ENVIRONMENTALLY SPECIFIC EMPOWERING LEADERSHIP AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR IN THE WORKPLACE: A STUDY OF HOTEL EMPLOYEES IN GAUTENG PROVINCE, SOUTH AFRICA

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by

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ABSTRACT

As there are increasing concerns over climate change, resource depletion, and environmental degradation, there is a growing need for organisations to adopt sustainable practices and behaviours to mitigate their impact on the environment. Environmentally specific empowering leadership (green empowering leadership), characterised by leaders who empower their employees to engage in sustainable practices, can serve as a catalyst for promoting organisational citizenship behaviour for the environment (OCBE) among employees. Leaders who prioritise environmental sustainability, provide support and resources for sustainable initiatives, and involve employees in decision-making processes related to sustainability, can inspire and motivate employees to adopt environmentally friendly behaviours and contribute to the organisation's environmental goals. By engaging in environmentally responsible behaviours, such as energy conservation and waste reduction, and promoting sustainable practices, employees can contribute to reducing the organisation's ecological footprint and fostering a culture of environmental responsibility. Therefore, green transformational leadership, environment-specific servant leadership, and OCBE have received considerable theoretical and empirical attention; however, the impact of Environmentally specific empowering leadership in encouraging sustainability-oriented behaviour has received less theoretical and empirical attention. To explicitly address this gap, this study examines the role played by leadership, organisational factors, and the OCBE of employees and co-employees in hospitality firms. The study provides a comprehensive understanding of the relationships between green empowering leadership, mediating variables, moderating variables, and OCBE within the hospitality industry.

The sampling procedure involved selecting a representative sample of mid-level managers in various three-, four- and five-star hotels to ensure the generalisability of the study’s findings. A convenience and purposive sampling technique was employed, and data collection was conducted through the distribution of structured questionnaires to the selected sample of mid-level managers. The questionnaire was designed based on established measurement scales from previous literature and was validated through pilot testing to ensure reliability and validity. The data was collected across the Tshwane and Johannesburg municipalities from 525 participants. The collected data was entered into statistical analysis software for PLS-SEM analysis

(Smart-PLS 4.0), which involved assessing the measurement model to ensure the reliability and validity of the constructs and then testing the structural model to examine the hypothesised relationships among the variables. The study utilised bootstrapping techniques to estimate the significance of direct and indirect effects in the model and assessed the overall fit of the research hypotheses. The empirical findings of this study demonstrate that there is a significant positive relationship between green empowering leadership (GEL) and OCBE of hotels. The study further shows that the relationship between GEL and OCBE is partially mediated by a green organisational culture (GOC), green learning orientation (GLO), employees' psychological ownership (EPO) and green work engagement (GWE). The relationship is also moderated by environmental concern (EC) at an average weight. The contributions of this study are that it unravels GEL as a unidimensional construct and the effect it has on OCBE. The second contribution was assessing the roles of mediating and moderating variables that influence the GEL-OCBE.

This study fills a gap in the literature by exploring external business variables mediating and moderating the relationship between GEL and OCBE. It also contributes to the discussion on the contradictory results regarding the relationship between GEL and OCBE. The theoretical contribution focuses on uncovering the mechanisms through which environmentally specific empowering leadership influenced employees' engagement in environmentally sustainable practices. The findings offer valuable insights into how organisational practices and employees' perceptions contribute to fostering a culture of environmental responsibility within hospitality firms. Moreover, the study reveals that environmental concern, such as a moderating variable, adds an overview understanding of the complexities surrounding sustainable leadership and employees' environmental behaviours. Considering the importance of Environmentally specific empowering leadership in driving employees' environmental behaviours and attitudes, the study offers a practical implication for hospitality firms looking to enhance their sustainability efforts. The findings of this research inform leadership practices, organisational culture development, and employees' engagement strategies aimed at promoting environmental responsibility and sustainability within the hospitality industry. The policy contribution focuses on environmentally specific empowering leadership within the hospitality industry, a context that has not been extensively studied in relation to sustainable leadership

practices. The unique challenges and opportunities within the hospitality sector, such as resource-intensive operations and high consumer demand for sustainability, make the exploration of environmentally specific empowering leadership especially relevant and significant for policymakers, industry practitioners, and scholars.

DECLARATION

I, the undersigned, KHUTSO PITSO MANKGELE, hereby declare that this Doctoral thesis entitled “Environmentally specific empowering leadership and organisational citizenship behaviour toward the environment of employees of hospitality firms in the Gauteng Province: a moderated mediation model” is my own original work. All the sources that I have used or quoted have been indicated and acknowledged by means of complete references. This work has not been and will not be submitted or presented for the award of any other degree, diploma, fellowship or similar title at any other institution.

Signature:

Date 22/08/2025

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ABBREVIATION

CB-SEM	**Covariance-Based Structural Equation Modelling**
EPO	**Employee Psychological Ownership**
EC	**Environmental Concern**
GEL	**Green Empowering Leadership**
GOC	**Green Organisational Culture**
GLO	**Green Learning Orientation**
GWE	**Green Work Engagement**
OCBE	**Organisational Citizenship Behaviour for the Environment**
OCB	**Organisational citizenship behaviour**
PLS	**Partial Least Squares**
PLS-SEM	**Partial Least Squares Structural Equation Modelling**
SAT	**South African Tourism**
SEM	**Structural Equation Modelling**
SMEs	**Small and Midsize Enterprises**
TGCSA	**Tourism Grading Council of South Africa**
TGSP	**Tourism Grading Support Programme**
UNWTO	**United Nations World Tourism Organisation**
WTO	**World Tourism Organisation**

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Environmental challenges, such as global warming, pollution, loss of biodiversity, natural resource depletion, ozone layer depletion, deforestation and waste disposal have become globally recognised problems (Ivar & Robert, 2022; Shivanna, 2022). Climate change is one of the existential threats faced by the world and the first three top global risks by likelihood are extreme weather, climate action failure and human environmental damage (World Economic Forum, 2021). Business and human activities are central to the debate on global environmental challenges (Abbass, Qasim, Song, Murshed, Mahmood & Younis, 2022; Shivanna, 2022). Although environmental problems such as climate change can be caused by natural variation or human activity, the conclusion by scientists is that climate change is mainly anthropogenic (Abbass et al., 2022). There is now a 100% consensus among scientists on anthropogenic global warming and human activities have contributed a significant part of the increase in greenhouse gases in the atmosphere (Lynas, Houlton & Perry, 2021). The hospitality industry is a major economic sector in most countries making significant contributions to employment and economic growth (Thommandru, Espinoza-Maguiña, Ramirez-Asis, Ray, Naved & Guzmán-Avalos, 2023).

The hospitality industry plays a crucial role in the worldwide economy, contributing to job creation, revenue generation, and fostering cultural exchange (Naseem, 2021). Travel and tourism also play a vital role in the creation of jobs, both including their direct, indirect and induced impacts; it is estimated that one in four jobs created across the world, i.e., about 334 million or 10.6% of all jobs, accounted for USD 9.2 trillion, 10.4% of global Gross Domestic Product (GDP). The industry serves as a significant source of employment, particularly for disadvantaged communities (Ladkin, Mooney, Solnet, Baum, Robinson & Yan, 2023). In South Africa, the hospitality industry is a major economic driver, with tourism accounting for a substantial portion of the country's GDP (Rasool, Maqbool & Tarique, 2021). In 2021, travel and tourism contributed nearly 3.2% to the GDP of South Africa (Statistics South Africa, 2023). Furthermore, it provides opportunities for small and medium-sized enterprises to thrive

by offering products and services that cater to tourists' needs (Baloch, Maher, Shah, Sheeraz, Iqbal & Raza, 2023).

However, the hospitality industry also negatively affects the environment through over-consumption of natural resources, pollution, and solid and liquid waste (Abubakar, Maniruzzaman, Dano, AlShihri, AlShammari, Ahmed, Al-Gehlani & Alrawaf, 2022). Despite the fact that businesses such as those in hospitality contribute significantly to environmental degradation, they can also enhance environmental preservation through their activities (Park, Park, Yoo & Yu, 2021; Baloch et al., 2023). Positive changes in individual human behaviour toward pro-environmental actions and behaviour are vital to manage environmental challenges and achieve sustainable tourism (Baloch et al. 2023; Bilynets & Cvelbar, 2022). Pro-environmental behaviour (PEB) refers to actions performed in private or public domains with the aim of avoiding harm or safeguarding the environment. In the context of employees. PEB refers to the behaviour engaged by employees that is aligned to environmental sustainability (Composto, Constantino & Weber, 2023; Omarova & Jo, 2022). Employees are major actors in the hospitality industry and their involvement is important to environmentally sustainable processes and operations (Amoako, Obuobisa-Darko & Ohene Marfo, 2022; Tschelisnig, & Westerlaken, 2022).

Businesses that intend to improve their environmental performance must encourage employees to engage in PEB and this engagement can be voluntary (organisational citizenship behaviours for the environment (OCBE)) and/or involuntary (work-task-related PEB) (Foster, Muhammad, Yusliza, Faezah, Johansyah, ul-Haque, Saputra, Ramayah & Fawehinmi, 2022). Fatoki (2021) remarks that involuntary PEB, although important, is not enough to reduce the country's or the world's environmental footprint. Corporate greening stems from the extra role and the personal sense of PEB of employees. It is difficult for an organisation to mandate volunteerism and impossible to obtain employees' genuine commitment to the environment by bureaucratic fiat (Foster et al., 2022). OCBE is a necessary supplement to the environmental sustainability system instituted by a firm. OCBE has a significantly positive relationship with firms' environmental performance (Azam, Malik, Ren, Yuan, Mughal, Ullah, Fiaz & Riaz, 2022; Setyaningrum, 2022). According to a seminal work on pro-environmental behaviour by Boiral (2009:223), OCBE can be defined as "individual and discretionary social behaviours not explicitly recognised by the formal reward system and

contributing to improve the effectiveness of environmental management of organisations". Therefore, this study focuses on employees' voluntary PEB also known as OCBE.

Leadership has a major role in promoting employees' PEB. Leaders are role models and can influence the prosocial behaviour of employees through their behaviour and action (Farrukh, Ansari, Raza, Wu & Wang, 2022; Shah, Fahlevi, Jamshed, Aman, Rafiq, Jermsittiparsert & Aljuaid, 2023). Empowering leadership will elevate employees' OCBEs, offering a new and different theoretical lens to explain employees' OCBEs, supplemented to perspectives from social exchange theory (Ullah, Wisetsri, Wu, Shah, Abbas & Manzoor, 2021; Yin, Zhang, Zhao & Gong, 2021). However, the new paradigm is the use of target-specific leadership styles to predict specific outcomes (Deng, Cherian, Ahmad, Scholz & Samad, 2022; Liao, 2022). Environmentally specific transformational leaders, who show an idealised influence behaviour, act as role models of employees by demonstrating environmental sustainability ideas, making commitments to followers, telling employees what is right, and encouraging subordinates to take environmentally friendly actions that benefit the natural environment (Omarova & Jo, 2022). Environmentally specific transformational leaders, high in inspirational motivation and intellectual stimulation, also encourage employees to solve environmental problems innovatively. They guide employees to transcend their self-interests for the sake of organisational social responsibility and environmental sustainability, thus enhancing employees' intrinsic force to engage in environmental protection activities (Ozgul, 2022). Environmentally specific servant leadership encompasses the entire dynamic process by which individuals influence others to successfully implement environmental stewardship and environmental protection (Elshaer, Azazz, Kooli, Alshebami, Zeina & Fayyad, 2023; Hou, Gai & An, 2023). This study intends to integrate empowering leadership with the environment to develop a new construct, termed environmentally specific empowering leadership or green empowering leadership.

