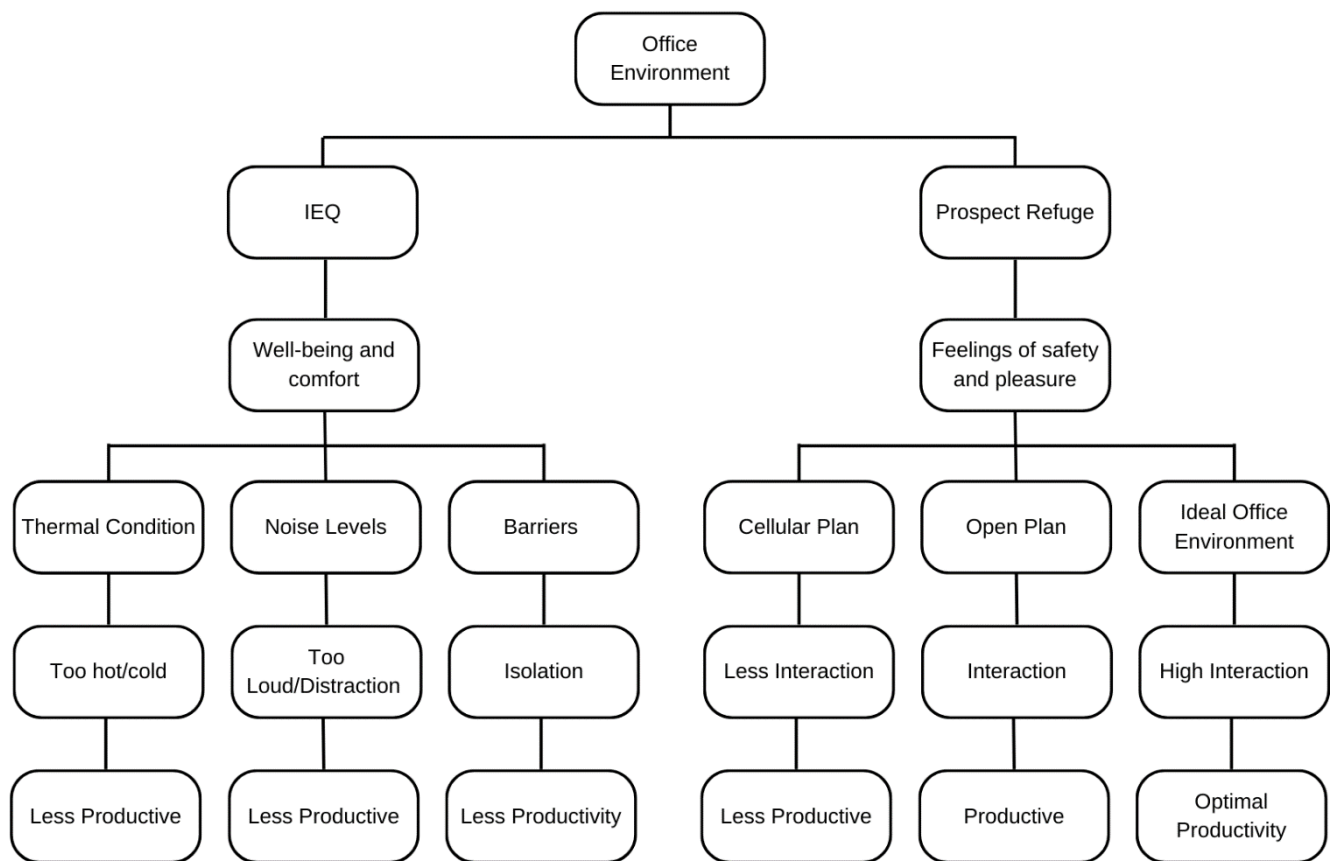


Figure 3: A diagrammatical representation of a coding scheme. (Maartens, 2022)

3.7.4. Testing your coding scheme on a sample text

The clarity and consistency of the category definitions were then assessed on a sample of the data (du Plooy-Cilliers et al., 2014).

3.7.5. Coding all text

Coding the data refers to a thorough examination of the data and taking note of all important and significant sections and items (du Plooy-Cilliers et al., 2014). Line-by-line coding was used in this study, which is a form of microanalysis. Where the researcher analyses sections of the text line by line, underlining keywords and phrases that are pertinent to the study (du Plooy-Cilliers et al., 2014). This allows the researcher to develop categories to group codes in.

3.7.6. Assessing your coding consistency

It is vital that the researcher rechecks the consistency with which the coding was conducted.

3.7.7. Drawing conclusions from the coded data (interpreting your data)

The interpretation of the analysed data was done by taking into account theoretical constructs (general), and the researcher's personal interpretation of the meanings included in the text (specific), as well as the development and amplification of the researcher's understanding by referring to the study's larger context (general) (du Plooy-Cilliers et al., 2014).

3.7.8. Reporting your methods and findings

This phase demands the researcher to report as completely and accurately as possible on the approach they used in their coding, analysis, and interpretation (du Plooy-Cilliers et al., 2014).

3.8. Trustworthiness in Qualitative Studies

According to du Plooy-Cilliers et al. (2014) 'trustworthiness' is the overarching term that refers to validity and reliability in qualitative research. It is further divided into credibility, transferability, dependability, and confirmability.

3.8.1. Credibility

Du Plooy-Cilliers et al. (2014) state that credibility refers to the precision with which the researcher evaluated the data provided by the participants. Credibility is increased by making use of triangulation, where more than one data collection method is used to collect data (du Plooy-Cilliers et al., 2014). Triangulation is used as the study makes use of in-depth interviews combined with focus groups. Credibility is also increased when the findings are believable from the participants' perspective (du Plooy-Cilliers et al., 2014).

3.8.2. Transferability

Transferability refers to the ability to apply the findings to a comparable circumstance and get similar results (du Plooy-Cilliers et al., 2014). Furthermore, it refers to the extent to which the findings and analyses may be utilised outside of a single research study. The findings of the research could be utilised in future studies conducted on the

effects health and safety protocols may have on employees' perceived well-being and performance within the office interior environment.

3.8.3. Dependability

Dependability refers to the quality of the integration process that occurs between the data collection, data analysis, and the theory derived from the data (du Plooy-Cilliers et al., 2014). As a researcher, the aim is to ensure that if other researchers looked at the data, they would arrive at similar results.

3.8.4. Confirmability

Lastly, confirmability refers to the degree of certainty that the outcomes of the research study are based on the participants' narratives and statements, rather than any researcher biases. Confirmability is used to ensure that the findings are shaped more by the participants than by the qualitative researcher. To ensure that the findings are shaped more by the participant's responses, the researcher should be unbiased and not falsify information.

3.9. Chapter Summary

Chapter three successfully justifies why the research paradigm, approach, and design are appropriate for the study. Additionally, trustworthiness is guaranteed as the steps followed throughout the primary research process were provided. The next chapter will present, analyse, and evaluate the data that was gathered throughout the aforementioned data collection process.

CHAPTER 4: FINDINGS AND INTERPRETATION

4.1. Introduction

As previously mentioned, the qualitative data in this study comprises of three in-depth interviews and one focus group of five participants that were both presented with the same set of open-ended questions. This chapter aims to cover the findings from these interviews, where the findings will be presented, analysed, and interpreted. Starting with the response rates of the selected participants before moving on to the emerging themes from the interviewees' responses. Moreover, in addition to addressing the research objective, this chapter aims to identify the relationships, similarities, and contrasts within the collected data, as a method for addressing both the primary and secondary research questions.

4.2. Analysis of Findings from the Interview Data

4.2.1. Participation and Response Rate in Interviews

The request for interviews with similarly chosen participants did not receive an encouragingly high response rate. Within the company King Price, the proposed number of participants was not achieved; with the expectation that more respondents from the legal department would be willing and available to be interviewed. This was due to the inability to seat five respondents simultaneously for the focus group. Therefore, a different company was approached namely, Herotel, which is primarily made up of information technology (IT) specialists. The five proposed participants were eventually interviewed. This proved helpful to the study as various participants from different companies with distinct office layouts responded to the interview. The three respondents from King Price operate in an office setting with spaces of varying complexity, whereas the five Herotel respondents do so in a typical open-plan arrangement. The overview of the actual participants as compared to the suggested samples and the estimated population is shown in Table 1 below.

Table 1: Proposed and Actual Interview Participants

Location	Department	Estimated Population	Proposed Sample	Actual Responses
King Price	Legal Department			
	Chairperson	1	1	1
	Legal team	11	7	2
TOTAL		12	8	3
Herotel	IT Department	50	5	5
TOTAL		50	5	5

In general, the gate-keeping officials at certain firms were welcoming and assisted in every way they could, while others showed varying degrees of reluctance and doubt about how to assist the research.

4.2.2. Interview Data: Emerging Themes

The content analysis performed on the interview transcripts yielded four themes discussed below. *Figure 4* illustrates the chronology of the discussion and shows how the eight interview questions were categorised under the four key themes. There are likely to be some overlaps between the varying themes. Furthermore, all the themes are discussed in two categories of respondents, i.e. the Legal department and IT department. In replying to the open-ended interview questions, participants offered their views freely and some of these views touched on their interpretation or interaction with office spaces.

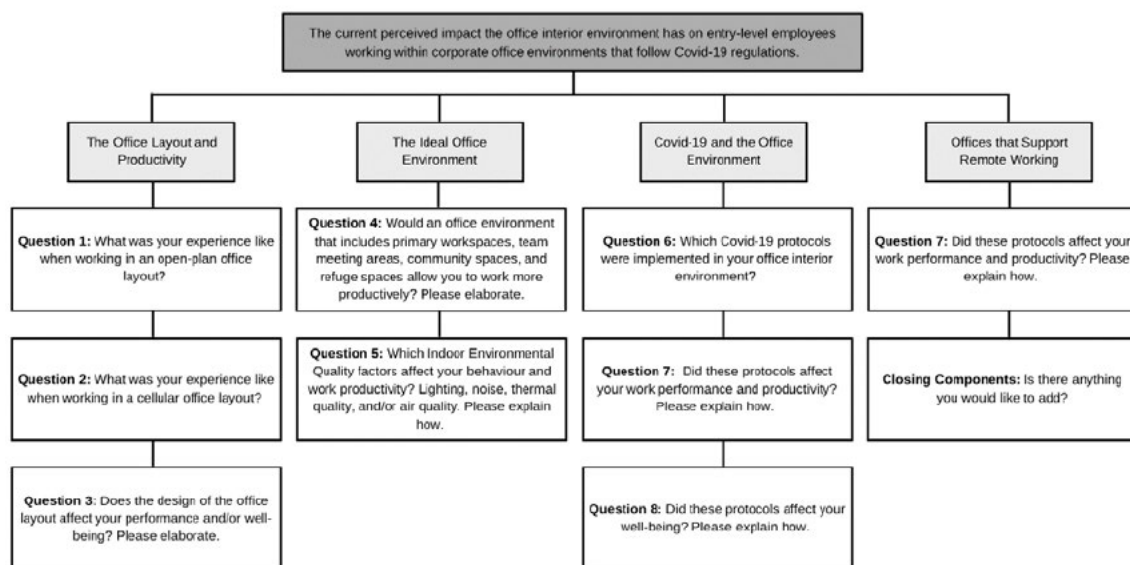


Figure 4: A diagrammatical representation of categorising questions under themes. (Maartens, 2022)

4.2.2.1. Theme 1: The Office Layout and Productivity

The respondents from both the legal department and IT department indicated awareness of the potential effects the office layout may have on work productivity. Similar views were expressed in response to question one, where all respondents described their experience working in an open-plan office layout. The word cloud in *Figure 5* displays the keywords from all responses. The larger the word shown below, the more frequently it was used in the different responses.