In addition, organisational factors have a role to play in the pro-environmental behaviour in the workplace (Cheng, Wu, Deng & Li, 2022). Organisational factors play a crucial role in shaping individual behaviour, particularly in the context of OCBE (Abbass et al., 2022; Liu & Yu,2023). Research has shown that factors, such as work environment, leadership style, and organisational culture, significantly impact

employees' willingness to engage in OCBE (Ullah et al., 2021). Organisational culture plays a crucial role in shaping employees' behaviour toward OCBE (Liu & Yu, 2023). A culture that promotes and rewards prosocial behaviours, such as helping and cooperating, can foster a higher level of OCBE among employees (Liu & Yu, 2023; Ullah et al., 2021). Green organisational culture refers to the atmosphere formed by a series of sustainable development policies implemented by the organisation, that is, employees' common views on the organisation's environmental management policies, practices and processes (Liu & Yu, 2023; Subramanian & Suresh, 2023). A green organisational culture is described as the assumptions learned by a group of people in adapting to the impact of human activity on the environment. GOC refers to the behaviour, beliefs and values of an organisation's members with respect to the natural environment (Ketprapakorn & Kantabutra, 2022). A green organisational culture is broadly outlined as the extent to which the assumptions, values, symbols and artefacts of the organisation reflect a desire or need to operate in an environmentally sustainable manner. It has two dimensions: a) the "greenness" of the officially advocated company line, and b) the extent to which this exposed position is seen to be manifested in the form of the company's artefacts and behaviours (Liu & Yu, 2023; Wang, Xue, Sun & Yang, 2020). Green learning orientation is defined as the common value that guides enterprises to acquire green knowledge. With green cultural values, employees will acquire, share, exploit, and create green knowledge, which will significantly contribute to the performance of any organisation (Wang, Zhang & Zhang, 2022). Firms with a green learning orientation have the propensity to scan environmental changes. This can encourage employees' proactive thinking and incentivise employees to carry out learning about environmental issues and solutions (Tran, Huan, Phan & Do, 2023). This suggests that perceived organisational factors can mediate the relationship between a perceived green empowering leadership and OCBE.

Psychological ownership is defined as the situation in which individuals feel that they own 'a piece of thing' (Guarana & Avolio, 2022). When employees feel psychological ownership toward their organisation (PO), they become more attached to, protective of, and responsible for it (Abbas et al., 2021; Sarfo, Zhang, O'Kane, Podgorodnichenko & Osei-Fosu, 2022). This suggests that PO can affect employees' OCBE (Abbas et al., 2021). Khusanova, Kang and Choi (2021) describe work engagement as the

situation of an individual's positive, work-related state of mind that is characterised by vigour and dedication; work engagement is a significant predictor of work performance and extra-role behaviours. Green work engagement (GWE) describes the situation in which an employee has a work-related state of mind that supports sustainability initiatives (Huo, Azhar, Rehman & Majeed, 2022). GWE can motivate employees to participate not only in green practices (Aboramadan, 2020). This suggests that employees' PO and GWE can play a mediating role in the relationship between perceived green empowering leadership and employees' OCBE (Liu & Ren, 2022; Yue, Gao, Chen, Zhang & Li, 2022). Understanding the mediating role of factors such as EPO and green work engagement is crucial in exploring the relationship between green empowering leadership and OCBE. By examining these mediating factors, researchers can gain insights into how employees' perceptions of ownership and engagement influence their behaviour toward sustainability initiatives. This investigation is significant as it offers a unique perspective on the underlying mechanisms that drive the relationship between leadership, employees' attitudes, and environmentally responsible behaviour within organisations (Bhattacharya, Sen, Edinger-Schons & Neureiter, 2023).

In addition, co-employees' behaviour can directly or indirectly impact employees' relevant behaviours through personal interactions (Zhenjing, Chupradit, Ku, Nassani & Haffar, 2022). When employees perceive that their co-employees are as environmentally concerned or environmentally friendly at work and believe that their co-workers' green advocacy is positive, they are more likely to engage in sustainable behaviours (Ren, Tang & Zhang, 2022; Zhenjing et al., 2022). When employees recognise their perception of co-workers' environmental concern, this can strengthen their green work engagement and the desire to work in a more environmentally friendly organisation (Karatepe, Ozturen, Karatepe, Under & Kim, 2022). On the basis of this line of reasoning, co-employees' environmental concern can influence employees' OCBE through social and work interactions. Based on this background, this study intends to develop and test a uniquely new theoretical (moderated mediated) model that examines the relationship between employees' perception of green empowering leadership and OCBE. In addition, the indirect role/roles of organisational factors (green organisational culture and green learning orientation), employee factors (psychological ownership and GWE) and co-employees' environmental concerns will

be explored. One aspect that makes the study significant is its examination of how environmental concern moderates green work engagement and organisational citizenship behaviour toward the environment (OCBE). Prior research has primarily focused on the direct relationship between environmental concern and green work engagement or OCBE (Elshaer, Abdelrahman, Azazz, Alrawad & Fayyad, 2022; Woo & Kang, 2021). However, this study takes a unique approach by exploring the interactive effect of environmental concern on the relationship between green work engagement and OCBE. This contributes to a more comprehensive understanding of the underlying mechanisms governing employees' environmentally friendly behaviours in the workplace.

1.2 PROBLEM STATEMENT

The hospitality industry is a major economic sector in South Africa and most countries, making a significant contribution to employment and economic growth (Nyathela-Sunday, Septoe, Menze, Banoobai-Anwar, Seager, Davids & Buser, 2022; Rasool et al., 2021). However, the hospitality industry also negatively affects the environment through over-consumption of natural resources, pollution, and solid and liquid waste (Ivar & Robert, 2022; Shivanna, 2022). Despite the fact that businesses contribute significantly to environmental degradation, they can also enhance environmental preservation through their activities (Abubakar et al, 2022; Zhang, Xu, Chen, Li, & Chen, 2022). Nowadays, there is immense pressure on businesses to practise sustainability and environmental orientation. The pressure has come from government's environmental rules and regulations, international environmental agreements, industry's environmental management practices and consumer pro-environmental behaviour (Ngo, 2023; Težak Damijanić, Pičuljan & Goreta Ban, 2023).

Most hotels have provided environmentally oriented guidelines to employees, which aim to develop and implement environmental initiatives throughout hotel companies (Zheng, Jiang, Cai, Xu & Gao, 2021). However, the effectiveness of an organisation's sustainability practices depends on the support and contribution of employees, and especially their discretionary or voluntary behaviour (OCBE) (Al-Swidi, Gelaidan & Saleh, 2021; Patwary, Sharif, Aziz, Hassan, Najmi & Rahman, 2023). The role of green empowering leadership in promoting sustainability-oriented behaviour has received scant theoretical and empirical attention. In addition, to the best of the researcher's

knowledge, the factors that can play an indirect relationship between GEL and OCBE are a major gap in the studies on green leadership styles and OCBE. According to Goldstein, Finsaas, Olino, Kotov, Grasso and Klein (2023), including mediating and moderating variables can help to increase the amount of information available and test a theory. Therefore, it is important to identify mediating and moderating variables in the green leadership style−OECD nexus. This study draws on employees' perception of organisational factors (green organisational culture and green learning orientation) and employees' factors (psychological ownership and GWE) as mediating factors in the relationship between GEL and OCBE. To the best of the researcher's knowledge, the mediating effects of these four constructs in the relationship between GEL and OCBE have not been explored. Co-employees can also influence employees' OCBE through social and work interactions (Liu & Ren, 2022; Setyaningrum, 2022). Based on this line of reasoning, the study draws on co-employees' environmental concern as a variable that can influence employees' OECD. However, the moderating effect of co-employees' environmental concerns in the relationship between GEW and OECD, to the best of the author's knowledge, has remained unexplored. Based on these gaps in theoretical and empirical literature, the research problem of this study is to find answers to to the question of how empowering leadership affects employees' OECD and what role the organisational factors, employees and co-employees play in the relationship.

1.3 AIM OF THE STUDY

The aim of the study is to investigate the relationship between green empowering leadership and the OCBE of employees of hospitality firms.

1.4. OBJECTIVES OF THE STUDY

The study is based on the following objectives:

a) To establish the relationship between green empowering leadership (GEL) and employees' OCBE
b) To examine the mediating effect of organisational factors (green organisational culture and green learning orientation in the relationship between GEL and OCBE)
c) To investigate the mediating effect of employees' factors (psychological ownership) and GWE) in the relationship between GEL and OCBE

d) To examine the moderating effect of co-employees' environmental concerns in the relationship between GWE and OCBE
e) To develop and test a mediated-moderated model that examines the role that leadership, the organisation, employees and co-employees play in OCBE.

1.5 HYPOTHESES

The following primary hypotheses and their associated relationships were utilised to establish the conclusions in this study.

Direct relationship

H1: There is a significant positive relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE)

H2: There is a significant positive relationship between green empowering leadership (GEL) and green organisational culture (GOC)

H3: There is a significant positive relationship between green empowering leadership (GEL) and green learning orientation (GLO)

H4: There is a significant positive relationship between green organisational culture (GOC) and organisational citizenship behaviours for the environment (OCBE)

H5: There is a significant positive relationship between green learning orientation (GLO) and organisational citizenship behaviours for the environment (OCBE)

H6: There is a significant positive relationship between green empowering leadership (GEL) and employees' psychological ownership (EPO)

H7: There is a significant positive relationship between green empowering leadership (GEL) and employees' green work engagement (GWE)

H8: There is a significant positive relationship between employees' green work engagement (GWE) and organisational citizenship behaviours for the environment (OCBE)

H9: There is a significant positive relationship between employees' psychological ownership (EPO) and organisational citizenship behaviours for the environment (OCBE)

Indirect relationship

H10: Green organisational culture (GOC) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE)

H11: Green learning orientation (GLO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE)

H12: Employees' psychological ownership (EPO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE)

H13: Green work engagement (GWE) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE)

H14: Co-employees' environmental concerns moderate the relationship between green work engagement (GWE) and employees' organisational citizenship behaviours for the environment (OCBE)

1.6 DEFINITION OF CONCEPTS

1.6.1 Organisational citizenship behaviour toward the environment (OCBE)

According to Bioral (2009:223), organisational citizenship behaviour for the environment (OCBE) is defined as "individual and discretionary social behaviours not explicitly recognised by the formal reward system and contributing to improve the effectiveness of environmental management of organisations". In this study, OCBE will be defined as separate and optional social behaviours not clearly recognised by a prescribed reward system and contributing to advance the efficiency of environmental management of organisations.

1.6.2 Green empowering leadership

Yin and Liu (2022) conceptualise empowering leadership as leaders highlighting the meaningfulness of work, fostering participation in decision-making, conveying confidence in high performance, and providing autonomy from bureaucratic constraints. Based on the definition of empowering leadership, the author of this study defines green empowering leadership as a style of leadership that places an emphasis

on environmental sustainability, while simultaneously encouraging employees' sense of empowerment, autonomy, and well-being.

1.6.3 Green organisational culture

Green organisational culture is the set of values, symbols, assumptions, and organisational artefacts reflecting the obligation or desire of trying to be an environmentally friendly organisation (Subramanian & Suresh, 2023). The author of this study defines green organisational culture as a set of mutually shared beliefs, norms, practices, perspectives and values, which leaders' organisational members are meant to perform properly toward the external environment during economic business processes.

1.6.4 Employees' psychological ownership

Suvanto and Lähdesmäki (2023) define psychological ownership as a cognitive-affective construct that is based on individuals' feelings of possession and of being psychologically tied or attached to objects that are material and immaterial in nature. In this study, a green organisational culture will be defined as employees who are psychologically intertwined with their organisations, and the awareness of being owners goes together with a feeling of responsibility and a sense of burden-sharing for the running and achievement of the organisation.

1.6.5 Green work engagement

Employees' engagement is a way of employees' expression in a variety of ways (Budrienė & Diskienė, 2020). In this study, green work engagement will be defined as the energy an employee puts into green work-related tasks, the willingness to exert efforts at the green level and the engagement level in green work.