Figure 5: A word cloud displaying keywords derived from all responses. (Maartens, 2022)

As one can depict from the word cloud, the majority participants mentioned how the open-plan layout improved collaboration, communication, and interaction. Furthermore, the respondents from the legal department stated that the open-plan layout was more efficient as employees could “bounce off each other quickly” [Respondent #LD01]. In addition to this, two of the three respondents from the legal department stated the ease of “not having to walk into somebody else’s office and knock on the door to actually speak” to that person [Respondent #LD02]. Thus, an open-plan design facilitates collaboration and saves time.

In contrast to the positives of an open-plan layout, the third respondent mentioned the noise and distractions of an open-plan layout, adding that “it does create room for disruptions” [Respondent #LD03]. The five respondents from the IT department shared similar views to that of the legal department stating that it improved communication. Additionally, one respondent stated that an open-plan layout allows one to “hold people more accountable”, as you are able to see whether they are working or not [Respondent #ITD03]. Furthermore, a respondent raised the point of the lack of

privacy in open-plan layouts, stating “privacy is a lot less, you don’t have any privacy unless you have your own office” [Respondent #ITD02].

In contrast, the second question required the respondents to describe their experience working in a cellular office layout. Again, all participants shared similar views regarding working in a cellular layout. *Figure 6* showcases the keywords derived from all the responses, the larger the word shown below, the more frequently it was used in the different responses.



Figure 6: A word cloud displaying keywords derived from all responses. (Maartens, 2022)

As seen in *figure 6* the largest words include separate, quiet, and divided. The participants described their cellular office experience as being separate from others, teams were divided, and the space was too quiet. Two of the three respondents from the legal department stated that the cellular office environment was not practical regarding quick communication. The first respondent stated, “I’m very proactive, so I want to see you now, ask the question, get on with my life, I don’t want to have to book a meeting.” [Respondent #LD01]. The second respondent stated, “you have to go into somebody else’s space in order to just almost talk or say hello and it feels a little bit impersonal” [Respondent #LD02]. Additionally, respondents expressed it was difficult to get to know people, one respondent mentioned cliques are prone to form within cellular environments. Interestingly, one of the respondents claimed that the cellular office environment is harmful to corporate culture. Despite the disadvantages, several comments claimed that the cellular environment increased productivity.

Similar views were expressed by respondents from the IT department, who claimed that communication was impeded by teams' separation from one another. Furthermore, the respondents found that a cellular office layout fostered poor communication, which led to increased complaints. The respondents indicated that cellular offices may have benefits depending on the type of work performed.

In addition to the first two questions, question three required the respondents to state whether the design of the office layout affected their performance and/or well-being. Again, the responses were on the subject of collaboration; stating that an environment that promotes collaboration, promotes performance. Furthermore, respondents from the legal department expressed that multiple sorts of individuals need to be catered for in the work environment. The respondent explained that introverts need a quiet space to retreat to, as they are not able to continually function in a crowded open-plan layout. The design of office layouts needs to consider different options according to one of the respondents. The respondent states, "I think totally open-plan (offices) without options of meeting pods is also wrong... you need to be able to focus on someone." [Respondent #LD01]. The respondent states that in the case of an employee needing to focus on a client, that employee has the option of sitting in a quieter space with his/her client.

When referring back to the literature, all the points raised from these responses are valid. The design of office layouts does affect performance and well-being. As aforementioned, James, Delfabbro and King (2021) state that increased communication and collaboration between workers is a benefit of open-plan offices. This office type facilitates employees working together, thus, depending on the type of work performed, increases performance. Contrariwise, one respondent expressed that the open-plan layout does create room for disruptions. This falls in line with findings from the recent study conducted by Lee and Aletta (2019) which found that distraction caused by noise can drain employees' time and job performance. Furthermore, a study by Bernstein and Turban (2018) concluded that open-plan office environments have a lack of privacy and personal space. They further explain that this could hinder with performance as employees struggle to concentrate and focus on the task at hand.

However, in comparison to the cellular office layout, the responses above favour the open-plan layout. As previously mentioned, a respondent expressed increased performance within a cellular office layout, however, still expressed dissatisfaction. This falls in line with the literature, as studies have shown that this office layout boosts performance, as concentration levels are maximised. However, evidence has shown employees may feel oppressed, as they are restricted to cubicles for several hours a day (Muzaffar et al. 2020). Furthermore, one respondent expressed that the open-plan layout allows one to hold people more accountable. Whereas the cellular environment may pose as a threat to productivity due to the low supervision. Additionally, the cellular office layout restricts collaboration and employee relationships from evolving due to its modularity.

4.2.2.2. Theme 2: The Ideal Office Environment

The respondents indicated awareness of the potential effects the design of an office layout may have on work productivity. Question four required the respondents to agree or disagree with regard to whether an office environment with multiple spaces of differing complexity would improve work productivity or not. The respondents from the legal department shared similar views, expressing that the ideal office environment is made up of primary workspaces, team meeting areas, community spaces, and refuge spaces. However, the views expressed on the effect “the ideal office environment” may have on productivity differed slightly. The first respondent agreed with the question and was mindful of the need to accommodate various types of individuals in the workplace. The first respondent (#LD01) stated:

... it actually promotes your performance... just make sure with open space that you don't cram them (employees) too much. Make sure there's enough space for everybody to breathe, and ensure you have enough meeting pods and enough boardrooms to cater to everyone needs [Respondent #LD01].

In contrast to the first respondent's claim that it improves performance, two of the three respondents expressed concern about distractions. Where in their experience, the second respondent (#LD02) stated:

... it does get a little bit distracting every now and again. I think it is the ideal working space, you know, there is space for us to be able to move to a pod if you really need to focus [Respondent #LD02].

According to the respondents from the legal department, environments with varying spaces promote performance as the employees are more satisfied with the environment. Furthermore, the respondents expressed that providing employees with options improves performance, as they are able to move to a quieter space if needed. Contrariwise, one respondent expressed that the most ideal space was the main open-plan space, due to it fostering collaboration.

The respondents from IT department expressed different views as opposed to the respondents from the legal department. Where they expressed that a standard open-plan layout was sufficient for work performance. One respondent felt that providing people with different spaces creates unnecessary tension, should, for example, all the pods be taken, and an employee is left with no quiet space to retreat to. Additionally, one respondent raised the point of needing to accommodate for introverted employees, who should be allowed the option of retreating to quieter spaces. The respondent further explained a standard open-plan layout should at least have closed conference rooms, should someone need a quieter space. The respondent stated in their experience, "if there are cases where people are on a private phone call, there are conference rooms" [Respondent #ITD01].

Furthermore, the ideal office environment is not only dependent on the layout, but also on the Indoor Environmental Quality (IEQ) factors. Thus, question five required the respondents to list IEQ factors that affect their behaviour and work productivity. *Figure 7* showcases the percentages of how frequently an IEQ factor was mentioned.

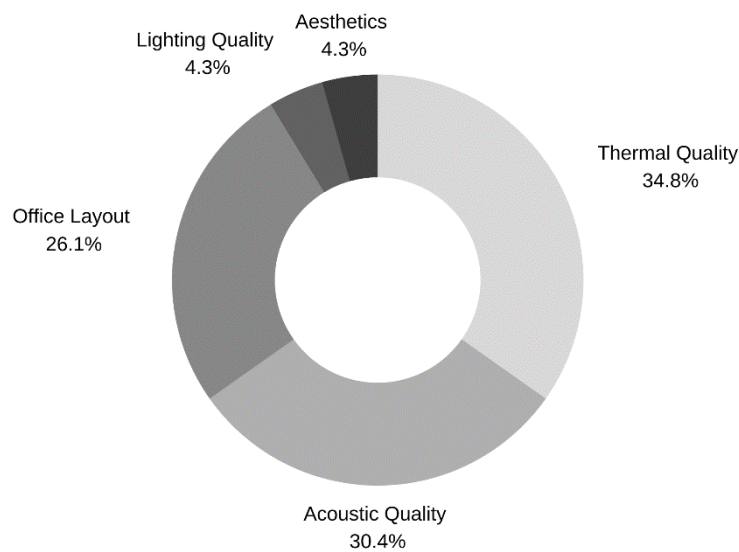


Figure 7: A diagrammatic showing the percentages on how frequently an IEQ factor was mentioned. (Maartens, 2022)

As one can depict from the pie chart, the most frequently mentioned factor was thermal quality. One respondent stated that it was vital to maintain a stable temperature, as employees struggle to focus whether the temperature is too hot or too cold. Additionally, a respondent stated that the employees should have thermal control over each environment, especially, in the case of the ideal office environment with multiple spaces. The employee's behaviour is affected by thermal quality, as one respondent stated that the men get agitated when the environment is too hot.

Based on the responses, acoustic quality was the next most evident factor. The respondents' views differed slightly with regard to acoustic quality. Where respondents from the legal department functioned better in spaces with white noise, as opposed to a completely quiet environment. One respondent stated, "personally, I don't like something that is too quiet, I prefer to be able to have music in the background" [Respondent #LD02]. Contrarily, the respondents from the IT department need a quiet environment to work in, due to the call centre. Additionally, the respondents expressed the importance of office layout, the example used here was that employees from the help desk could not be placed in close proximity to those in the open-plan layout, as they would not be able to concentrate on large tasks at hand.

Lastly, lighting quality and aesthetics, were factors mentioned by the respondents from the legal department. Where a respondent stated that adequate lighting was important

for employees to work effectively. Furthermore, the respondent stated that a well-designed environment promotes performance, as employees are satisfied with their surroundings.

The responses relate to the design theory of “prospect and refuge”, as the respondents agreed that the ideal office environment was one with multiple spaces of differing complexity. As aforementioned, the theory is deeply researched and proposes that people prefer large, open spaces with unobstructed views, however, have safety areas to retreat to. One respondent expressed that the most ideal space was the main open-plan area, however, the respondent still expressed that it is ideal to have spaces like pods to retreat to if needed. Furthermore, the responses fall in line with the literature, as the physical office environment allows an increase in individual performance by 5% and team performance by 11% (Palvalin, van der Voordt and Jylhä, 2017).