1.6.6 Environmental concern

Environmental concern has been treated as an evaluation of, or an attitude toward facts, one's own behaviour, or others' behaviour with consequences for the environment (Cruz & Manata, 2020). In this study, environmental concern will be defined as actions required to minimise, or prevent and monitor, adverse effects on the environment in order to comply with the laws.

1.7 METHODOLOGICAL OVERVIEW

The study was conducted in the Tshwane and Johannesburg municipalities, Gauteng Province. The researcher considered three-, four- and five-star hotels of the above

municipalities. The population of this study consisted of hospitality firms, such as guesthouses, lodges and three-, four- and five-star hotels in Gauteng Province. The participating hotels were identified from the websites of the Tourism Grading Council of South Africa (TGCSA). The researcher chose upscale hotels as they are more likely to be involved in environmentally friendly practices as compared to other small accommodation types. Employees participated in the study irrespective of their race, ethnicity, gender, or educational background.

The study used the convenience sampling method to select upscale hotels that are graded by TGCSA in the study area. The employed survey method for the study was self-administered questionnaires. The self-administered questionnaire was delivered to the hotels' employees. Partial Least Square Structural Equation Modelling (PLS-SEM) was used to analyse the causal relationship between variables.

1.8 SIGNIFICANCE OF THE STUDY

Environmental sustainability is highly emphasised on both the United Nations' agenda 2030 and the African Union's agenda 2063 for sustainable development, which makes this study relevant. This study will contribute to knowledge in several ways, including theoretically and empirically. It also contributes immensely toward policy formulation. The next section will provide a robust discussion of each of these contributions.

1.8.1 Theoretical contribution

GEL is an emerging construct that has not been connected previously to OCBE. GEL offers significant contributions, novelty, and uniqueness in the leadership literature. By integrating green principles and empowerment, GEL signifies a shift toward sustainable practices and a focus on employee empowerment, while emphasising the importance of environmental responsibility. This new construct highlights the potential for leaders to influence not only individual and organisational outcomes, but also the broader social and environmental impact of their actions. The absence of previous research linking GEL to OCBE reflects a gap in the existing literature and provides an opportunity for further exploration and understanding of the potential effects of GEL on organisational outcomes. One significant contribution of green empowering leadership is its ability to promote sustainable practices within organisations. By empowering followers to take ownership of their environmental responsibilities, leaders can elicit positive behavioural changes and promote a culture of sustainability.

The concept of GEL brings a fresh perspective to the study of leadership by highlighting the importance of empowering employees in environmentally friendly practices. This paradigm shift in leadership theory and practice contributes to the broader understanding of how leaders can play a crucial role in promoting sustainability and environmental responsibility within organisations. It is a novel construct that has not been linked to OCBE and offers a unique approach to promoting environmental responsibility within organisations.

The study contributes theoretically by adding new variables, such as green empowering leadership, EPO, green work engagement, green organisational culture, green learning and green learning orientation to measure environmental sustainability in the hospitality industry. The study develops and tests a new theoretical model that incorporates green empowering leadership, EPO, green work engagement, green organisational culture, green learning and green learning orientation as mediators in the relationship between green empowering leadership and PEB. The study will be significant in the following ways. Research on PEB has often focused on the organisation, with slight attention paid to employees' behaviour (Xiao et al., 2020). This study will contribute to the research on the role of green empowering leadership in promoting employees' voluntary PEB with the goal of reducing the negative environmental footprint of hospitality firms and ensuring sustainable tourism. This research offers a unique opportunity to investigate the mechanisms through which green empowering leadership influences OCBE, including green work engagement, green organisational culture, green learning orientation, and EPO. By investigating the relationships between green empowering leadership and these mechanisms (green work engagement, green organisational culture, green learning orientation, and EPO) and their influence on OCBE, researchers can provide valuable insights into how leadership can drive environmentally responsible behaviours in organisations. This research has the potential to contribute to the development of a more comprehensive and nuanced understanding of the role of leadership in promoting sustainability and it can inform organisational practices aimed at fostering a culture of environmental responsibility.

Testing a new model that links green empowering leadership to OCBE can contribute to the advancement of green leadership theory. By exploring how leaders who empower their employees in environmental sustainability initiatives can influence

employees' OCBE, and researchers can deepen their understanding of the mechanisms through which leadership behaviours can promote pro-environmental behaviours in the workplace. This research can bridge the gap between leadership theories and environmental sustainability literature by examining the relationship between green empowering leadership and OCBE. By integrating these two domains, researchers can provide a more comprehensive and holistic understanding of how leadership can drive environmentally responsible behaviours within organisations. Empowering leadership is a key construct in promoting employees' engagement and motivation. By investigating the role of empowering leaders in promoting OCBE, this research can shed light on the importance of employee empowerment in driving pro-environmental behaviours in the workplace. It can also highlight the impact of leadership behaviours on employees' willingness to take the initiative in environmental sustainability efforts. This research can expand the literature on organisational citizenship behaviour by it specifically focusing on OCBE, which involves behaviours aimed at supporting environmental sustainability within the organisation. By identifying the antecedents of OCBE, researchers can provide insights into how leadership behaviours can shape employees' behaviours toward environmental sustainability practices.

1.8.2 Novelty and significant contribution

Green empowering leadership (GEL) is a novel concept that has not been extensively explored in the literature. This study introduces a new construct that combines the principles of green leadership and empowering leadership, which can have a significant impact on organisational citizenship behaviour (OCBE) toward the environment. This integration offers a holistic approach to leadership, acknowledging the interdependence of human and environmental well-being. The novelty of this study the lies in its focus on the joint effects of leadership, employees, and co-employees in promoting environmental citizenship behaviour in the workplace. By exploring the role of GEL in promoting environmentally responsible behaviour among employees, this study provides valuable insights for hospitality firms seeking to reduce their environmental footprint. This concept is significant because it acknowledges the critical role that leaders play in shaping the environmental behaviours of their employees.

The moderated mediation model used in the study is also an innovative approach that can help researchers and practitioners better understand the complex relationships between leadership, employees' behaviour, and co-employees and environmental sustainability. The model suggests that GEL has a positive effect on OCB through a mediated process, where employees' perceived environmental consciousness plays a crucial role in facilitating the relationship between GEL and OCB. The introduction of GEL as a construct within a moderated mediation model offers a sophisticated framework for understanding and enhancing OCBE. Through mediation mechanisms, such as EPO, green work engagement, green learning orientation, and green organisational culture represent a novel and comprehensive approach to fostering sustainability within organisations. This multifaceted framework offers valuable insights into the mechanisms through which leadership can influence environmental behaviours and it provides practical strategies for promoting a culture of sustainability. The introduction of co-employees' environmental concerns as a moderating variable in the relationship between GWE and OCBE represents a novel and valuable addition to the study of organisational sustainability. This approach acknowledges the critical role of peer influence and social dynamics in shaping individual behaviours, offering a more comprehensive and contextually sensitive understanding of how to promote environmental sustainability within organisations. By leveraging the collective power of co-employees' environmental concerns, organisations can foster a stronger, more supportive culture of sustainability, leading to more effective and widespread OCBE.

1.8.3 Empirical contribution

The empirical contribution to the body of literature on how different green leadership styles can affect employees' organisational citizenship behaviour (OCBE) has provided valuable insights into the relationship between leadership and employees' behaviours. Several studies have examined this topic, aiming to understand how green leadership styles influence employees' willingness to engage in voluntary behaviours that contribute to the environmental sustainability of organisations (Abdou, Al Abdulathim, Hussni Hasan, Salah, Ali & Kamel, 2023; Ding, Su & Hahn, 2023; Lathabhavan & Kaur, 2023; Yang, Shao, & Jiang, 2023). Through the identification of different green leadership styles and their effects on employees' OCBE, research has identified various styles, such as transformational green leadership, ethical green leadership, and participative green leadership. These studies have examined how

each style influences employees' OCBE, taking into account factors such as employees' motivation, environmental values, and organisational support.

Regarding the investigation of the mediating mechanisms through which green leadership styles affect employee OCBE, studies have explored variables such as employees' green values, organisational support for sustainability, and intrinsic motivation to understand the underlying processes behind the relationship (Lin, Effendi, & Iqbal, 2022; Liu & Yu, 2023; Rimsha, Khurram & Magda, 2023). These investigations have provided a deeper understanding of the psychological and contextual factors that mediate the effects of green leadership on OCBE. This has shown that employees who hold stronger green values are more likely to engage in OCBE when led by ethical green leaders. Ethical green leaders act as role models and establish ethical norms, which are crucial in shaping employees' attitudes and behaviours toward sustainability. Studies have also found that the influence of green leadership on employees' OCBE is strengthened when organisations provide support for sustainability initiatives, as this reinforces the importance and legitimacy of such behaviours.

The empirical contributions on how different green leadership styles can affect employee OCBE have enhanced the understanding of the complexities of this relationship. By delving into the underlying mechanisms, mediating variables, and contextual factors, these studies have provided valuable knowledge that can guide organisations in fostering sustainable behaviours through effective leadership practices. Future research can continue to build upon these empirical findings to further refine and expand the understanding of green leadership and its impact on employees' OCBE. Empirically, the study will contribute to the literature on the effect of green empowering leadership on employees' PEB. The novelty of this study is that it will produce new empirical findings on variables that have not been tested before in South Africa. New environmental sustainability variables such as green empowering leadership, EPO, green work engagement, green organismal culture, green learning and green learning orientation have not been tested empirically in South Africa.

1.8.4 Policy contribution

The Constitution of South Africa, for instance, provides for the protection and conservation of the environment and promotes sustainable development (Republic of

South Africa, 1996). Additionally, the National Environmental Management Act (NEMA) guides organisations on environmental principles, conservation, and the sustainable use of natural resources (Department of Environmental Affairs, 1998). Furthermore, the National Environmental Management: Air Quality Act (NEM: AQ) focuses on controlling and managing air pollution and greenhouse gas emissions (Department of Environmental Affairs, 2004). The importance of environmental sustainability is evident in the Constitution of South Africa, which explicitly acknowledges the right to a healthy environment. According to section 24 of the Constitution, every individual has the right to an environment that is not harmful to their health or well-being. This recognition highlights the significance of environmental sustainability as a fundamental human right.

The evaluation of the effectiveness of current policies in promoting green empowering leadership in hospitality firms is crucial to understand the impact of these initiatives on employees' organisational citizenship behaviour toward the environment. There is a need to assess the outcomes of existing policies to determine if they have successfully instilled a sense of responsibility among employees toward environmental sustainability. Moreover, this evaluation can provide insights into areas of necessary improvement, such as the need for comprehensive training programmes or incentives, to further enhance green empowering leadership practices in the hospitality industry.

In order to promote green empowering leadership further in hospitality firms, several policy improvements and enhancements can be recommended. It is crucial to establish clear and measurable goals and targets for environmental sustainability within the organisations. This can provide a framework for employees to understand the expectations and responsibilities regarding their environmental behaviours. Additionally, initiatives such as training programmes and workshops can be implemented to enhance employees' knowledge and awareness of green practices (Fapohunda, Genty & Olanipekun, 2021). It is important also for management to lead by example and actively participate in green initiatives, as this can inspire and motivate employees to engage in pro-environmental behaviours (Lathabhavan & Kaur, 2023). Overall, these policy improvements and enhancements can contribute to a stronger organisational culture of environmental sustainability and encourage employees to engage in more sustainable behaviours.

Green empowering leadership is a significant policy contribution that plays a crucial role in fostering organisational citizenship behaviour toward the environment among employees of hospitality firms in South Africa. This approach positively influences employees' attitudes and behaviours toward environmental conservation, leading to increased engagement in eco-friendly practices. Such initiatives are crucial for the long-term sustainability and growth of hospitality firms, particularly considering the importance of environmental conservation in the tourism industry (Duric & Potoˇcnik Topler, 2021). It was inferred from literature that environmental policies in developing countries are weak and suffer a lack of implementation. South Africa is not immune to such shortfalls. In South Africa, an overabundance of environmental policies has been developed since 1989. Nevertheless, the level of environmental damage in South Africa is relatively high as compared to other countries across the globe. This has caused an environmental sustainability challenge, where firms continue to strain the environment through emissions and dumping of waste in undesignated areas. There is a paucity of studies that have investigated the extent to which excelling in environmental compliance may influence the performance of listed firms in South Africa. To that effect, the findings of this study could be useful in shaping the environmental policy framework in South Africa, where government can adopt the recommendations to mitigate the environmental sustainability challenge. This could benefit parties, such as practitioners, consultants, corporate financial policymakers, industrial policymakers and government. Organisations that support the hospitality business in South Africa, such as the Federated Hospital Association of South Africa and government agencies that support the environment in South Africa (i.e., Department of Environmental Affairs), can also help to develop awareness campaigns on how to promote pro-environmental behaviour in the hospitality sector.

1.9 LAYOUT OF THE STUDY

The following layout of the chapters was adhered to in the compilation of the report for the study at hand:

CHAPTER 1: AN INTRODUCTION TO THE RESEARCH PROBLEM

The first chapter of the thesis provided the introduction and background of the study. Furthermore, the problem statement, aim of the study, objectives and hypotheses of the research study were also presented. The chapter encompassed discussions on

the overview of the literature and methodology, the significance of the study, as well as the layout of the study. Finally, a summary of the chapter is provided.

CHAPTER 2: HOSPITALITY INDUSTRY

The subject, the hospitality industry, and the related dynamics are comprehensively reviewed in this chapter. Emphasis is primarily on delineating the concept of the hospitality industry within various contexts and with reference to the South African context. Furthermore, the chapter relates the nature of the hospitality industry in the context of sustainable development.

CHAPTER 3: THEORETICAL LITERATURE REVIEW

Chapter 3 focuses on reviewing literature on the theoretical principles underpinning the study. As such, the chapter is structured along these concepts. The different elements that pertain to these three concepts are discussed in the chapter.

CHAPTER 4: CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The conceptual framework, utilised to address the research hypotheses as outlined in Chapter 1, is discussed in Chapter 4. The conceptualisation of the study is provided. Furthermore, the chapter focuses on discussing the development of the hypotheses for the study pertaining to the relationships being tested.

CHAPTER 5: RESEARCH METHODOLOGY

This chapter discusses the research methodological procedures and steps that were applied in this study. Herein, the research paradigm, research design, sampling procedures, data gathering and data analysis techniques that were utilised in the study are discussed in detail. Furthermore, the chapter contains the ethical considerations that underpinned the collecting of the data.

CHAPTER 6: DATA ANALYSIS

The chapter discusses the procedures used to statistically treat and analyse the gathered data. The structure of the discussion follows the two basic steps of statistical analysis, namely, descriptive and inferential analysis. Herein, the discussion integrates the theory provided in Chapter 3 with the conceptual model provided in Chapter 4.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

Finally, Chapter 7 provides the conclusions and recommendations pertaining to the study. Furthermore, the chapter discusses the limitations to the study as well as areas for future studies. The results obtained are also examined in light of empirical studies and latent literature underpinning the study at hand.

1.10 SUMMARY OF THE CHAPTER

This chapter presented a synopsis of the entire current research study. Herein, the introduction and background of the study were discussed. Also, the problem statement, the aim of the study, the definition of concepts, research objectives, the research hypotheses, aim of the study, overview of the literature review and the methodological overview are included. The chapter also presented the significance of the study, as well as the layout of the research. Through these various subtopics, the chapter discussion provided the delineation and disintegration of the main topic and the problem being researched. The chapter guided the following stages by focusing on the critical aspects that set the background and the set up of the entire study. Following on from the background provided in Chapter 1, Chapter 2 focuses on the concept of the hospitality industry. The chapter provides the contextual discussion that highlights the issues that pertain to the hospitality industry in literature.

CHAPTER 2

LITERATURE REVIEW ON THE HOSPITALITY INDUSTRY

2.1 INTRODUCTION

In chapter one, the study's background was introduced, highlighting the role of green empowering leadership in influencing organisational citizenship behaviour toward the environment (OCBE) in hospitality firms. It detailed the problem statement, aim, and objectives, while outlining key hypotheses, methodology, and the study's significance, setting the stage for Chapter two's literature review. The central focus of this chapter is to review the literature on the local and international hospitality industry. Definitions of the hospitality industry from international and local perspectives will be provided. This chapter aims to provide a comprehensive overview of the hospitality and tourism industry in South Africa, highlighting the industry's significance, challenges, and contributions to the country's economy. Within the South African hospitality industry, a vibrant and competitive landscape has emerged, characterised by a diverse range of accommodation providers, restaurants, and tourism operators catering to a growing demand for unique and immersive travel experiences. The industry's growth has been fuelled by various factors, including increasing tourist arrivals, government support for tourism development, and a focus on sustainable tourism practices. The chapter will explore the role of tourism grading in South Africa, examining its impact on industry standards, consumer perceptions, and destination quality. By synthesising existing literature on these topics, this chapter will set the foundation for understanding the dynamics and complexities of the South African hospitality and tourism landscape, laying the groundwork for the subsequent empirical analysis and discussion in this research study.

Section 2.2 will focus on the brief outline of the hospitality and tourism industry, which will include a global perspective of tourism and the hospitality industry and finally outline the hospitality industry in South Africa.

2.2 BRIEF OUTLINE OF THE HOSPITALITY AND TOURISM INDUSTRY

2.2.1 The global perspective of the tourism Industry

The concept of tourism has been around for decades; it began during the times of the Greeks and Romans (Manolaa, Koufadakisb & Sapountzak, 2023). During those times, the summer holidays' primary reasons were to visit; then later, this developed

into a leisure and business activity (Chambers, Smillie & Watson, 2023). Zadeh, Reza and KiliÃ§ (2021) explain the word ‘tourism’ as being derived from the French term “turisme” which means travel and tour. The authors further describe tourism as a phenomenon that characterises humans and relate it to travels and tours to certain areas, places, sites and localities. However, travelling to specific places without a reason cannot be related to the concept of tourism.

According to the World Tourism Organisation (WTO) (2011), “tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited”. Tourism is travel for pleasure or business; also, it is the theory and practice of touring, the business of attracting, accommodating, and entertaining tourists, and the business of operating tours (Jebbouri, Zhang, Imran, Iqbal & Bouchiba, 2022; Pasca, Renzi, Di Pietro & Guglielmetti Mugion, 2021). Tourism can be domestic (within the traveller’s own country) or international; and international tourism has both incoming and outgoing implications on a country's balance of payments (James, 2022). Amoako et al. (2022) interpret tourism as being the total experience that originates from interactions between tourists, job providers, government systems and communities through the processes of providing attractions, entertainment, transport and accommodation to tourists. Kronenberg (2022) states that there are many discussions and arguments regarding the definition of tourism. Tourism is defined as the movement of people who travel to and stay in destinations outside their usual environments for less than a year, for either business or leisure purposes (Amoako et al., 2022). Tourism is also defined as being the total experience that originates from interactions between tourists, job providers, government systems and communities through the processes of providing attractions, entertainment, transport and accommodation to tourists. Liu, Chiang and Ko (2023) point out that tourism has many different dimensions that touch many lives at various levels of economic activities.

Kaushal and Srivastava (2021) point out that tourism is when people travel to places, sites and destinations away from their usual environment for many and different reasons. The authors further describe that in order to have a clear understanding of tourism, it is very important to understand the word ‘tour’. De Haas (2021) describes tourism as the temporary movement of people to destinations outside of the places

where they normally live and work, and their activities during their stay at these destinations. Tourism has been characterised by movement of people and their interaction with certain destinations (John, Firoz & Ramanan, 2023; Zadeh & Kiliç, 2021). Tourists travel worldwide for fun, business, conferences and to visit other destinations of economic and social significance.

Tourism is when visitors engage in different activities while visiting another place (Linderová, Scholz & Almeida, 2021). The term 'visitors' is used to describe individuals visiting another country (Davari & Jang, 2021). This definition covers two classes of visitor: Tourists are classified as temporary visitors staying at least 24 hours at/in a destination. Travelling for recreation, health, sport, holiday, study or religious purposes, their visit could be categorised as leisure (Linderová et al., 2021). Alternatively, excursionists, including cruise travellers, may be considered as temporary visitors, if they stay at/in a destination for less than 24 hours (Medeiros, Guerreiro, Vieira, Silva, Renda & Oliveira-Junior, 2021). Salazar (2022) suggests that tourism is the temporary short-term movement of people to destinations outside the places where they normally live and work. Therefore, tourism includes the movement of people for all purposes, including day visits or excursions (Khan, Ul Hassan, Fahad & Naushad, 2020). This broader definition was slightly reformulated at the International Conference on Leisure Recreation Tourism that was organised by the Worldwide Network of Tourism Experts (AIEST) and the Tourism Society in Cardiff, in 1981. Tourism can also be defined in terms of specific activities, selected by choice, and undertaken outside the home environment. Tourism may or may not involve overnight stays away from home. In 1991, the United Nations World Tourism Organisation declared that ''Tourism comprises the activities of persons travelling to and staying in places outside of their usual environment for not more than one consecutive year for leisure, business or other purposes" (Camilleri, 2018). These definitions fail to take into account domestic tourism. According to Maturaa (2021) and Ding and Timmer (2023), domestic tourism refers to travel that is exclusively undertaken within the national boundaries of the traveller's home country. International tourism, on the other hand, refers to travel outside the borders of one's home country. Domestic travel will have an impact on the balance of payments and will reduce the outflow of money from the tourists' home country. According to Ramukumba (2023), tourism in South Africa can be defined as the activities, services, and industries that cater to visitors who travel

to South Africa for leisure, business, or other purposes. It encompasses all aspects related to the reception, transportation, accommodation, and entertainment of tourists within the country.

Tourism in South Africa plays a significant role in the country's economy, contributing to job creation, foreign exchange earnings, and infrastructure development (Zhou, 2022). The country offers diverse attractions, including wildlife safaris, beautiful landscapes, cultural heritage sites, adventure activities, wine tourism, and urban tourism experiences, among many others. As the tourism industry continues to grow, it has been connected with a significant increase in government revenue, increase in job opportunities and a considerable growth in household income (Zhou, 2022). Statistics South Africa (2023) state that tourist arrivals in South Africa demonstrated a positive trend, with improvements in the numbers recorded from month to month during the period spanning 2021 to 2023. In December 2023, 3,5 million travellers were recorded at South African ports of entry/exit, surpassing the figures for both November 2023, which stood at 2,6 million, and December 2022, at 2,9 million. According to the United Nations World Tourism Organisation (UNWTO), the first UNWTO World Tourism Barometer of the year showed there were an estimated 1.3 billion international tourist arrivals in 2023, representing 88% of pre-pandemic levels. As world tourism rebounds, South Africa is seeing a similar trend. In 2021, the number of international tourist arrivals (overnight visitors) was 77,9% lower than the pre-pandemic levels of 2019, declining from 10,23 million tourists in 2019 to 2,26 in 2021. In 2022, there was a slight recovery in the number of tourists (approximately 5,7 million) at 44,3% lower than pre-pandemic levels. At 8,48 million tourists in 2023, there was a notable improvement, where the total tourist arrivals were still 17,1% below the pre-pandemic levels, moving from 10,23 million in 2019 to 8,48 million in 2023. However, the December 2023 number (862 460) remains 41,8% lower than the pre-pandemic figure (1 481 183) recorded in 2019.