The IEQ factor that was most evident in the responses was thermal comfort. Where, one respondent stated that it was vital to maintain a stable temperature, as employees struggle to focus whether the temperature is too hot or too cold. As aforementioned, high-temperature levels increase body temperature and can result in tiredness, ultimately leading to employees being less efficient. Lower temperature levels decrease body temperature resulting in shivering, ultimately distracting employees from performing (Al-Omari et al., 2017; Esfandiari et al., 2017). The next most evident factor was acoustic quality. Unpredictable noise or noise that the workers have no control over, distracts employees the most (Al-Omari et al., 2017). One respondent from the legal department expressed their frustration with the type of music playing in the background at times. Not having control over the music being played could distract the employees. Furthermore, respondents from the IT department used the example of placing the call centre near the open-plan office, as uncontrollable noise disruptions.

4.2.2.3. Theme 3: Covid-19 and the Office Environment

The respondents have thus far thought deeply about the effects of the office environment. Question six required the interviewees to state which Covid-19 protocols were implemented in the interior office environment. *Figure 8* displays the protocols followed by both companies, namely, King Price and Herotel.

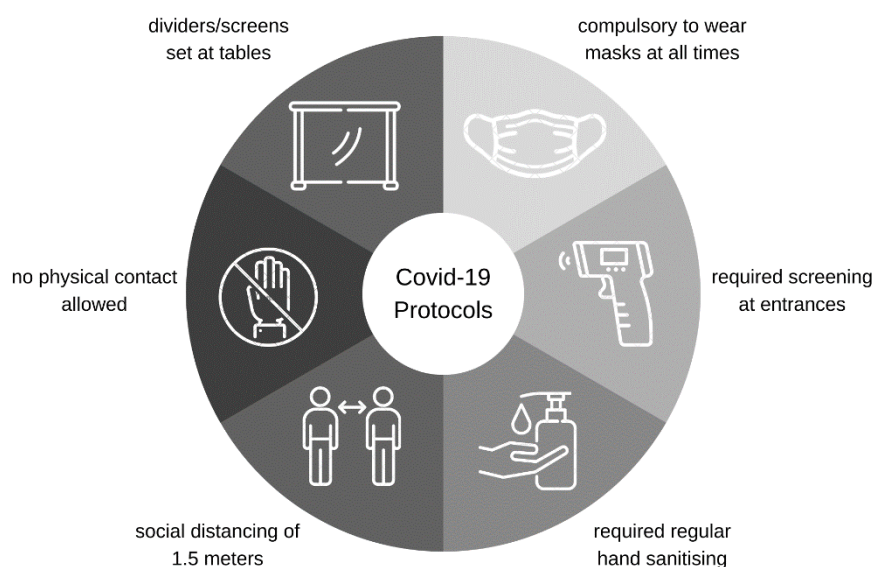


Figure 8: A diagrammatic showcasing the protocols followed in both companies. (Maartens, 2022)

As seen in *figure 8* both companies followed strict Covid-19 protocols. In answering questions seven and eight, the respondents were able to express the effects these protocols had on their work performance and well-being. The respondents from the legal team indicated that the protocols affected their well-being as they felt isolated. One respondent continued by stating employees feared contracting the virus; normal socialising was restricted as no contact was allowed. The regulations put a morbid aspect to things, as there was less interaction due to social distancing and barriers placed. The respondents further expressed that the Covid-19 protocols did affect productivity, as employees were encouraged to work from home to minimise contact. A respondent stated, "so for me as chairperson, to work via teams it is more difficult; in a hearing that can take an hour is suddenly three hours..." [Respondent #LD01]. The respondent continued by stating that the output had been affected by the protocols. Furthermore, the respondent stated that performance was affected as there was a sense of complacency.

According to a different respondent from the legal department, the team spent months working from home and only recently returned to the office. The respondent stated, “our team pretty much stayed at home until probably 2-3 months ago. So, prior to that, we would come in maybe twice a week” [Respondent #LD02]. Furthermore, the respondents expressed that they found it far more difficult to collaborate online, as they prefer face-to-face contact. Performance was affected, as it was time-consuming to receive a response from a colleague. Contrariwise, respondents found, working from home had its benefits as there were fewer distractions and more time spent working. The respondent stated, “spending almost an hour and 45 minutes in traffic there and back, I could have been working” [Respondent #LD03].

In addition to this, the respondents from the IT department expressed concern about working from home. In their experience, the respondents stated that employees were less effective when working from home. Furthermore, working from home hindered with productivity as employees could not be held accountable. However, one respondent did state that working from home could affect performance depending on the type of work performed. They further stated that there are lots of pros and cons with regard to working from home.

When referring to the literature, the points raised in the responses are valid. To ensure minimal contact between employee's barriers were set in place; this hindered with performance as collaboration was restricted. As previously mentioned, according to French (2020) South African workspace provider Workshop17, identified local trends regarding the effects of the pandemic. These trends include offices that support remote working, through both physical and virtual offices (French, 2020). However, regular in-person interaction and engagement with colleagues is restricted and could negatively affect performance and well-being. Additionally, output is affected due to the time wasted on things like connectivity issues or inaudibility. However, employees that travel far distances to get to work, may benefit from virtual working as less time is wasted on travelling. Lastly, working remotely could affect work performance due to the lack of supervision, where employees could use work time to engage in negative behaviour.

4.2.2.4. Theme 4: Offices that Support Remote Working

Interesting points were raised by the interviewees when responding to question seven. Respondents from the legal department expressed that the ideal scenario would be to partly work from home and in the office. One respondent stated, “In an ideal world, I would have preferred the best of both worlds. To incorporate a little bit of office time and a little bit of home time.” [Respondent #LD03]. When raising the point of working from home as a result of the pandemic, respondents expressed that they still wanted to work from home, but also combine it with working from the office. Additionally, a respondent stated, “I wouldn’t mind working from home on a Monday and Friday and then coming back for the three days in between.” [Respondent #LD02]. Respondents from the IT department shared similar views, however, one of the respondents expressed the need for consistency. The respondent stated that everyone has their own preference, but rotating employees to work from home and in the office was not beneficial to this respondent.

When referring to the literature, French (2020) states that large corporate companies are considering more flexible workspaces, better virtual options, and smaller offices. Furthermore, 54% of businesses had increased the use of technology, to work remotely and run their businesses during lockdown (French, 2020). Based on the responses above, employees could benefit from rethinking office spaces, and accommodating a more flexible office environment. Future offices will no longer be a specific space in one building but be a combination of physical workspaces and virtual office resources to allow for online meetings, planning and collaboration (French, 2020).

4.3. In Compliance with Trustworthiness

The validity of the aforementioned findings is essential to the accomplishment of this study. The researcher supported the interviewee’s responses with evidence from the body of literature to ensure the credibility of the responses.

4.4. Chapter Summary

The eight interviewees expressed their varying perspectives when answering the open-ended questions. Based on the first theme; the office layout and productivity, the

responses favoured an open-plan layout as opposed to the cellular office layout. As it proved to foster collaboration and interaction which benefits employees' performance and well-being. Furthermore, the legal department responses agreed with the factors that make up the ideal office environment, whereas the IT department expressed a standard open-plan layout was sufficient for work performance. It was established that thermal quality, acoustic quality, and office layout were the major IEQ factors that impacted employee performance and well-being.

Questions presented under theme three established that employee performance and well-being were affected by Covid-19 protocols. This was as a result of barriers and limited collaboration. Interestingly, the interviewees expressed there were pros and cons to Covid-19 protocols. When answering question seven, respondents raised a point of wanting a more flexible office environment which could lead to further research on this specific phenomenon.

CHAPTER 5: CONCLUSION

5.1. Introduction

The objective of the study was to determine whether entry-level employees' perceived well-being and performance were impacted by the new regulations implemented in the corporate office environment due to Covid-19. The intention of the study was to add to the existing body of knowledge regarding the layouts of offices and to contribute to the elimination of a gap in the present literature regarding the new challenges faced in the work environment due to the global pandemic. Thus, this chapter will attempt to formally respond to and address the primary and secondary questions.

5.2. Research Question and Objectives Addressed

5.2.1. Secondary Questions

5.2.1.1. What is the impact of open-plan offices versus cellular offices on workplace performance?

The aim here was to establish which of the two office layouts contributed to workplace performance. Firstly, this question was addressed through reviewing the relevant literature. Al-Omari and Okasheh (2017) state that the office layout is vital when it comes to optimising employee performance. Contemporary office environments allow for new ways of working, it allows for ease of communication and interpersonal access (Al-Omari et al., 2017). The core benefits found in open-plan layouts included increased collaboration, enhanced communication, and flexibility to work (James, Delfabbro and King, 2021). When reviewing cellular office layouts, it was found that performance was boosted, as concentration levels are maximised. However, evidence has shown employees may feel oppressed, as they are restricted to cubicles for several hours a day (Muzaffar et al. 2020).

Employees favoured the open-plan layout, as they were satisfied with the environment. Moreover, employee interaction and collaboration were shown to be facilitated by the absence of physical barriers, resulting in optimal performance, as they were able to instantly exchange ideas with one another. Additionally, due to the

limited supervision within cellular office spaces, employees might not be working at optimal performance. Thus, employees felt that the open-plan layout was more beneficial to promoting performance. Determining this was crucial as Covid-19's social distancing would lead to a more cellular workplace environment, due to barriers set in place.

5.2.1.2. How do office layouts affect performance and well-being?

The aim here was to establish what an ideal workplace setting was for employees working in corporate offices. Again, the question was addressed when reviewing previous literature, where Cindrich (2020) found that the ideal office environment included primary workspaces, team meeting areas, community spaces, and refuge spaces. It was evident that employees working within the corporate environment agree with this statement. Furthermore, this relates to the design theory of “prospect and refuge” as multiple spaces of differing complexity are included. As previously mentioned, the physical office environment allows an increase in individual performance by 5% and team performance by 11% (Palvalin, et al., 2017).

It was found, to gain optimal productivity, employees needed to comfortably do their jobs in an ideal, secure, and healthy environment (Al-Omari et al., 2017). The findings corroborated this statement as they indicated that workplaces that offered employees multiple spaces of differing complexity, led to employees who were satisfied with their environment. This is essential since remote work prevents employees from having the option of an alternative workspace, should they need a less distracting space.

5.2.1.3. Which Covid-19 Regulations were Implemented in the Office Environment?

Here, the goal was to ascertain which Covid-19 protocols were established in the working environment, to further understand the potential effects they may have on employees' performance and well-being. It was found that all regulations were implemented in the space, however, the most significant regulation was social distancing. As employees were expected to work remotely. When reviewing the literature, French (2020) found that large corporate companies supported remote working, through both physical and virtual offices. It is evident that this form of working

did affect performance both positively and negatively, as employees found more time to spend on work. However, the work output was significantly slower due to the lack of physical interaction and collaboration. Furthermore, employees were not working at optimal performance, as they did not strive to hit target. Additionally, well-being was affected, as employees felt isolated and longed for in-person collaboration.

5.2.2. Primary Question

The secondary questions were aimed to provide an answer to the main question, which is to determine the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment. The findings clearly show the impacts these regulations had on entry-level employees, whether it was positive or negative.

Furthermore, the study aims to advance the body of theory and increase awareness of how Covid-19 restrictions affect work performance and well-being, as it could prove detrimental to a business. Continued research is possible, as it was made evident that employees would benefit from a flexible work environment. Where, CEO and co-founder of Workshop17, Paul Keursten, states that the future of offices will no longer be a specific space in one building but be a combination of physical workspaces and virtual office resources to allow for online meetings, planning and collaboration (French, 2020). Moreover, this ties in with the relevant theory of “prospect and refuge” as multiple spaces of differing complexity are offered. Further research could determine whether this will prove beneficial to corporate companies’ overall work performance.

5.3. Anticipated Contribution

The study could possibly contribute to a deeper understanding of the phenomenon. The study’s new findings could contribute to the understanding of whether new Covid-19 regulations are impacting the perceived performance and well-being of employees within the corporate office interior design environment. The study could prove beneficial to organisations as a decrease in workplace productivity could be detrimental to the business. Furthermore, employees could benefit from the research as an improvement could be made if the research findings prove that Covid-19

regulations do impact their perceived well-being and performance. The anticipated contribution of the study is to add to the existing body of knowledge regarding office layouts and to contribute to the elimination of a gap in the present literature regarding the new challenges faced in the work environment due to the global pandemic.

5.4. Ethical Considerations

5.4.1 Ethical issues pertaining to participants include:

5.4.1.1. Informed Consent

The participants were formally informed and knew what they were partaking in. The researcher obtained the participant's consent before performing any data collection method – interviews, focus groups, etc. As the researcher, I presented the participants with written information and had them sign their consent (du Plooy-Cilliers et al., 2014).

5.4.1.2. Collecting Data from Participants

Participants were informed of how their identities and/or sensitive information will be protected. The researchers did not waste the participant's time by presenting them with overly long questions or through poor organisation. The researcher carefully considered the physical and social context in which she gather data from participants (du Plooy-Cilliers et al., 2014).

5.4.1.3. Avoiding Harm

The researcher did not harm the participants in any way. For example, ensuring that as the researcher I do not embarrass the participant in front of the others (du Plooy-Cilliers et al., 2014).

5.4.1.4. Confidentiality

As the researcher, I will be able to match the participant's identities to their research responses, however, this will only be known to me. Confidentiality will be used over anonymity, as I will be conducting in-depth interviews, and will need to associate identities with responses (du Plooy-Cilliers et al., 2014).

5.4.1.5. Deception

I did not deceive participants by telling them the research is about one thing when it is about another, or by giving them the general purpose of the research but not telling them the specifics (du Plooy-Cilliers et al., 2014).

5.4.1.6. Providing Incentives

I did not provide incentives – such as money, food, etc. – to get people to participate in my research, as it may distort the results (du Plooy-Cilliers et al., 2014).

5.4.2. Ethical issues pertaining to the researcher include:

5.4.2.1. Falsifying Information

As the researcher, I did not change data to get desired outcomes or to avoid difficult, time-consuming aspects of data collection (du Plooy-Cilliers et al., 2014).

5.4.2.2. Bias

Researchers' desire or expectation of a particular result may affect the research results, in a sense of how and where the researcher collects and interprets the data (du Plooy-Cilliers et al., 2014). As the researcher, I did not let my bias obstruct the study.

5.4.2.3. Misusing Information

Researchers are to not use any data collected from participants for other purposes unless the participants have given consent to do so (du Plooy-Cilliers et al., 2014).

5.4.2.4. Distorting Results

I did not distort results by emphasising certain aspects over other aspects of equal significance (du Plooy-Cilliers et al., 2014).

5.5. Limitations

According to du Plooy-Cilliers et al. (2014) limitations can be described as constraints in the research study that are out of your control. The time period given for this

research study is a limitation, as it limits the amount of information that can be collected for the research paper (du Plooy-Cilliers et al., 2014). Another possible limitation may surface due to 'shifts in conditions' during the study (du Plooy-Cilliers et al., 2014). For example, during the primary research phase of the study, news lines state that all Covid-19 regulations have been lifted, this will influence how employees' performance is affected by Covid-19 regulations pertaining to interior design in the corporate office environment.

Furthermore, the researcher's bias could possibly interfere with the data collection methods. Where du Plooy-Cilliers et al. (2014) state that when conducting a focus group meeting, persons with a higher level of expertise or education will tend to speak more than others. This could result in the facilitator developing biased opinions toward certain members of the group. Therefore, when selecting group members, it is essential to evaluate a variety of characteristics such as the degree of education, financial status, and so on, to avoid this.

5.6. Chapter Summary

In conclusion, it is vital to note that the office interior design environment impacts employee performance and well-being. The research report has allowed the researcher to establish that Covid-19 regulations have a perceived impact on entry-level employees in the office interior design environment. Interestingly, the research can be taken further to determine whether a flexible office environment is the most beneficial for employee performance and well-being.

REFERENCES

Abdulaali, H., Usman, I., Hanafiah, M., Abdulhasan, M., Hamzah, M. and Nazal, A., 2020. Impact of poor Indoor Environmental Quality (IEQ) to Inhabitants' Health, Wellbeing and Satisfaction. *International Journal of Advanced Science and Technology*, 29(3), p.1. [Accessed 4 May 2022].

Al Horr, Y., Arif, M., Kaushik, A., Mazroei, A., Katafygiotou, M. and Elsarrag, E., 2016. Occupant productivity and office indoor environment quality: A review of the literature. *Building and Environment*, [online] 105, pp.369-389. Available at: <<https://www.sciencedirect.com/science/article/abs/pii/S0360132316302001?via%3Dihub>> [Accessed 2 May 2022].

AlOmani, A., El-Rayes, K. and Altuwaim, A., 2021. Optimizing the use of acoustic materials in office buildings. *Scientific Reports*, [online] 11(1), pp.1-4. Available at: <<https://www.nature.com/articles/s41598-021-00082-3>> [Accessed 4 May 2022].

Al-Omari, K. and Okasheh, H., 2017. The Influence of Work Environment on Job Performance: A Case Study of Engineering Company in Jordan. *International Journal of Applied Engineering Research*, 12(24), pp.15544-15545.

Appleton, J., 1975. The experience of landscape. *Landscape Research*, 1(10), pp.15-16.

Badayai, A., 2012. A Theoretical Framework and Analytical Discussion on Uncongenial Physical Workplace Environment and Job Performance among Workers in Industrial Sectors. *Procedia - Social and Behavioral Sciences*, [online] 42, pp.486-495. Available at: <https://www.researchgate.net/publication/257716126_A_Theoretical_Framework_and_Analytical_Discussion_on_Uncongenial_Physical_Workplace_Environment_and_Job_Performance_among_Workers_in_Industrial_Sectors> [Accessed 7 May 2022].

Bernstein, E. and Turban, S., 2018. The impact of the 'open' workspace on human collaboration. *Philosophical Transactions of the Royal Society B: Biological Sciences*, [online] Available at: <<https://royalsocietypublishing.org/doi/10.1098/rstb.2017.0239>> [Accessed 7 May 2022].

Bliss, L., 2016. Phenomenological Research. *International Journal of Adult Vocational Education and Technology*, [online] 7(3), pp.14-26. Available at: <<https://sageprofessor.files.wordpress.com/2017/10/phenomenological-research-inquiry-to-understand-the-meanings-of-peoples-experiences.pdf>> [Accessed 17 June 2022].

Brennan, A., Chugh, J. and Kline, T., 2002. Traditional versus Open Office Design. *Environment and Behavior*, [online] 34(3), pp.279-299. Available at: <<https://journals.sagepub.com/doi/10.1177/0013916502034003001>> [Accessed 7 May 2022].

Budaiova, Z. and Vilcekova, S., 2015. Assessing the effect of indoor environmental quality on productivity at office work. *Selected Scientific Papers - Journal of Civil Engineering*, [online] 10(1), pp.37-46. Available at: <https://www.researchgate.net/publication/282600434_Assessing_the_effect_of_indoor_environmental_quality_on_productivity_at_office_work> [Accessed 2 May 2022].

Cindrich, B., 2020. Interior Design in the Workplace. *Marriott Student Review*, [online] 4(1), p.3. Available at: <https://scholarsarchive.byu.edu/marriottstudentreview/vol4/iss1/2/?utm_source=scholarsarchive.byu.edu%2Fmarriottstudentreview%2Fvol4%2Fiss1%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages> [Accessed 2 April 2022].

Desimone, R., 2019. What High-Performance Workplaces Do Differently. [online] Gallup.com. Available at: <<https://www.gallup.com/workplace/269405/high-performance-workplaces-differently.aspx>> [Accessed 19 June 2022].

Diener, E., & Suh, E., 1997. Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40 (1–2), 189–216.

<http://dx.doi.org/10.1023/A:1006859511756>

Dodge, R., Daly, A., Huyton, J. and Sanders, L., 2012. The challenge of defining wellbeing. *International Journal of Wellbeing*, 2(3), pp.223-226.

Dosen, A. and Ostwald, M., 2016. Evidence for prospect-refuge theory: a meta-analysis of the findings of environmental preference research. *City, Territory and Architecture*, [online] 3(1), pp.2-3. Available at:

<<https://cityterritoryarchitecture.springeropen.com/articles/10.1186/s40410-016-0033-1#ref-CR1>> [Accessed 4 May 2022].

Du Plooy-Cilliers, F., Davis, C. and Bezuidenhout, R., 2014. *Research Matters*. 1st ed. Cape Town: Juta and Company Ltd, pp.183-190.

Duggan, T., n.d. A Description of the Characteristics of a High-Performance Workplace. [online] *Small Business - Chron.com*. Available at:

<<https://smallbusiness.chron.com/description-characteristics-highperformance-workplace-13451.html>> [Accessed 5 May 2022].

Esfandiari, M., Zaid, S., Ismail, M. and Aflaki, A., 2017. Influence of Indoor Environmental Quality on Work Productivity in Green Office Buildings: A Review. *AIDIC*, [online] 56, pp.1-5. Available at: <<https://www.aidic.it/cet/>> [Accessed 4 May 2022].

French, D., 2020. Changing trends in the South African office, fast-tracked by Covid-19. [online] *Engineering News*. Available at:

<<https://www.engineeringnews.co.za/article/changing-trends-in-the-south-african-office-fast-tracked-by-covid-19-2020-09-22>> [Accessed 8 May 2022].