Table 2.1: Tourism and hospitality

CATEGORIES OF TOURISM	
LUXURY TOURISM	
Examples	Luxury resorts, private villas, exclusive tours
BUDGET-FRIENDLY TOURISM	
Examples	Budget hostels, backpacker tours, budget-friendly activities
WELLNESS TOURISM	
Examples	Yoga and meditation retreats, spa resorts, detox and cleanse programmes, holistic health resorts
FOOD AND WINE TOURISM	
Examples	Food festivals, wine tastings, cooking classes
BUSINESS TOURISM	
Examples	Conferences, meetings, trade shows
NATURE-BASED TOURISM	
Examples	Wildlife watching, hiking, outdoor adventures

Source: *Adapted from Włodarczyk and Cudny (2022)*

2.2.2 The global perspective of the hospitality industry

In a global context, the hospitality industry has evolved into a new growth era (Adekuajo, Fakeyede, Udeh & Daraojimba, 2023). Hospitality entails a pleasant and generous welcome and the general amusement of strangers or guests based on commercial or social values (Sánchez-Franco & Aramendia-Muneta, 2023). Hospitality is defined in several ways. Abdou, Khalil, Mahmoud, Elsaied and Elsaed (2022) state that the hospitality industry serves as a vital object of exchange that links tourists' demand and supply. According to Dsouza, Shetty, Dinesh and Damodar (2023), the industry offers assistance to people to feel welcome in a relaxed climate. The hospitality industry does not offer beverages and accommodation only, the industry also provides varieties of food to customers (Nguyen, 2021). According to Rao (2014), the hospitality industry is seen as a commercial activity that takes into account people's needs.

Hospitality is defined as the friendly and generous reception and entertainment of guests, visitors, or strangers (Groen & van Sprang, 2021). For instance, when a place

is well-known for its hospitality, words used to understand hospitality are welcome, friendliness, helpfulness, warmth, greeting and kindness. Hospitality also means welcoming a guest and making them comfortable at one's place by looking after their needs during their temporary stay (Groen & van Sprang, 2021). The hospitality industry can be defined and understood as an industry that provides a facility for stay, food and complete related services for the comfort and leisure of the travellers and visitors (Baquero, 2023). Hospitality is the industry covering all the products and services that serve travellers, tourists and all types of visitors; it is closely associated and a part of the tourism industry. It is a key part of the tourism industry's value chain (Baloch et al., 2023). The industry is mainly driven by growing tourism; yet, it caters to both tourists and travellers (Holloway & Humphreys, 2022).

Walters, Huck, Robinson and Stettler (2021) describe hospitality as a commercial business involved in the provision of accommodation. According to Samir (2021), the hospitality sector includes hotels, motels, lodges, guest houses, including bed and breakfast establishments, restaurants, pubs, taverns, and cafés. Chau and Yan (2021) remark that hospitality can be examined from three domains, which are private, social, and commercial. Private hospitality relates to private homes, where guests are welcomed by hosts without explicit financial motives (Chau & Yan, 2021; Ozanne & Prayag, 2022). Social hospitality focuses on the provision of hospitality artefacts that are connected to cultural norms and traditions (Bernard, Dillette & Benjamin, 2023; Chau & Yan, 2021). Commercial hospitality is profit-driven. The goal of commercial hospitality is to provide pleasure and satisfaction to guests to enable their repeat visitation (Chau & Yan, 2021; Hamadziripi & Daniels, 2023). The hospitality industry contributes significantly to employment creation and economic growth of South Africa (Nyathela-Sunday et al., 2022).

The hospitality and tourism industries are closely related, and each plays an important role in development and growth of the other industry. Tourism brings revenue, growth and development for hospitality. On the other hand, the hospitality industry adds to the overall value and importance of tourism (Amoako et al., 2022; Cheng, 2023). It creates more tourism demand, makes it look more attractive and adds the much-needed comfort level for tourists and travellers. Without hospitality, tourism would be incomplete and will not achieve the growth (Kimeto, 2021). The hospitality industry consists of two major segments. The first and broadest segment is the

accommodation, staying or lodging industry. The second segment is the food and beverages segment, which can be considered both as a part of the accommodation industry or segment, and also as an independent segment (Aksoy, Choi, Dogru, Keiningham, Lorenz, Rubin & Tracey, 2022). The two hospitality industry segments, the accommodation industry and the segment of hospitality, are mainly associated with providing a temporary place for guests, visitors, tourists and travellers to stay. Accommodation is the most basic and fundamental aspect of hospitality as an industry (Kaushal & Srivastava, 2021). According to Dhir, Talwar, Kaur and Malibari (2020), there are various sub-segments within this umbrella segment, which are formed according to the type of accommodation and services associated with these, namely hotels, motels, bed & breakfasts, resorts, restaurants, catering and bars.

Kokt and Mphirime (2022) state that there are four sectors of the hospitality industry: food and beverage, lodging, recreation, and travel. Alananzeh (2022) adds clubs, conventions and events management as another sub-sector of the hospitality industry. The four sectors are explained as follows:

i. Food and beverage, also known as food service, features organisations or establishments that prepare food for guests or customers.
ii. Lodging, also known as accommodation, is defined as a place to sleep for one night or more. Examples are hotels, hostels, camp ground or motels.
iii. Recreation refers to activities done by people for relaxation, rest and enjoyment. Recreation aims to refresh people's minds and bodies. Examples of recreation include attractions, entertainment, participatory sports and spectator sports.
iv. Travel is the moving of people from destination to destination and provides people with the services that influence travel and vacations. Examples are airplanes, boats, buses and trains.

2.2.2.1 Categories of hospitality

a) Accommodation sector

The accommodation sector plays a crucial role in the hospitality industry. It includes a wide range of establishments, such as hotels, resorts, motels, bed and breakfasts, and hostels (Miceli, 2023). These establishments provide lodging facilities to tourists and travellers (Fotiadis, Polyzos & Huan, 2021). According to Gössling, Scott and Hall

(2020), the accommodation sector is one of the largest and fastest-growing sectors in the hospitality industry. The success of this sector largely depends on factors such as quality of service, cleanliness, comfort, and location. Advancements in technology have also impacted the accommodation sector, allowing for online bookings and personalised guest experiences (Fotiadis et al., 2021).

The accommodation sector is a fundamental component of the hospitality industry. It encompasses a wide range of establishments that provide lodging and related services to travellers (Ali, Gardi, Othman, Ahmed, Ismael, A.hamza, Aziz, Sabir, Sorguli & Anwar, 2021). The accommodation sector includes hotels, motels, resorts, guesthouses, bed and breakfasts, and other establishments that offer temporary accommodations to guests (Miceli, 2023). These establishments vary in size, amenities, and target market, catering to a diverse range of travellers, such as leisure and business customers. The accommodation sector plays a pivotal role in the hospitality industry by offering comfortable and convenient lodging options for travellers (Sánchez-Franco & Aramendia-Muneta, 2023).

There are several types of accommodation establishments within the hospitality industry, including hotels, resorts, bed, and breakfasts, and more (Miceli, 2023; Sánchez-Franco & Aramendia-Muneta, 2023). Hotels are generally large establishments that provide a range of services and amenities for their guests. Resorts, on the other hand, are typically located in scenic areas and offer recreational facilities and activities for guests. Bed and breakfasts are smaller establishments that provide cosy and personalised accommodations. Each type of accommodation establishment offers unique experiences and caters to different types of travellers (Twumasi, Krüger & Amoah, 2022).

The accommodation sector of the hospitality industry faces various challenges and is influenced by several emerging trends (Bama & Nyikana, 2021). One of the major challenges is the increasing competition, both from traditional hotels and alternative accommodations such as vacation rentals and serviced apartments (Dogru, Hanks, Suess, Line & Mody, 2023). Another challenge is meeting the ever-changing needs and expectations of guests, including personalised experiences and technology integration (Samala, Katkam, Bellamkonda & Rodriguez, 2022). Additionally, the sector is impacted by trends like the rise of online booking platforms, the growing

importance of sustainability, and the shift toward experiential travel (Twumasi et al., 2023). These challenges and trends require the accommodation sector to continuously adapt and innovate to remain competitive in the dynamic hospitality industry.

b) Food and beverage sector

The food and beverage sector is a significant component of the hospitality industry, encompassing establishments such as restaurants, bars, cafés, and catering services (Martín-Rios, Meier & Pasamar, 2022). It plays a crucial role in providing nourishment and enjoyment to guests and customers. According to Norris, Taylor Jr and Taylor (2021), this sector has seen unprecedented growth in recent years due to the increasing popularity of dining out and the growing demand for innovative and diverse food experiences. It is essential for food and beverage businesses to prioritise quality, safety, and customer satisfaction to thrive in a highly competitive market (Ali et al., 2021). This sector plays a crucial role in ensuring guest satisfaction by offering a variety of dining options and quality service (Martín-Rios et al. 2022; Norris et al., 2021). The food and beverage sector contributes significantly to the overall revenue of the hospitality industry due to its high demand and profitability (Shapoval, Hägglund, Pizam, Abraham, Carlbäck, Nygren & Smith, 2021). At the same time, it is characterised by intense competition and the constant need for innovation to attract and retain customers (Kurtmollaiev, Lervik-Olsen & Andreassen, 2022).

Restaurants, cafés, bars, and other types of food and beverage establishments play a crucial role in the hospitality industry (Hernández-Rojas & Huete Alcocer, 2021). These establishments provide a variety of dining experiences to cater to different consumer needs and preferences. Restaurants offer a wide range of cuisines and dining styles, from fine dining establishments to casual family-oriented eateries (Tlapana & Sandlana, 2021). Cafés focus more on providing a relaxed atmosphere and a variety of beverages, such as coffee and tea, along with light meals and pastries (Sovacool, Bazilian, Griffiths, Kim, Foley & Rooney, 2021). Bars, on the other hand, primarily serve alcoholic beverages and often provide a social setting for customers to relax and socialise. Challenges and trends in the food and beverage sector have a significant impact on the overall success of the hospitality industry (Biesbroek, Kok, Tufford, Bloem, Darmon, Drewnowski, Fan, Fanzo, Gordon, Hu, Lähteenmäki, Nnam, Ridoutt, Rivera, Swinburn & Veer, 2023; Pandirkar, 2021). One of the main challenges is the increasing demand for healthier food options and sustainability practices

(Shapoval et al., 2021). To stay competitive, businesses in the food and beverage sector must adapt to these changing preferences and actively incorporate healthier and sustainable options into their menus (Vitsentzatou, Tsoulfas & Mihiotis, 2022).

c) Travel and tourism sector

The travel and tourism sector plays a crucial role in the hospitality industry. It encompasses various businesses and organisations that facilitate and support tourism activities (Amoako et al., 2022). The sector includes airlines, hotels, travel agencies, tourist attractions, and other related businesses (Papatheodorou, 2021, Thommandru et al., 2023). The sector significantly contributes to economic growth, employment opportunities, and cultural exchange, making it an essential part of the hospitality industry. The travel and tourism sector is one of the largest and fastest-growing sectors globally, contributing significantly to economic development and employment generation (Rasool et al., 2021; Zhou, 2022). The sector plays a crucial role in promoting cultural exchange, economic growth, and sustainable development (Naseem, 2021).

Travel and tourism businesses play a crucial role in the hospitality industry. These businesses can be categorised into various types, including travel agencies, tour operators, airlines, and more (Maqbool et al., 2021; Naseem, 2021). Travel agencies act as intermediaries between customers and suppliers, providing a range of services, such as booking accommodations, transportation, and additional travel arrangements (Holgado-Ramos, Alieva & Maya-Jariego, 2022). On the other hand, tour operators design and organise package holidays, including transportation, accommodation, and tours. Airlines, as another type of travel and tourism business, facilitate air travel globally, making it more accessible and convenient for travellers (Lin & Zhang, 2021). These businesses collectively contribute to the overall customer experience and satisfaction in the travel and tourism industry.

Challenges and trends in the travel and tourism sector are constantly evolving due to various factors (Zhou, 2022). One of the significant challenges faced by this sector is the impact of economic downturns on consumers' travel behaviour. Economic uncertainties tend to result in reduced consumer spending on travel, leading to a decline in tourism revenues (Abbas, 2022; Toubes, Araújo & Fraiz, 2021). The increasing competition within the industry poses another challenge. As new

destinations emerge and competition intensifies, organisations in the travel and tourism sector must continuously adapt and innovate to remain competitive and attract travellers (Gato, Dias, Pereira, da Costa & Gonçalves, 2022). Moreover, technological advancements have significantly influenced the industry (Momani, Alsakhnini & Hanaysha, 2022). The rise of the internet and social media have allowed travellers to easily access information, compare prices, and book their travels online (Ali, Azhar, Jamal & Khan, 2022; Momani et al., 2022). As a result, many traditional travel agencies have had to reinvent themselves and engage with customers through online platforms to stay relevant in the market. The travel and tourism sector continues to face various challenges and must adapt to emerging trends to stay competitive and cater to the changing needs of consumers (Sharma, Thomas & Paul, 2021).

d) Event planning and management sector

Event planning and management is a crucial sector in the hospitality industry that contributes to the success of various events, such as conferences, exhibitions, and weddings (Kaushal & Srivastava, 2021). This sector involves meticulous planning, coordination, and execution to ensure that the events meet the clients' expectations (Ansuini, 2022). Event planners work closely with clients to understand their vision and requirements, while also considering logistical and budgetary constraints. They are responsible for securing suitable venues, arranging accommodation and transportation, coordinating hospitality services, and managing any unforeseen challenges that may arise during the event (Dounavi, Dermitzakis, Chatzistelios & Kirytopoulos, 2022; Govender, 2021). The event planning and management sector requires creativity, organisational skills, and effective communication to deliver memorable and successful events.

The event planning and management sector is an integral part of the hospitality industry, with its primary focus on conceptualising, organising, and executing various events, such as weddings, conferences, and trade shows (Ansuini, 2022). According to Kaushal and Srivastava (2021), event planners are responsible for coordinating all aspects of an event, including venue selection, budgeting, marketing, and logistics. This sector requires strong attention to detail, exceptional organisational and communication skills, and the ability to multitask effectively (Santos, Fernández-Gámez, Guevara-Plaza, Custódio Santos & Pestana, 2023). Event management

professionals play a vital role in creating memorable experiences for attendees while ensuring the smooth execution of events (Govender, 2021).

The event planning and management sector faces various challenges and trends. One challenge is the increasing demand for sustainability in events (Mair & Smith, 2022). As environmental concerns continue to grow, event planners need to find ways to minimise waste and reduce the carbon footprint of their events. Another challenge is the need for technology integration (Santos et al., 2023; Tao, Steckel, Klemeš & You, 2021). Event planners must stay updated with the latest event management software and tools to enhance event registration, attendee engagement, and overall event experience (Chen, Wu & Huang, 2023). With the advent of virtual events, the sector is witnessing a major shift toward digital platforms and online event management (Iyer, 2022). The sector is also affected by the trend of personalisation. Attendees now expect tailored experiences and personalised communication throughout the event (Tomczyk, Buhalis, Fan & Williams, 2022). These challenges and trends in the event planning and management sector necessitate continuous adaptation and innovation to stay ahead in the industry.

Table 2.2 illustrates the sections or categories and the depth of the hospitality industry and provides explanations and examples of each component of the hospitality industry.

Table 2.2: The scope of the hospitality industry

CATEGORIES OF HOSPITALITY	
ACCOMMODATION AND LODGING	
Examples	Hotels, motels, resorts, camping grounds, cabins, AirBnB, home away
RECREATION AND ENTERTAINMENT	
Examples	Gaming, theme parks, adventure, outdoor recreation
TRAVEL SERVICES	
Examples	Travel agents, airlines, cruise ships, rail, bus, car, ecotourism
FOOD AND BEVERAGE SERVICES	
Examples	Restaurants, catering, institutional
CONVENTIONS AND EVENT MANAGEMENT	
Examples	Meetings, expositions, social and special events
CLUB	
Examples	City, private country clubs

Source: *Adapted from Skripak (2016)*

The hospitality industry differs compared to other industries; it is unique because it is strongly service oriented (Molina-Castillo, Meroño-Cerdán, López-Nicolas & Fernández-Espinar, 2023). This industry stresses the element of human exchange in the service delivery processes. Characteristics of the hospitality industry are listed in Figure 2.1.

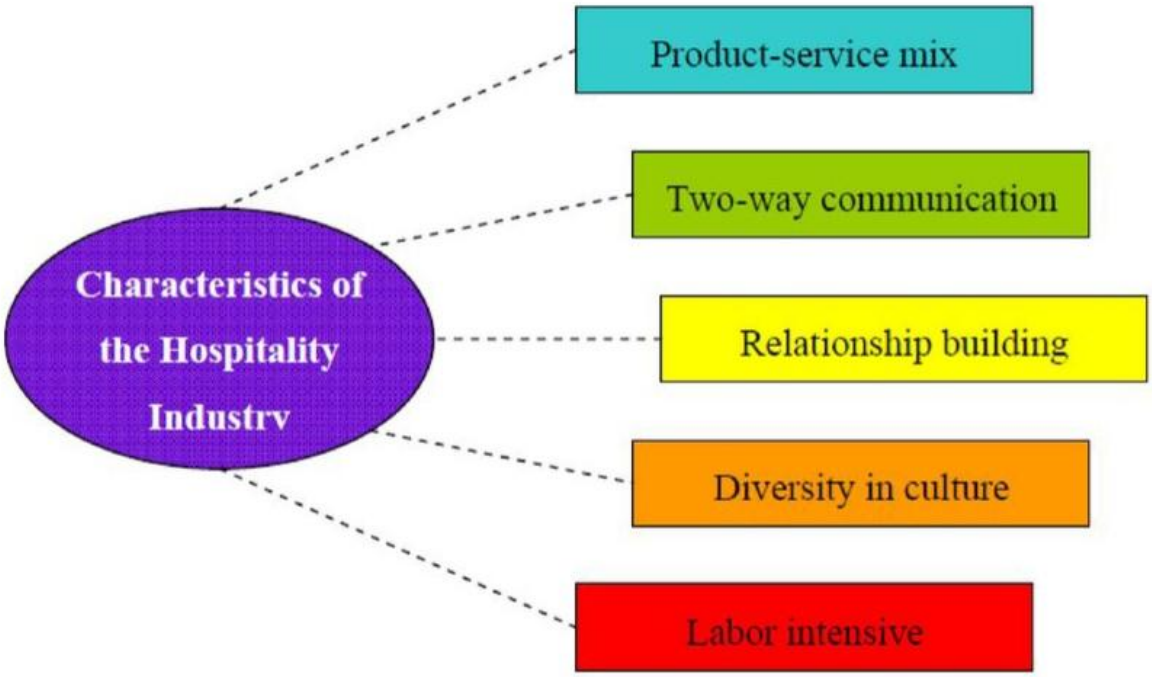

Figure 2.1: Characteristics of hospitality industry

Source: *Adapted from Chan and Mackenzie (2013)*

According to Chan and Mackenzie (2013), the product-service mix is whereby consumers do not only consume products, but they also consume services. In a restaurant, for instance, consumers do not only pay for the products, but they also pay for the services provided by servers or waiters. Two-way communication, on the other hand, is the conversation between the consumer and service staff of the industry. In addition, relationship building is whereby the organisation builds a relationship with the consumer through loyalty programmes. Service staff meet the expectations of different people or consumers from different countries and cities with diverse cultural and religious backgrounds. Available literature further indicates that the hospitality industry is highly labour-intensive as it requires highly trained individuals in order to render services of quality to clients (Chan & Mackenzie, 2013).

2.2.3 Brief outline of the hospitality industry in South Africa

According to the Department of Labour (2010:2), “the hospitality sector has small employers who employ 10 or fewer workers as defined in the Small Business Determination No. R. 1295 of 5 November 2005. Provisions such as overtime, averaging hours of work and family responsibility leave are dealt with in terms of this Small Business Determination”. In South Africa, the hospitality industry captures the

attention of leisure and business travellers, thus presenting a variety of hotel classes and accommodation (Olowoyo, Ramaila & Mavuru, 2021). Zhou (2022) indicates that hospitality is an element of the tourist industry that has developed quickly over the last decade. Sukach Kozlovska and Sushko (2021) state that 'hospitality industry' means a commercial business or a certain part of commercial business in which employers and employees are linked for the purpose of providing services to guests or consumers. Mlotshwa (2021) mentions hotels, caravan parks, game lodges, food and beverage and catering services as services provided by the hospitality industry in South Africa. According to Zhou (2022), the business volume of the hospitality industry is equivalent to, and can even be more than, that of food products, oil exports and the automobile sector combined. Siwek, Kolasi´nska, Wrze´sniewski and Zmuda Palka (2022) state that accommodation is classified as a basic need of tourism. However, the accommodation sector lacks growth; tourism will not grow easily without the relevant accommodation being available, even in the world's most beautiful places.

2.3 CONTRIBUTIONS OF TOURISM AND HOSPITALITY FIRMS

The tourism and hospitality industry has made significant environmental contributions, both positive and negative, in the South African context. On the positive side, the industry has raised awareness about environmental conservation through ecotourism initiatives (Mtapuri, Daitai, Camilleri & Dłużewska, 2024). Additionally, investments in sustainable infrastructure and the adoption of green practices have reduced the industry's carbon footprint (Baratta, Cimino, Longo, Solina & Verteramo, 2023). However, the industry also creates challenges, including increased energy consumption and waste generation, which require effective waste management strategies (Ali & Parvin, 2022). Overall, the environmental contributions of the industry in South Africa necessitate sustainability practices to minimise the negative impacts and maximise the positive contributions (Mtapuri, Camilleri & Dłużewska, 2022).

The tourism and hospitality industry in South Africa has made significant contributions to environmental conservation and sustainable practices in recent years (Chiwawa & Wissink, 2023). Efforts have been made to reduce carbon emissions through the implementation of eco-friendly transportation options, such as electric vehicles and bicycles (Din, Ur Rahman, Vega-Muñoz, Elahi, Salazar-Sepúlveda, Contreras-Barraza & Alhrahsheh, 2023). Additionally, hotels and resorts have adopted energy-saving technologies, such as solar panels and LED lighting systems, to minimise their

environmental impact (Lorente de las Casas, Mirkova & Ramos-Real, 2021). These initiatives demonstrate the industry's commitment to preserving and protecting South Africa's natural resources for future generations (Statistics South Africa, 2023). Since the two industry sectors are interlinked, their contributions are often discussed together in the literature. The next section will discuss the contribution of the tourism and hospitality sector toward employment creation, economic growth and development, and foreign exchange earnings.

2.3.1 Contributions of tourism and hospitality firms to employment creation

The hospitality sector provides jobs for youth, especially young females in the country (Stemele & Sucheran, 2021). In essence, the hospitality industry provides jobs for different categories of people, such as women, immigrants, or young people with low education levels. Tourism and the travel sector are important economic activities all over the world (Naseem, 2021). In many countries, the tourism industry remains an important source for the generation of employment and income in formal and informal sectors (Sultana, Rahman & Khanam, 2022). For instance, Hwang, Joo and Moon (Hwang & Lee, 2023) claim that economic growth and development are rapidly increasing in Korea due to the increase in tourism of the elderly. This increase shows that tourists experience a level of satisfaction, which positively affects their future behavioural intentions (Kim, Wang, Shi, Guo, Zhou, & Liu 2023). Similarly, developing countries can engender a huge amount of foreign exchange from tourism that could also boost their sustainable growth and development (Chen, 2023). In developing countries, it is the main source and a foundation for a country’s economic development and growth (Abate, 2022). Tourism revenue complements the exchange derived from the overseas trade of goods and services. This sector also finances capital goods imports in the development of the economy’s industrial sector (Rasool et al., 2021). Alternatively, economic expansion in the developed nations influences business travel (overseas visits), which can lead to a rise in the nation’s overseas reserves (Shenkar, Luo & Chi, 2021).