Gartner, n.d. Definition of High Performance Workplace - Gartner Information Technology Glossary. [online] *Gartner*. Available at:

<<https://www.gartner.com/en/information-technology/glossary/high-performance-workplace>> [Accessed 5 May 2022].

George, T., 2022. Exploratory Research | Definition, Guide, & Examples. [online] Scribbr. Available at: <<https://www.scribbr.com/methodology/exploratory-research/#:~:text=Exploratory%20research%20is%20a%20methodology,can%20be%20quantitative%20as%20well.>> [Accessed 17 June 2022].

gov.za, n.d. Safety in the workplace | South African Government. [online] Gov.za. Available at: <<https://www.gov.za/covid-19/companies-and-employees/safety-workplace#:~:text=Social%20distancing%20measures&text=Every%20employer%20must%20arrange%20the,for%20example%2C%20at%20their%20workstations.>> [Accessed 7 May 2022].

Green, A., 2015. Office space – the primary health frontier of any enterprise. [online] The Mail & Guardian. Available at: <<https://mg.co.za/article/2015-03-13-office-space-the-primary-health-frontier-of-any-enterprise/>> [Accessed 20 June 2022].

Hamilton, K., 2006. Four Levels of Evidence-Based Practice | The Center for Health Design. [online] Healthdesign.org. Available at: <<https://www.healthdesign.org/knowledge-repository/four-levels-evidence-based-practice-0>> [Accessed 2 May 2022].

Hamilton, K., 2020. Evidence-Based Practice: Four Levels Revisited. HERD: Health Environments Research & Design Journal, [online] 13(3), pp.26-29. Available at: <<https://journals.sagepub.com/doi/full/10.1177/1937586720931064>> [Accessed 2 May 2022].

Haynes, B., 2008. Impact of workplace connectivity on office productivity. Journal of Corporate Real Estate, [online] 10(4), pp.286-302. Available at: <https://www.researchgate.net/publication/35439453_Workplace_connectivity_a_study_of_its_impact_on_self-assessed_productivity> [Accessed 7 May 2022].

Haynes, B., 2008. The impact of office layout on productivity. Journal of Facilities Management, [online] 6(3), pp.189-201. Available at: <<http://www.emeraldinsight.com.ezproxy.iielearn.ac.za>> [Accessed 7 May 2022].

healthdesign.org, n.d. About EBD. [online] The Center for Health Design. Available at: <<https://www.healthdesign.org/certification-outreach/edac/about-ebd>> [Accessed 2 May 2022].

Hellriegel, D., Slocum, J. and Jackson, S., 1999. Management. 8th ed. Cincinnati [i pozostałe]: South-Western College Publishing.

Ionescu, C., Roman, M. and Bota, G., 2014. The concept of wellbeing in relation to health and quality of life. European Journal of Science and Theology, [online] 10(4), pp.123-127. Available at: <https://www.researchgate.net/publication/298026525_The_concept_of_wellbeing_in_relation_to_health_and_quality_of_life> [Accessed 4 May 2022].

James, O., Delfabbro, P. and King, D., 2021. A Comparison of Psychological and Work Outcomes in Open-Plan and Cellular Office Designs: A Systematic Review. SAGE Open, [online] 11(1), p.215824402098886. Available at: <<https://journals.sagepub.com/doi/full/10.1177/2158244020988869>> [Accessed 7 May 2022].

Kollie, E., 2013. Evidence-Based Design Influences Interior Design. [online] spaces4learning. Available at: <<https://spaces4learning.com/Articles/2013/07/01/Evidence-Based-Design.aspx>> [Accessed 2 May 2022].

Lee, Y. and Aletta, F., 2019. Acoustical planning for workplace health and well-being: A case study in four open-plan offices. Building Acoustics, [online] 26(3), pp.207-220. Available at: <<https://journals.sagepub.com/doi/abs/10.1177/1351010X19868546>> [Accessed 7 May 2022].

Mahbob, N., Kamaruzzaman, S., Salleh, N. and Sulaiman, R., 2013. Correlation and Regression Studies of Indoor Environmental Quality (IEQ), Human Productivity, Comfort and Stress Level in Office Buildings. Advanced Science Letters, [online]

19(1), pp.342-345. Available at:

<https://www.researchgate.net/publication/272320843_Correlation_and_Regression_Studies_of_Indoor_Environmental_Quality_IEQ_Human_Productivity_Comfort_and_Stress_Level_in_Office_Buildings> [Accessed 2 May 2022].

Muzaffar, P., Noor, N. and Mahmud, S., 2020. A Comparative Study on The Impacts of Open Plan and Closed Office Layout Towards Employees' Perceived Productivity. *Jurnal Penyelidikan Sains Sosial*, [online] 3(6), pp.51-52. Available at:

<https://www.researchgate.net/publication/341059827_A_Comparative_Study_on_The_Impacts_of_Open_Plan_and_Closed_Office_Layout_Towards> [Accessed 7 May 2022].

Nemeth, C., 2014. Evidence Based Design: Exploring Research, Education, and Application in Interior Design. [online] pp.28-30. Available at:

<<http://hdl.handle.net/11023/1342>> [Accessed 3 May 2022].

Palvalin, M., van der Voordt, T. and Jylhä, T., 2017. The impact of workplaces and self-management practices on the productivity of knowledge workers. *Journal of Facilities Management*, [online] 15(4), pp.5-7. Available at:

<https://www.researchgate.net/publication/318683146_The_impact_of_workplaces_and_self-management_practices_on_the_productivity_of_knowledge_workers> [Accessed 7 May 2022].

Pradhan, R. and Jena, L., 2016. Employee Performance at Workplace: Conceptual Model and Empirical Validation. *Business Perspectives and Research*, [online] 5(1), pp.2-4. Available at:

<https://www.researchgate.net/publication/311650540_Employee_Performance_at_Workplace_Conceptual_Model_and_Empirical_Validation> [Accessed 5 May 2022].

Ryff, C. D., 1989. Happiness is everything, or is it? Explorations on the meaning of psychological wellbeing. *Journal of Personality and Social Psychology*, 57, 1069–1081. <http://dx.doi.org/10.1037/0022-3514.57.6.1069>

Sauro, J., 2015. 5 Types of Qualitative Methods – MeasuringU. [online] Measuringu.com. Available at: <<https://measuringu.com/qual-methods/>> [Accessed 18 June 2022].

Thomas, L., 2022. Cross-Sectional Study | Definitions, Uses & Examples. [online] Scribbr. Available at: <<https://www.scribbr.com/methodology/cross-sectional-study/>> [Accessed 19 June 2022].

Wainwright, B., 2018. What is employee performance?. [online] Effectory. Available at: <<https://www.effectory.com/knowledge/what-is-employee-performance/>> [Accessed 5 May 2022].

ANNEXURES

Annexure A – Consent Form

Explanatory information sheet and consent form for participants
To whom it may concern, My name is Maresa Maartens and I am a student at The IIE's Vega School Pretoria Campus. I am currently conducting research under the supervision of JD Eksteen about the perceived impact of Covid-19 regulations pertaining to entry-level employees in the corporate office interior design environment. I hope that this research will enhance our understanding of the direct effects Covid-19 regulations may have on employee's perceived well-being and performance within their workplace. I would like to invite you to participate in my study. In order to explain to you what your participation in my study will involve, I have formulated questions that I will try to fully answer so that you can make an informed decision about whether or not to participate. If you have any additional questions that you feel are not addressed or explained in this information sheet, please do not hesitate to ask me for more information. Once you have read and understood all the information contained in this sheet and are willing to participate, please complete and sign the consent form below.
What will I be doing if I participate in your study?
I would like to invite you to participate in this research because (insert reason). If you decide to participate in this research, I would like to (explain exactly what participation will involve). You can decide whether or not to participate in this research. If you decide to participate, you can choose to withdraw at any time or to decide not to answer particular interview questions.
Are there any risks/ or discomforts involved in participating in this study?
Whether or not you decide to participate in this research, there will be no negative impact on you. There are no direct risks or benefits to you if you participate in this study. You might, however, indirectly find that it is helpful to talk about your (insert what you are examining). If you find at any stage that you are not comfortable with the line of questioning, you may withdraw or refrain from participating.
Do I have to participate in the study?
• Your inclusion in this study is completely voluntary;

- If you do not wish to participate in this study, you have every right not to do so;
- Even if you agree to participate in this study, you may withdraw at any time without having to provide an explanation for your decision.

Will my identity be protected?

I promise to protect your identity. I will not use your name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify you. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody at **the IIE's Vega School Pretoria Campus**, will have access to your interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to you.

What will happen to the information that participants provide?

Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my **BA Honours in Interior Design**. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

What happens if I have more questions about the study?

Please feel free to contact me or my supervisor should you have any questions or concerns about this research, or if there is anything you need to know before you decide whether or not to participate.

You should not agree to participate unless you are completely comfortable with the procedures followed.

My contact details are as follows:

Maresa Maartens

██████████

████████████████████

The contact details of my supervisor are as follows:

JD Eksteen

██████████

████████████████

Participant or respondent consent	
I, _____, agree to participate in the research conducted by Maresa Maartens about the perceived impact of Covid-19 regulations pertaining to entry-level employees in the corporate office interior design environment. This research has been explained to me and I understand what participation in this research will involve. I understand that: • I agree to be interviewed for this research. • My confidentiality will be ensured. My name and personal details will be kept private. • My participation in this research is voluntary and I have the right to withdraw from the research at any time. There will be no repercussions should I choose to withdraw from the research. • I may choose not to answer any of the questions that are asked during the research interview. • I may be quoted directly when the research is published, but my identity will be protected.	
Signature	Date

Annexure B – Consent Form for Audio or Video Recording

Consent form for participants	
I, _____, agree to allow Maresa Maartens to audio record my interviews as part of the research about the direct effects Covid-19 regulations may have on employee's perceived well-being and performance within their workplace. This research has been explained to me and I understand what participation in this research will involve. I understand that: • My confidentiality will be ensured. My name and personal details will be kept private; • The recordings will be stored in a password-protected file on the researcher's computer; and • Only the researcher, the researcher's supervisor and possibly a transcriber (who will sign a confidentiality agreement) will have access to these recordings.	
Signature	Date

Annexure C – Interview Schedule

Introduction
Firstly, I would like to thank you for taking the time out to participate in my research study, it is greatly appreciated. My name is Maresa Maartens and I am a student at The IIE's Vega School Pretoria Campus. I am currently conducting research under the supervision of JD Eksteen about the perceived impact of Covid-19 regulations pertaining to entry-level employees in the corporate office interior design environment. I hope that this research will enhance our understanding of the direct effects Covid-19 regulations may have on employee's perceived well-being and performance within their workplace. The interview will take approximately 20 to 30 minutes. With your permission I will be recording the session to ensure that I do not miss any comments. Please be sure to speak up during the interview to ensure a clear recording. Please note during the interview I will also be taking notes. All responses will be kept confidential. Meaning that the research will not identify you as the respondent, this will only be known to me. Please remember that you are not forced to answer questions you do not want to answer, also note that you are able to end the interview at any time.
Questions
1. What was your experience like when working in an open-plan office layout?
2. What was your experience like when working in a cellular office layout?
3. Does the design of the office layout affect your performance and/or well-being? Please elaborate.
4. Would an office environment that includes primary workspaces, team meeting areas, community spaces, and refuge spaces allow you to work more productively? Please elaborate.
5. Which Indoor Environmental Quality factors affect your behaviour and work productivity? Lighting, noise, thermal quality, and/or air quality. Please explain how.
6. Which Covid-19 protocols were implemented in your office interior environment?
7. Did these protocols affect your work performance and productivity? Please explain how.
8. Did these protocols affect your well-being? Please explain how.
Closing Key Components
Is there anything more you would like to add?

Note that a draft report will be submitted in a month's time. I will be happy to send you a copy to review at the time, if you are interested.

Thank you for your time, have a lovely day further.

Annexure D – Gatekeeper’s Letter Herotel



Gatekeeper’s letter/ Request to conduct research

To whom it may concern,

I am writing to ask your permission to conduct research at your company – King Price.

My name is Maresa Maartens, I am a BA Honours in Interior Design student at Vega School Pretoria, a brand of the Independent Institute of Education (IIE). The research I wish to conduct for my Honours Project is titled “What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?”.

The aim of this study is to determine the direct effects Covid-19 regulations may have on employee’s perceived well-being and performance within their work environment. The project consists of three in-depth interviews and a focus group made up of five participants. The nature of your firm’s participation will be in the form of in-depth interviews and focus groups. Where entry-level employees will answer eight open-ended questions for approximately 20 to 30 minutes. The interview will take place at the company. Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my BA Honours in Interior Design. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

I promise to protect the participants identity. I will not use their name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify the participant. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody at the IIE’s Vega School Pretoria Campus, will have access to the participants interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to the participants.

Yours sincerely

Student: Maresa Maartens

Supervisor: JD Eksteen

My contact details are as follows:

Maresa Maartens



The contact details of my supervisor/navigator/lecturer are as follows:

JD Eksteen



Gatekeeper's Approval

Consent form to conduct research at my company	
I, [REDACTED]	
Representative of [REDACTED]	
My capacity: 5	
Give my permission that may conduct research at my company. This research has been explained to me and I understand what participation in this research will involve. I reserve the right to withdraw this permission at any time. I also understand that research reports will be available in the library and IIE Repository.	
Select below:	
• I request that my company's identity be kept confidential. • My company may be identified in the study	
Signature: [REDACTED]	Date: 26 Aug 2022

Annexure E – Gatekeeper’s Letter King Price Insurance



Gatekeeper’s letter/ Request to conduct research

To whom it may concern,

I am writing to ask your permission to conduct research at your company – King Price.

My name is Maresa Maartens, I am a BA Honours in Interior Design student at Vega School Pretoria, a brand of the Independent Institute of Education (IIE). The research I wish to conduct for my Honours Project is titled “What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?”.

The aim of this study is to determine the direct effects Covid-19 regulations may have on employee’s perceived well-being and performance within their work environment. The project consists of three in-depth interviews and a focus group made up of five participants. The nature of your firm’s participation will be in the form of in-depth interviews and focus groups. Where entry-level employees will answer eight open-ended questions for approximately 20 to 30 minutes. The interview will take place at the company. Once I have finished all interviews, I will write summaries to be included in my research report, which is a requirement to complete my BA Honours in Interior Design. You may ask me to send you a summary of the research if you are interested in the final outcome of the study.

I promise to protect the participants identity. I will not use their name in any research summaries to come out of this research and I will also make sure that any other details are disguised so that nobody will be able to identify the participant. I would like to ask your permission to record the interviews, but only my supervisor, I and possibly a professional transcriber (who will sign a confidentiality agreement) will have access to these recordings. Nobody else, including anybody at the IIE’s Vega School Pretoria Campus, will have access to the participants interview information. I would like to use quotes when I discuss the findings of the research, but I will not use any recognisable information in these quotes that can be linked to the participants.

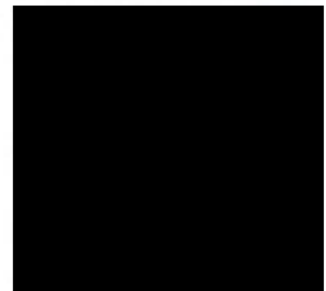
Yours sincerely

Student: Maresa Maartens

Supervisor: JD Eksteen

My contact details are as follows:

Maresa Maartens

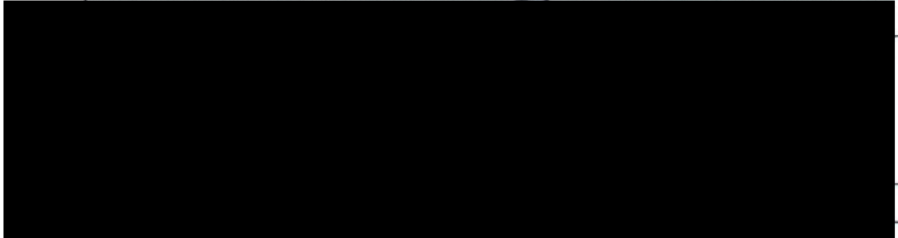


The contact details of my supervisor/navigator/lecturer are as follows:

JD Eksteen



Gatekeeper's Approval

Consent form to conduct research at my company	
I, 	
Representative of <u>King Price Insurance</u>	
My capacity: <u>Legal - Labour</u>	
Give my permission that <u>Mareq Maartens</u> may conduct research at my company. This research has been explained to me and I understand what participation in this research will involve. I reserve the right to withdraw this permission at any time. I also understand that research reports will be available in the library and IIE Repository.	
Select below:	
☒ I request that my company's identity be kept confidential.	
	<u>18/08/2022</u>
	Date



Annexure F – Ethical Clearance Form



Date: 13 June 2022

Student name: Maresa Maartens

Student number: [REDACTED]

Campus: Pretoria

Re: Approval of RESE8419/RMET8429 Proposal and Ethics Clearance

HONOURS/PGDip ETHICAL CLEARANCE LETTER

Your research proposal and the ethical implications of your proposed research topic were reviewed by your supervisor and the campus research panel, a subcommittee of The Independent Institute of Education's Research and Postgraduate Studies Committee.

Your research proposal posed no significant ethical concerns and your supporting documents and instruments are in order to proceed. We hereby provide you with permission to proceed with your research.

In the event of you deciding to change your research methodology in any way, kindly consult your supervisor to ensure all ethical considerations are adhered to and pose no risk to any participant or party involved. A revised ethical clearance letter will be issued.

We wish you all the best with your research!

GENERAL CONDITIONS TO BE FULFILLED IN RELATION TO RESEARCH

Permission is granted to proceed with the above study subject to the conditions listed below being met and may be withdrawn should any of these conditions be flouted.

Please note: The panel has not considered the merits, accuracy or ethical soundness of the research. The only merits examined are the use of The IIE as a sample.

Permission is granted subject to the following conditions:

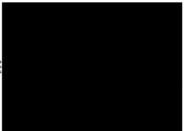
1. The researcher(s) will need to obtain informed consent in writing from all of the participants in his/ her sample if the study is not anonymous.
2. The researcher(s) may only use the data collected for research purposes and in no other way.
3. Photographs of human subjects may only be taken if relevant to the research, informed consent was obtained, and even with informed consent, the photographs may not be published on any online platforms.

4. The researcher is responsible for supplying and utilising his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institutions and/or the offices visited for supplying such resources.
5. No names or identifying information of participants may be used within the research and the research must be voluntary.
6. Please make it clear that the information will not be used punitively in any way and participants may in no way be counselled/advised based on this.

Supervisor name: ***John Eksteen***

Signature: 

Campus Postgraduate Coordinator (CPC) name: ***Courtney Jade de Villiers***

Signature: 

Annexure G – Originality Report

12/5/22, 5:57 PM

Originality Report

SafeAssign Originality Report

Research • Research Project

Maresa Maartens

Submission ID: d048a7e1-eef7-f12d-fa3e-620b5880345c

Total Score:  High risk 50 %

Total Number of Reports
2

Highest Match
100 %

ST10111441_Maresa_Maartens_Honours...

Average Match
50 %

Submitted on
05/12/22
10:43 GMT+2

Average Word Count
11,253
Highest: ST10111441_Maresa_Maarten...

 Attachment 1 100 %

Word Count: 22,502
ST10111441_Maresa_Maartens_Honours_Research_Report.pdf

Institutional database (19)

98 %

- 4 My paper
- 1 My paper
- 7 Student paper
- 13 Student paper
- 20 Student paper
- 29 Student paper
- 41 Student paper

- 5 My paper
- 28 My paper
- 38 My paper
- 35 Student paper
- 14 Student paper
- 21 Student paper

- 6 My paper
- 2 Student paper
- 34 My paper
- 16 Student paper
- 33 Student paper
- 30 Student paper

Internet (20)

2 %

- 11 .ie
- 8 .ie
- 26 .ie
- 27 .ie
- 3 .ie
- 39 .ie
- 18 .ie

- 9 .ie
- 17 .ie
- 36 .ie
- 23 .ie
- 25 .ie
- 12 .ie
- 40 dokumen

- 10 .ie
- 15 .ie
- 24 .ie
- 22 .ie
- 19 .ie
- 37 .epdf

Scholarly journals & publications (1)

0 %

- 32 ProQuest document

Global database (1)

0 %

- 31 Student paper

Top sources (3)

- 4 My paper

- 5 My paper

- 6 My paper

Excluded sources (0)

1 What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?

By

Maresa Maartens ST10111441

2 A research project submitted in fulfilment of the requirements for the BA Honours in Interior Design at the

Annexure H – Concept Document

<u>Project details</u>		
Your Name:	Student Number:	
Maresa Maartens	ST10111441	
Supervisor:	Date:	Version:
JD Eksteen	02 December 2022	4

<u>Proposed Title</u>
Title: What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?