Based on the involvement or contribution tourism supply-side, employment opportunities in tourism and hospitality sectors can be created either directly or indirectly (Shu, Yu, Liu, Wang & Zha, 2022). Direct employment opportunities are the total number of job opportunities supported directly in travel and tourism (Sánchez López, 2023). For example, employment is created by hotels, restaurants, travel

agencies, tourism information offices, museums, protected areas such as national parks, palaces, religious sites, monuments, aircrafts, cruise lines, resorts or shopping outlets, souvenirs, photography, sightseeing tours, farmhouses, bed and breakfast, rural inns, and guest houses local transportation (state owned airlines and railways, private transport facilities), guides, cooks and scouts. Tourism and hospitality also support indirect employment in activities like restaurant suppliers, construction companies that build and maintain tourist facilities, as well as necessary infrastructure, aircraft manufacturers, various handicrafts producers, marketing agencies, and accounting services, which are dependent on the companies providing direct employment for their revenues (Zhao, Yang, Zhao & Lei, 2023).

The economic impact of tourism is measured in terms of its effect on income, employment, investment and development; and balance of payment (Gemar, Soler & Moniche, 2023). In a labour-intensive industry such as tourism and hospitality the greater proportion of income is likely to be derived from wages and salaries paid to those working in jobs either directly serving the needs of tourists or benefitting indirectly from tourists' spending (Jaipuria, Parida & Ray, 2021; Shah, Chowdhury & Gupta, 2021). Income will be high in tourist destinations that attract large numbers of visitors; where visitors' length of stay is maximum, and customer spending of money is very high, provided that multiple opportunities and activities are existing for customers to participate (Nguyen, 2021). The other reasons that employment opportunities are diversified more than ever before, are that tourism and international travel become popular all over the world and people consider that travel is a human right. At the same time, destinations are concerned whether they will be able to meet the needs and wants of tourists and offer high standard of services in the destinations. Tourists have extremely wide choices of where to spend their holidays. International standards and quality assurance systems are being set by national and international tourism and hospitality organisations to provide standardised and quality customer services. This results in the industry having to ensure sustainable development in the sectors. The a hoc decline of the international oil price at times reduced the cost of travel (Herrero, Laso, Cristóbal, Fullana-i-Palmer, Albertí, Fullana, Herrero, Margallo & Aldaco, 2022; Lee, Chen, Wu & Xing, 2021). However, international and national air travel prices have risen and this will have an impact on the number of tourists being able to fly across the globe. Based on the high number of tourists, large numbers of

workforces are required to provide services for these tourists and the tourism and hospitality sectors, with the supporting industries providing a diversified employment opportunity (Madera, Yang, Wu, Ma & Xu, 2023).

Table 2.3: Contribution of tourism and hospitality firms to employment in selected developed and developing countries

Country	Contribution to employment
United States of America	10.2%
France	12%
Nigeria	3%
South Africa	9.2%

Source: France, WTTC (2022); Nigeria, Statista (2022); South Africa, WTTC (2023); United States of America, World Travel and Tourism Council (WTTC) (2022)

Table 2.3 indicates that the contribution of hospitality to job employment is higher in developed countries compared to developing countries. Hospitality's contribution in France is 12% and in the US 10.2%, where the industries are regarded as the core of the economy and a major source of employment. In developing countries like South Africa, the sector contributes 9.2% toward employment creation, while in Nigeria, it only contributes 3%. This indicates that tourism in developed countries contributes more to employment creation than in developing countries.

2.3.2 Contributions of tourism and hospitality firms to economic growth and development

Tourism participates in a country's growth and development, first, by bringing in multiple economic values and benefits, and second, by helping to build brand value, image, and identification in the region (Vanhove, 2022). As a significant contributor to economic growth, the tourism industry goes beyond attractive destinations (Naseem, 2021). It plays a considerable role in boosting the economy of a nation. For most of the country, tourism is supposed to be the main engine for regional development, accelerating recent economic activity. It has a positive impact on revenue growth, job opportunities, gross income and production, but it can hurt the environment, due to such factors as intense road use and degradation, congestion, pollution, and

ecosystem destruction (Abubakar et al., 2022). By drawing international tourists, tourism contributes to generating foreign exchange earnings that generate employment, improved infrastructure, and quality of life, contributing to the country's sustainable economic growth, as tourists add to the area's sales, profits, salaries, tax revenue, and exports (Naseem, 2021).

According to Qian and Shang (2022), tourism contributes to national economic growth and development, and improves the standard of living, thus promoting a process of regional convergence and stimulating domestic demand. Tourism can generate significant revenue in the public sector, especially when managers stimulate the dynamics of the business sector, when effective tax collection systems are in place and when the destination is administered in an enterprising manner. This necessitates the creation of services and activities that extend the touristic offerings and give rise to greater direct expenditure by tourists (Aguinis, Kraus, Poček, Meyer & Jensen, 2023; Safarov, Taniev & Janzakov, 2023). Tourism development provides added value through increased investment, increased employment, an improvement in the balance of payments, a boosting of tourism sectors and a positive impact on GDP (Rasool et al., 2021). The most direct effects are for industries such as hotels, restaurants, transportation, entertainment, and retail (Naseem, 2021). A literature review suggests that tourism, agriculture, capital, and energy development support growth in most developing nations. The development of tourism has gained global acknowledgement as a motivation for economic growth, agriculture, energy development and alleviating poverty (Naseem, 2021; van Zyl & van der Merwe, 2021). Tourism development is widely believed to lead to economic growth, although scholars disagree over the empirical research (Osorio-Molina, Muñoz-Benito & Pérez-Neira, 2023). A booming tourism sector can generate the same growth in income as that from exports of natural resources. Unlike the oil, gas, and mineral extraction industries that trigger natural resource degradation, the tourism sector can become a green sector (Ullah, Raza & Mehmood, 2023).

Table 2.4: Contribution of tourism and hospitality firms to economic growth and development in selected developed and developing countries

Country	Contribution to GDP
United States of America	9%
France	7.5%
Nigeria	6.9%
South Africa	3.2%

Source: World Travel and Tourism Council (2022)

Table 2.4 indicates that the contribution of the hospitality industry to GDP is higher in developed countries compared to developing countries. Hospitality's contribution to GDP in the USA is 9% and in France it is 7.5%, where the hospitality sector is regarded as the core of the economy and a major source of GDP. The hospitality industry in developing countries like Nigeria contributes 6.9% toward GDP, while in South Africa, the sector contributes 3.2% to GDP.

2.3.3 Contributions of tourism and hospitality firms to foreign exchange earnings

The pivotal role of hospitality firms in contributing to foreign exchange earnings is a multifaceted aspect of the global economy (Narula & van der Straaten, 2021). The tourism sector, encompassing hospitality businesses, plays a significant role in economic growth, employment generation, and regional development (Zalmi & Sinaga, 2024). The tourism industry plays a pivotal role in economic development (Azam, Mahdiat, Hafeez & Bakhtyar, 2022; Majeed & Mazhar, 2021). While generating employment opportunities and foreign exchange earnings, tourism also has the potential to bolster regional balances and spur infrastructural growth (Nurman, Yulastin & Zainal, 2023). Small and medium-sized enterprises (SMEs) within the tourism sector, such as hospitality firms, are key contributors to these benefits, employing a substantial portion of the workforce and driving job creation (Papageorgiou, Marneros & Efstathiades, 2021). However, as Lin, Jung and Sharma (2024) underscore, SMEs in tourism face challenges in accessing finance, leading to a perceived 'equity gap' that hinders their growth potential. National governments and regulatory bodies have recognised the significance of supporting SMEs in the tourism

sector through policies and initiatives aimed at enhancing competitiveness and fostering a conducive environment for job creation (Ajayi-Nifise, Tula, Asuzu, Mhlongo, Olatoye & Ibeh, 2024; Streimikiene, Svagzdiene, Jasinskas & Simanavicius, 2021). By acknowledging the importance of SMEs in tourism and implementing targeted measures, stakeholders can further harness the industry's economic contributions towards foreign exchange gains and promote sustainable growth (Martínez-Peláez, Ochoa-Brust, Rivera, Félix, Ostos, Brito, Félix & Mena, 2023; Movono & Hughes, 2022).

South Africa is a hub for business and conferences, attracting international delegates and corporate travellers for meetings, conferences, and events (Nugroho, Hanani, Toiba, Sujarwo & Purnomo, 2021). Hospitality firms provide accommodation, conference facilities, catering, and logistical support for business travellers, generating revenue in foreign currency and boosting foreign exchange earnings (Holloway & Humphreys, 2022). The presence of world-class hospitality firms in South Africa, such as international hotel chains and luxury resorts, means that the country attracts foreign direct investment (FDI) in the tourism and hospitality sector (Zhou, 2021). FDI inflows contribute to economic growth, job creation, and foreign exchange inflows through investments in infrastructure, development projects, and strategic partnerships (Aladelusi & Olayiwola, 2021). The hospitality sector in South Africa provides employment opportunities for a diverse workforce, including hotel staff, tour guides, chefs, hospitality managers, and service providers (Ngoepe, 2021; Hudson & Hudson, 2022). The creation of jobs in the hospitality industry contributes to economic development, poverty alleviation, and increased consumer spending, further supporting foreign exchange earnings (Lagos & Wang, 2023; Thommandru, Espinoza-Maguiña, Ramirez-Asis, Ray, Naved & Guzmán-Avalos, 2023).

Table 2.5: Contribution of tourism and hospitality firms to foreign exchange earnings in selected developed and developing countries

Countries	**contribution to foreign exchange earnings**
USA	$2.02 trillion
France	€59 billion
Nigeria	₦186 trillion
South Africa	R253 billion

Source: World Travel and Tourism Council (2022)

Table 2.5 indicates that the contribution of the hospitality sector to foreign exchange earnings is higher in developed countries compared to developing countries. Hospitality's contribution to foreign exchange in France is €59 billion and in the US $2.02 trillion, where the sector is regarded as the core of the economy and a major source of foreign exchange earnings. Developing countries like South Africa contribute R253 billion to foreign exchange earnings, while Nigeria contributes ₦186 trillion to foreign exchange.

2.4 CHALLENGES FACED BY TOURISM AND HOSPITALITY FIRMS

Despite the environmental benefits associated with tourism and hospitality activities, the industry also creates and experiences several challenges and potential negative impacts (Lerpold & Sjöberg, 2021). First, the rapid growth of tourism in South Africa has led to increased vehicle emissions, the deterioration of air quality, and congestion in popular tourist destinations (Curtale, Sarman & Evler, 2024). This can result in local environmental degradation and harm the health of residents and visitors. Additionally, the construction and operation of large-scale tourism infrastructure, such as hotels and resorts, can lead to habitat destruction, loss of biodiversity, and disruption of natural ecosystems (Baloch et al., 2023). Added to this, improper waste management practices by tourists and the industry itself contribute to pollution of land and water resources (Airey, 1991). Therefore, it is crucial for government and stakeholders to develop and implement sustainable tourism practices, including effective waste management systems, to mitigate these negative impacts and preserve South Africa's

unique natural and cultural heritage. However, not only does the sector cause several negative consequences, the small firms in the sector are also affected by growing competition, smaller margins and rising costs.

2.4.1 Lack of adequate and quality skilled personnel

The industry is characterised by unskilled individuals and inappropriate working conditions (Dütsch, 2022). This situation is not peculiar to South Africa as other developing countries, among them Vietnam, report that even graduates' lack of skills and poor preparation for the workplace (Botha & Botha, 2022). The improvement of hospitality students' entrepreneurial skills is vitally important in safeguarding the future of tourism and the development of the hospitality industry (Deale, 2023). The realisation of this key strategic imperative requires hospitality instructors to change their traditional teaching methods to enable hospitality students to find more creative solutions to hospitality planning-related problems and how to resolve challenges that they may encounter in their future careers (Olowoyo et al., 2021).