<u>Research details</u>	
Problem statement	In the ideal world, a working environment is designed to promote productivity and attract employees (Massoudi and Hamdi, 2017). Designers aim to design office environments that improve productivity and job satisfaction, ultimately improving organisational performance. However, in today's era comes a lot of uncertainty regarding the global pandemic – Covid-19. As well as the current debates surrounding the different types of office layouts, and the impact it has on workplace performance. The aim of the research paper is to determine the implications of the Covid-19 regulations on workplace performance, using a qualitative approach. I will be discussing open-plan versus cellular office environments and the direct effects it has on employees' well-being and performance. As well as investigating the effects Covid-19 regulations has on employees within the office environment.
Purpose statement	The objective of this qualitative study is to understand how employees' well-being and performance are affected by their environment, and by the new regulations established due to the global pandemic. Through the completion of this study, I aim to add to the existing body of knowledge and compare the effects of office layouts (open plan versus cellular offices) on its occupants, as well as assess the effects of new Covid-19 regulations implemented pertaining to interior spaces. Theories will be looked into to further understand and investigate this phenomenon.
Research question/s	Is workplace performance and the well-being of entry-level employees affected by Covid-19 regulations in the office environment? Secondary Questions: What are Covid-19 regulations for office environments? What is the impact of open-plan offices versus cellular offices on workplace performance?

	How does the layout of offices affect the well-being of employees? What are the demographics of entry-level employees? How did the employees in my study experience their office environment?
Hypotheses/ Objectives	The objective of the study is: To determine how Covid-19 regulations impact employees' well-being and performance. To show how the office environment directly affects the employees making use of the space. To describe how employee's well-being and performance are affected by open-plan versus cellular offices.
Research rationale	Research conducted by architect Gensler (2005), identified that a well-designed workplace could potentially increase productivity by 19% and improve job satisfaction, 79% of respondents from the study associated their environment with their job satisfaction (Gensler, 2005). Researchers have found numerous interior factors that influence productivity, namely lighting, furniture, temperature, noise, flexibility, communication, and air quality (Brill, Margulis and Konar, 1984). Previous research has been done on the effects office environments have on the occupants. However, the aim of the research paper is to contribute to the elimination of a gap in the present literature. Namely, the new challenges that come with the global pandemic in office environments, and the effects it has on the performance and well-being of the occupants. The research is relevant as the office environment can be used to optimise workplace performance. It is important to understand how to prevent new regulations from reducing performance and the well-being of employees, as it could be detrimental to the success of an organisation.

<u>Literature overview</u>	
Key theories	The following key theories will be used in the research paper, Indoor environmental quality (IEQ), design theory of "prospect and refuge", and Evidence Based Design (EBD). The theories will work conjointly with the topic, as it will allow for a deeper understanding of the problem at hand. IEQ pertains to the conditions within a building, it looks at how these conditions influence the quality of life of building occupants (LEED, 2014). The theory of "prospect and refuge" suggests that people favor large, open spaces with unobstructed views, yet have private areas to retreat to (Cindrich, 2020). EBD is the process where decisions about the built environment are based on credible research to improve the physical environment (The Center for Health Design, n.d.).
Seminar authors/ sources	Source 1: Appleton, J., 1975. The experience of landscape. Landscape Research, 1(10), pp.15-16. [Accessed 5 Mar 2022]. Source 2: Cindrich, B., 2020. Interior Design in the Workplace. Marriott Student Review, [online] 4(1), p.3. Available at: <https://scholarsarchive.byu.edu/marriottstudentreview/vol4/iss1/2/?utm_source=scholars

	archive.byu.edu%2Fmarriottstudentreview%2Fvol4%2Fiss1%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages> [Accessed 2 April 2022]. Source 3: Massoudi, D. and Hamdi, D., 2017. The Consequence of work environment on Employees Productivity. IOSR Journal of Business and Management, [online] 19(01), pp.35-42. Available at: <https://www.researchgate.net/publication/312504772_The_Consequence_of_work_environment_on_Employees_Productivity> [Accessed 30 March 2022]. Source 4: Haynes, B., 2008. An evaluation of the impact of the office environment on productivity. Facilities, [online] 26(5/6), pp.1-4. Available at: <http://shura.shu.ac.uk/4591/> [Accessed 2 April 2022]. Source 5: Diener, E., & Suh, E., 1997. Measuring quality of life: Economic, social, and subjective indicators. Social Indicators Research, 40 (1-2), 189-216. http://dx.doi.org/10.1023/A:1006859511756		
Literatur ereview themes	<u>Theme 1</u> The Impact of the Office environment of productivity	<u>Theme 2</u> Open-plan office vs. cellular office layout on productivity	<u>Theme 3</u> South African Office Spaces pre Covid-19 and post Covid-19
Sources	Al Horr, Y., Arif, M., Kaushik, A., Mazroei, A., Katafygiotou, M. and Elsarrag, E., 2016. Occupant productivity and office indoor environment quality: A review of the literature. Building and Environment, [online] 105, pp.369-389. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0360132316302001> [Accessed 5 April 2022]. AlOmani, A., El-Rayes, K. and Altuwaim, A., 2021. Optimizing the use of acoustic materials in office buildings. Scientific Reports, [online] 11(1), pp.1-4. Available at: <https://www.nature.com/articles/s41598-021-00082-3> [Accessed 4 May 2022]. Appleton, J., 1975. The experience of landscape. Landscape Research, 1(10), pp.15-16 Haynes, B., 2008. The impact of office layout on productivity. Journal of Facilities Management, [online] 6(3), pp.189-201. Available at: <https://www.emerald.com/insight/content/doi/10.1108/14725960810885961/full/html?src=recsys&fullSc=1> [Accessed 6 April 2022]. Palvalin, M., van der Voordt, T. and Jylhä, T., 2017. The impact of workplaces and self-management practices on the productivity of knowledge workers. Journal of Facilities Management, [online] 15(4), pp.5-7. Available at: <https://www.researchgate.net/publication/318683146_The_impact_of_workplaces_and_self-management_practices_on_the_productivity_of_knowledge_workers> [Accessed 7 May 2022].		

	Esfandiari, M., Zaid, S., Ismail, M. and Aflaki, A., 2017. Influence of Indoor Environmental Quality on Work Productivity in Green Office Buildings: A Review. AIDIC, [online] 56, pp.1-5. Available at: <https://www.aidic.it/cet/> [Accessed 4 May 2022]. Muzaffar, P., Noor, N. and Mahmud, S., 2020. A Comparative Study on The Impacts of Open Plan and Closed Office Layout Towards Employees' Perceived Productivity. Jurnal Penyelidikan Sains Sosial, [online] 3(6), pp.51-52. Available at: <https://www.researchgate.net/publication/341059827_A_Comparative_Study_on_The_Impacts_of_Open_Plan_and_Closed_Office_Layout_Towards> [Accessed 7 May 2022]. Stamps, A., 2006. Interior Prospect and Refuge. Perceptual and Motor Skills, [online] 103(3), pp.643-653. Available at: <https://journals.sagepub.com/doi/abs/10.2466/pms.103.3.643-653> [Accessed 5 April 2022]. French, D., 2020. Changing trends in the South African office, fast-tracked by Covid-19. [online] Engineering News. Available at: <https://www.engineeringnews.co.za/article/changing-trends-in-the-south-african-office-fast-tracked-by-covid-19-2020-09-22> [Accessed 8 May 2022]. Badayai, A., 2012. A Theoretical Framework and Analytical Discussion on Uncongenial Physical Workplace Environment and Job Performance among Workers in Industrial Sectors. Procedia - Social and Behavioral Sciences, [online] 42, pp.486-495. Available at: <https://www.researchgate.net/publication/257716126_A_Theoretical_Framework_and_Analytical_Discussion_on_Uncongenial_Physical_Workplace_Environment_and_Job_Performance_among_Workers_in_Industrial_Sectors> [Accessed 7 May 2022]. gov.za, n.d. Safety in the workplace South African Government. [online] Gov.za. Available at: <https://www.gov.za/covid-19/companies-and-employees/safety-workplace#:~:text=Social%20distancing%20measures&text=Every%20employer%20must%20arrange%20the,for%20example%2C%20at%20their%20workstations.> [Accessed 7 May 2022]. Brennan, A., Chugh, J. and Kline, T., 2002. Traditional versus Open Office Design. Environment and Behavior, [online] 34(3), pp.279-299. Available at: <https://journals.sagepub.com/doi/10.1177/0013916502034003001> [Accessed 7 May 2022].								
Key concepts	Concept 1: Well-being [✓] Concept 2: Employee Performance [✓] Concept 3: High-Performance Workplace [✓]								
<u>Provisional Research Approach</u>									
Paradigm	<table><tr><td><u>Paradigm</u></td><td><u>Epistemology</u></td><td><u>Ontology</u></td><td><u>Axiology</u></td></tr><tr><td>The paradigm suitable</td><td>To interpretivists the</td><td>Interpretivists believe</td><td>y</td></tr></table>	<u>Paradigm</u>	<u>Epistemology</u>	<u>Ontology</u>	<u>Axiology</u>	The paradigm suitable	To interpretivists the	Interpretivists believe	y
<u>Paradigm</u>	<u>Epistemology</u>	<u>Ontology</u>	<u>Axiology</u>						
The paradigm suitable	To interpretivists the	Interpretivists believe	y						

	for the research paper is Interpretivism. Where du Plooy-Cilliers, Davis, and Bezuidenhout (2014) state that interpretivism was developed as a response to the flaws and limitations of positivism. They further state that the central idea on which the paradigm rests is that people are inherently different from objects. As the data collected for the study will be subjective, it is the experience of entry-level employees. Constructivism and an Inductive methodology will be followed.	truth is dependent on people's interpretation of facts, therefore, interpretivists do not generalise their results. The research methodology is sensitive to a specific context (du Plooy-Cilliers, Davis and Bezuidenhout, 2014).	that people may not experience reality in the same way, depending on their circumstances, culture, and experiences (du Plooy-Cilliers, Davis and Bezuidenhout, 2014).	Interpretivists openly discuss the values that shape their research, including their own interpretations, as well as the participants (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). In this case the value of human experience.
Approach/ design	Phenomenology is an appropriate research strategy as it falls in line with the epistemological and ontological position of interpretivism. A phenomenological research design will provide a deeper understanding of the objective of the research, as it allows for data to be collected based on the experiences of entry-level employees within their work environment and the impact Covid-19 regulations, pertaining to office interior design, may have on their perceived well-being and performance. Furthermore, the research design will contribute to the gap in the present literature, as it allows for an understanding of the new challenges faced within the work environment. The research design allows for the interpretation of entry-level employees' feelings, perceptions, and beliefs about the impact Covid-19 regulations may have within the office environment. Furthermore, an exploratory methodology approach will be used in the study. Which, according to du Plooy-Cilliers et al. (2014) and George (2022), refers to research used to investigate a problem that is not clearly defined. This research design is appropriate for the study as it is conducted to gain a better understanding of the existing problem but will not provide conclusive results. A cross-sectional research design will also be used in the study. A cross-sectional study is appropriate for the study as it is a cheap and easy way to gather data and identify connections that can be further investigated (Thomas, 2022). Furthermore, it allows for the researcher to look at the prevalence of a particular outcome at a specific point in time			

	(Thomas, 2022). This is ideal for the study as it investigates a specific moment in time – the effects of Covid-19, an issue that is faced currently.
--	---

<u>Provisional Research Plan</u>	
Population	According to du Plooy-Cilliers et al. (2014) for a person to be part of the sample they have to share the characteristics – they must be an entry-level employee that works in a corporate office environment, where the corporate office environment follows Covid-19 protocols. The accessible population for the study includes people who live in Pretoria, who work for King Price and/or Herotel.
Sampling	The sample will look at eight entry-level workers that work in a corporate office environment. The sampling will be done in the office environment at both King Price and Herotel, located in Pretoria, Gauteng. A non-probability sampling method will be used, namely purposive sampling. Purposive sampling will be used as the sampling is done with a specific purpose in mind (Creswell et al., 2020). In this case, the research is about how the office environment, with Covid-19 regulations, impacts the well-being and performance of entry-level employees. Thus, the interviewer will target entry-level workers within a specific company; and ask if they are entry-level to determine whether they qualify or not.
Data collection method(s)	A suitable data collection method will be focus groups. In short, a focus group refers to a group interview that is utilized to determine the attitudes, behaviour, preferences, and dislikes of the interviewees (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). This data collection method is suitable as it allows for debates to be generated and provides the researcher with a deeper understanding of the varying opinions and viewpoints of the participants (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Du Plooy et al. (2014) state that the methodology can prove helpful when a topic has never been studied before or the researcher is unfamiliar with the field of study. Covid-19 pandemic is a relatively new phenomenon, where little research has been conducted on the implications the regulations may have on employees within the office environment. For the purpose of this study the focus group will be made up of five participants that meet the population parameters. The participants will be gathered to express their opinions and views regarding predetermined, open-ended questions relating to the perceived impact Covid-19 regulations may have on their perceived well-being and performance within their corporate office environment. Additionally, three in-depth interviews will be conducted, this allows the researcher to present open-ended questions to participants to learn about their views, opinions, and beliefs about a specific phenomenon (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Through this data collection method, a standardised, open-ended interview will allow me to ask the same set of open-ended questions to all the interviewees. This allows for the information obtained to be easily analysed, it will allow for easy comparison (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). The interviews are between 20 to 30 minutes in duration and will be made up of eight open-ended questions presented to three

	participants.
Data analysis method(s)	A suitable data analysis method is qualitative content analysis, where attention is paid to unique themes that demonstrate the range of meanings of the phenomenon (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). The qualitative content analysis will be conducted inductively, where the researcher uses raw data in his or her analysis to identify themes without using an existing conceptual framework (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Through fracturing data, researchers review the data, where they break down text into codes and concepts and rearrange them into meaningful categories (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). This process is vital as it enables the researcher to contribute his or her findings to the discipline. There are eight steps to follow in the process of qualitative content analysis, namely: 1. Preparing the data. 2. Defining the coding unit to be analysed. 3. Developing categories and a coding scheme or conceptual framework. 4. Testing your coding scheme on a sample text. 5. Coding all text. 6. Assessing your coding consistency. 7. Drawing conclusions from the coded data (interpreting your data). 8. Reporting your methods and findings (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Qualitative content analysis is a suitable data analysis method, as large amounts of verbal data that was collected through interviews or focus groups will be analysed (Schreier, 2012).

<u>Ethical considerations and limitations</u>	
Ethics	Ethical issues: Participants <u>Informed Consent:</u> The participants should formally be informed and know what they are partaking in. The researcher should have the participant's consent before performing any data collection method – interviews, questionnaires, etc. Researchers should present the participants with written information and have them sign their consent (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Collecting data from participants:</u> Participants should be informed of how their identities and/or sensitive information will be protected. Researchers should not waste the participant's time by presenting them with overly long questions or through poor organization. Researchers are to carefully consider the physical and social context in which we gather data from participants (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Avoiding Harm:</u> Researchers are to not harm their participants in any way. For example, ensuring that the researcher does not embarrass the participant in front of the others (du

	Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Confidentiality</u>: The researcher will be able to match the participant's identities to their research responses, however, this will only be known to the researcher. Confidentiality will be used over anonymity, as I will be conducting in-depth interviews, and will need to associate identities with responses (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Deception</u>: The researcher will not deceive participants by telling them the research is about one thing when it is about another, or by giving them the general purpose of the research but not telling them the specifics (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Providing Incentives</u>: I will not provide incentives – such as money, food, etc. – to get people to participate in my research, as it may distort the results (du Plooy-Cilliers et al., 2014). Ethical Issues: Researcher <u>Falsifying Information</u>: The researcher should not change data to get desired outcomes or to avoid difficult, time-consuming aspects of data collection (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Bias</u>: Researchers' desire or expectation of a particular result may affect the research results, in a sense of how and where the researcher collects and interprets the data (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Misusing Information</u>: Researchers are to not use any data collected from participants for other purposes unless the participants have given consent to do so (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). <u>Distorting Results</u>: I will not distort results by emphasising certain aspects over other aspects of equal significance (du Plooy-Cilliers et al., 2014).
Limitations	According to du Plooy et al. (2014) limitations can be described as constraints in the research study that are out of your control. The time period given for this research study is a limitation, as it limits the amount of information that can be collected for the research paper (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Another possible limitation may surface due to 'shifts in conditions' during the study (du Plooy-Cilliers, Davis and Bezuidenhout, 2014). For example, during the primary research phase of the study, news lines state that all Covid-19 regulations have been lifted, this will influence how employees' performance is affected by Covid-19 regulations pertaining to interior design in the office environment. Furthermore, the researchers bias could possibly interfere within the data collection methods. Where du Plooy-Cilliers et al. (2014) state that when conducting a focus group meeting, persons with a higher level of expertise or education will tend to speak more than others. This could result in the facilitator developing biased opinions toward certain members of the group. Therefore, when selecting group members, it is essential to evaluate a variety of characteristics such as the degree of education, financial status, and so on, to avoid this.

Reference List

Brill, M., Margulis, S. and Konar, E., 1984. Using office design to increase productivity. 1st ed. Buffalo, N.Y.: Workplace Design and Productivity, pp.495-500.

Cindrich, B., 2020. Interior Design in the Workplace. Marriott Student Review, [online] 4(1), p.3. Available at: <https://scholarsarchive.byu.edu/marriottstudentreview/vol4/iss1/2/?utm_source=scholarsarchive.byu.edu%2Fmarriottstudentreview%2Fvol4%2Fiss1%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages> [Accessed 2 April 2022].

Creswell, J., Ebersöhn, L., Eloff, I., Ferreira, R., Ivankova, N., Jansen, J., Nieuwenhuis, J., Pietersen, J. and Plano Clark, V., 2020. First steps in research. 3rd ed. Pretoria: Van Schaik Publishers, pp.219-220.

du Plooy-Cilliers, F., Davis, C. and Bezuidenhout, R., 2014. Research Matters. 1st ed. Cape Town: Juta and Company Ltd, pp.183-190.

Gensler, 2005. These four walls: the real British office. [eBook] London: Gensler, pp.5-7. Available at: <<https://www.gensler.com/uploads/document/60/file/7fcf25b05a2c0839c44655d1645c40ec.pdf>> [Accessed 30 March 2022].

LEED, 2014. Green Building 101: What is indoor environmental quality? | U.S. Green Building Council. [online] Usgbc.org. Available at: <<https://www.usgbc.org/articles/green-building-101-what-indoor-environmental-quality>> [Accessed 2 April 2022].

Massoudi, D. and Hamdi, D., 2017. The Consequence of work environment on Employees Productivity. IOSR Journal of Business and Management, [online] 19(01), pp.35-42. Available at: <https://www.researchgate.net/publication/312504772_The_Consequence_of_work_environment_on_Employees_Productivity> [Accessed 30 March 2022].

Schreier, M., 2012. Qualitative content analysis in practice. 1st ed. London: SAGE, pp.2-3.

The Center for Health Design, n.d. About EBD. [online] The Center for Health Design. Available at: <<https://www.healthdesign.org/certification-outreach/edac/about-ebd>> [Accessed 2 April 2022].

Annexure I - Vega Ethics Checklist



Vega Ethics checklist: RESE8419/p/w

Student Details												
Title	Prof	☐	Dr	☐	Ms	☒	Mrs	☐	Mr	☐	Mx	☐
First name(s)	Maresa											
Last name(s)	Maartens											
Title of study	What is the perceived impact of Covid-19 regulations pertaining to entry-level employees in the office interior design environment?											
Qualification	BA Honours in Interior Design											

Supervisor Details												
Title	Prof	☐	Dr	☐	Ms	☐	Mrs	☐	Mr	☒	Mx	☐
First and last names	JD Eksteen											
Co-supervisor Details (if applicable)												
Title	Prof	☐	Dr	☐	Ms	☐	Mrs	☐	Mr	☐	Mx	☐
First and last names	Click or tap here to enter text.											

Explaining your research process						
Philosophical paradigm	Positivism	☐	Interpretivism	☒	Constructivism	☐
	Realism	☐	Objectivism	☐	Pragmatism	☐
	Functionalist	☐	Subjectivism	☐	Humanist	☐
	Other:					
Research design:	Interview	☒	Questionnaire (self administered)	☐	Focus group	☒
	Ethnography/ Observation	☐	Artefact analysis/website/ social media analysis	☐	Action Research	☐
	Case Study	☐	Design Research (Practice based)	☐		☐
	Other (if so, state)	☐	Click or tap here to enter text.			
Brief explanation of the population and number of participants/items	There will be a total of eight participants. Three participants for in-depth interviews and five participants will make up a focus group. To qualify, the participants must be entry-level employees working in a corporate office environment, and Covid-19 regulations must be implemented in their work environment.					
	Purposive	☒	Random	☐	Snowball	☐

Target group sampling methods/artefact (No under 18's or vulnerable groups allowed)	Convenient	☐	Stratified	☐	Census	...
	Explain selection process		The sample from non-probability sampling will not be chosen at random from a list but will be chosen based on the researcher's judgment. The researcher looks at the population and research question, to see whether features from the population are relevant to the study. For a person to be part of the sample they have to share the characteristics – they must be an entry-level employee that works in a corporate office environment, where the corporate office environment follows Covid-19 protocols			

Ethics		
Documentation submitted with proposal	Gatekeeper's letter (institutional consent)	☒
	Completed Annexure E if you conduct research on IIE sites/students/staff	☐
	Instrument(s) (interview schedule or questionnaire)	☒
	Participant or respondent consent form	☒
	Audio-visual consent form (if applicable)	☒

Campus ethics committee recommendation	
Proposal has been reviewed by the supervisor and necessary ethics considerations have been included. ☐ Accepted as is and provide letter ☐ Accepted with provisions: Nature of provision: e.g. Instrument is not sufficient / included and need to be signed off by the supervisor ☐ Major issues: Student should not continue with fieldwork. Actions to be taken: Click or tap here to enter text.	
Supervisor signature	
	Click or tap to enter a date.
Co-supervisor/Campus ethics panel member signature	
	Click or tap to enter a date.