It is important to address the issue of skills shortage within the hospitality industry because the expected increase in the need for skilled employees has created an imbalance between employee supply and demand in the hospitality industry (Innerhofer, Nasta & Zehrer, 2024). Ghani, Zada, Memon, Ullah, Khattak, Han, Ariza-Montes and Araya-Castillo (2022) assert that sourcing skilled workers and their retention have become two major problems confronting the hospitality industry. Hospitality managers and owners may therefore need to invest more in their workers to retain especially those who are better skilled. Employee training plays a significant role in improving employees' performance, achieving better quality service and a competitive advantage (Wash, 2023). Therefore, quality service delivery and competitive advantage may suffer when training support, training opportunities and accessibility thereof are scarce. The literature has established the strategic link between training and organisational performance. Specifically, transfer studies also explain and justify this link (Thirusanku & Yin, 2022; Zhenjing et al., 2022). Even though training affects the overall job performance, there are many other factors that play a role in the retention of skilled employees, for example working conditions and pay.

Employee trainings' influence on performance outcomes, such as employees' commitment, work engagement, satisfaction and transfer performance have attracted tremendous attention in prior studies (Lee & Kim, 2023; Serang, Ramlawati, Suriyanti, Junaidi & Nurimansjah, 2024; Sypniewska, Baran & Kłos, 2023). Despite this, to date, fewer studies have analysed the connection between training and service quality, especially in the hospitality industry (Ali, Gardi, Jabbar Othman, Ali Ahmed, Burhan Ismael, Abdalla Hamza, Mahmood Aziz, Sabir, Sorguli & Anwar, 2021; Jeganathan, David & Ilangovan, 2022). While some studies ignored some important variables in the relationship between training and service quality; other studies have overlooked the direct relationship between these variables (Hogreve, Iseke & Derfuss, 2022; Yingfei, Mengze & Ki-Hyung, 2022). Again, some studies assessed the influence of training in different domains (Low, Sandercock, Freeman, Winter, Butt & Maynard, 2021; Mayer, Rausch & Seifried, 2023).

2.4.2 Poor infrastructure and lack of proper maintenance

According to Weijnen and Correljé (2021), infrastructure provides the basic physical facilities essential to business and society, enabling basic needs to be met and access to information and learning for improving knowledge and productivity. If the roads are bad, tourists will not be able to have easy access to tourist sites in the destination countries (Jangra, Kaushik, Singh, Kumar & Jangra, 2023). This, will undoubtedly have effects on people whose major source of livelihood is from the jobs and revenue generated as a result of tourism. Many infrastructural facilities are of mediocre quality and need to be upgraded as the hospitality industry is expected to increase foreign exchange collection (Achmad, Prambudia & Rumanti, 2023). Improper synchronisation between the types of transport and communication wastes time, money and energy of tourists unnecessarily (Bi & Romão, 2021). Therefore, a consumer-centric approach and better access to infrastructure needs to be worked on for the recognition of the tourism industry. Often, infrastructure may be aged, or in need of replacing or updating to support better efficiency or reliability, and to enable business or access to basic needs such as education and healthcare (Shabalov, Zhukovskiy, Buldysko, Gil & Starshaia, 2021). Pre-empting infrastructure breakdown or resource inefficiency may require early and smart investment, particularly if development lead times are long. As a result, the strain on both natural resources and infrastructure requires careful assessment and sustainable strategies to minimise the

environmental impacts and ensure the long-term sustainability of South Africa's natural and built environments (Sandaka & Kumar, 2023; Udeagha & Muchapondwa, 2023).

2.4.3 Poor pay and working condition

The hospitality industry requires not only a large number of skilled workers to function effectively (Olowoyo et al., 2021). The hospitality sector is plagued with low wages, extremely long working hours, unacceptable shift patterns, unequal opportunities and unequal pay for women and men (Abdou et al., 2022; Olowoyo et al., 2021). The other challenges are inappropriate management styles/corporate philosophy and leadership styles, such as unplanned recruitment, little due attention for staff turnover, an imported workforce, considering staff as cost rather than an asset, rigid and authoritarian leadership, inadequate training, and too many monotonous tasks, such as making computer bookings and working theme park rides (Jun, Hu & Sun, 2023). Tourism employment is often challenged by one or more of the following factors: seasonality (during some months of the year the number of tourists is very low, so that tourism and hospitality business sectors cut staff numbers) (Khairy, Elzek, Saeed & Hashad, 2023). Employment opportunities in tourism and hospitality are affected by different difficult situations that the industry faces (Liu, Zhang, Wu & Keifalla James, 2023). Due to these reasons, many tourism and hospitality sectors are closing down. This is the main reason that employers are dismissing the workforce the country’s, which increases the country’s unemployment rate.

2.4.4 Competition

The strength of a competitive environment wherein suppliers of touristic services and implicitly hotels operate is related to a strong strategy developed through excellent service that requires the use of new information technologies (Nzisa, Gitahi & Kiprop, 2021). Technological innovations have a significant impact on the traditional hotel service process, on the one hand by changing the customers’ role in it, and on the other, by modifying the behaviour, functions and tasks of hotel managers and service staff (Mahamaya, 2022). The requirements for the level of service and the quality of the experience during the stay are increasing. Customer satisfaction is determined to a considerable extent by management’s decision about the type and ways of technology application in the process of providing hotel services (Tai, Wang & Luo, 2021). The hotel industry is a highly competitive, but also very attractive business.

Travel and tourism are growing every year, especially also in previously 'undiscovered' regions. Travellers always look for the perfect accommodation, and the competition is very intense in this type of business (Fernández, Martínez & Martín, 2022). Success and failure can often be caused by customers' comments on social media.

The increasing number of hotel establishments is greatly exacerbating competition in the hospitality industry and leading to relatively high levels of services and products (Alananzeh, 2022). Many conference centres compete with each other to host conference and exhibition services. This means that the competitive landscape of hotel organisations has increased, while the hotels' services and goods provided have similar characteristics and ways of being presented (Samuel, Choi, Kang & Lee, 2021). The increased competition can be defined as one of the most important challenges for the hotels' strategy as it determines their direction and development (Alananzeh, 2022). The intense competition in the hotel industry makes the process of attracting guests and retaining loyal customers difficult (Fook & Dastane, 2021). Competitors' efforts and competitive pricing may affect service quality and customer satisfaction and reduce existing customer loyalty (Yum & Yoo, 2023). The basic rule in the hospitality industry is that customer satisfaction and customer loyalty are vital to maintain market share (Alananzeh, 2022). Competition in the hospitality industry, its services and the coordination and hosting of events have intensified. When competition increases, the effect will be felt by all competitors (Hazira, Alagas, Amin, Zamzuri & Zairul, 2022).

2.4.5 ECONOMIC RECESSION AND COVID-19 PANDEMIC

On 27 March 2020, the South African Government announced that the country was to move into a total lockdown in a move to curb the spread of the Covid-19 virus and prepare hospitals for the surge in the numbers of infected individuals (Made, Utembe, Wilson, Naicker, Tlotleng, Mdleleni, Mazibuko, Ntlebi & Ngwepe, 2021). The Covid-19 literally pandemic brought the hospitality industry to a total standstill (Jafari, Özduran & Saydam, 2023). Due to the measures taken by the South African Government, there was an immediate decline in employment throughout South Africa as many companies were not allowed to operate any more. There were severe restrictions on people's movement beyond their homes and this had dire consequences on demand for services such as restaurants, theatres, sporting events and hotels (Baloch et al., 2022) as the hospitality industry was not allowed to operate during the lockdown period. Only

once the country moved to alert level 3, certain activities were permitted within the hospitality industry. Restaurants were allowed to open under strict conditions and compliance with Covid-19 regulations (Vandenhaute, Gellynck & De Steur, 2022). Part of these regulations included documenting the number of people within the working environment, wearing of face masks, use of sanitisers and regular cleaning of the premises, and they were only allowed to operate until 9:00 pm.

Khambule (2021) reports that Covid-19 may have led to about 1,6 million job losses in South Africa alone during 2020, and the majority of the job losses were assumed to have been in the hospitality industry. The Tourism Business Council of South Africa (TBCSA) reported last month that over R68-billion in tourism were lost since South Africa's national lockdown. Mohammed Said Al-Mughairi, Bhaskar and Khalfan Hamood Alazri (2021) report that in May 2020, all accommodation types recorded large negative year-on-year growth in income from accommodation. Income from accommodation decreased by 77% from March to May 2020 compared with March to May 2019. The Department of Tourism reports that 30% of the country's restaurants had already closed permanently, with the hotel industry expected to lose over 500,000 jobs (DOT, 2020). In January 2019 alone, the sale of food at restaurants, coffee shops and fast-food outlets contributed R4,7 billion to the economy of South Africa. However, this did not remain the same thereafter due to restrictions on travel not only in South Africa but from other countries as well during the Covid pandemic. In South Africa, the hospitality industry is heavily reliant on international tourists and restrictions applied in the European and North American countries affected the sector negatively. The Nedbank growth forecast for the year 2020 was down by 6,6%, which had a negative effect on the economy (Business Insider, 2020). The implication of the regulations as a result of Covid-19 in South Africa dictated that all business owners had to adopt new strategies and behavioural changes in their line of business. One of those strategies was the use of electronics as a means of delivery, a novel approach especially for restaurant owners. Customers were then able to place an order over the internet, and the order was delivered to their doorsteps (Mehrolia, Alagarsamy & Solaikutty, 2021). For hotels and other bed and breakfast outlets, the front desk personnel required training on how to obtain necessary information from their guest. This information had to include the travel history, symptoms of sickness for the past few weeks and places visited (Kitro, Ngamprasertchai & Srithanaviboonchai, 2022). For the business to

survive beyond Covid-19, business owners had to come up with new ideas and in most cases they had to adopt e-commerce into their business models (Engidaw, 2022). Calls were also made by the South African government and different banks for soft loan schemes for small and medium-sized enterprises, but this had to be considered in conjunction with business bankers with an eye for innovation. In hindsight, the Covid-19 pandemic and all of its impact should be viewed as an eye-opener for all industries, and especially the tourism and hospitality sector, as there is an ongoing need for training and innovative ideas (Yildiz, Pless, Ceyhan & Hallak, 2023). During the time of the pandemic, the hospitality industry had to appeal to the first set of tourists that hotels could be havens of safety regarding health issues as they were forced to comply with the strict regulations put in place by government, and that they were willing to go the extra mile for sanitation, cleanliness and hygiene (Xiang, Huang, Gao & Lai, 2022). It is important for the hospitality sector to continuously re-examine their strategies and develop new ones to boost their businesses as and when this becomes necessary.

2.4.6 Global warming and climate change

The term “global warming” denotes an aspect of climate change characterised by a rapid increase in the Earth’s average surface temperature over the past century due mainly to the burning of fossil fuels that increase greenhouse gases (Shivanna, 2022). A naturally occurring greenhouse warming is primarily exerted by water vapour, and this plays a crucial role in keeping the Earth’s surface temperature at ~15°C (59°F) for humans and other species. Alarmingly, human activities, especially the burning of fossil fuels, have disrupted the Earth’s natural greenhouse gas level (Nunes, 2023; Shivanna, 2022). The level of atmospheric carbon dioxide has increased by more than a third since the industrial revolution began in 1750 (Ahmed, Ali, Kousar & Ahmed, 2022). Methane, a potent greenhouse gas, is produced from the decomposition of landfills, agricultural waste, and ruminant animals (Un, 2023). Nitrous oxide is produced from fertilisers and burning of fossil fuel and vegetation. Excessive levels of carbon dioxide, methane, and nitrous oxide increase the greenhouse effect, trapping heat and causing the Earth’s surface temperature to rise (Gołasa, Wysokiński, Bieńkowska-Gołasa, Gradziuk, Golonko, Gradziuk, Siedlecka & Gromada, 2021; Mielcarek-Bocheńska & Rzeźnik, 2021; Shivanna, 2022). As temperatures increase, more water vapour evaporates from the oceans and other water sources into the

atmosphere, causing temperatures to increase further. The Earth's surface temperature has increased by 0.6°C–0.9°C from 1905 to 2005, and climate models predict a further increase of approximately 2°C–6°C by the end of the 21st century, if humans continue burning more fossil fuels and accumulating greenhouse gases in Earth's atmosphere (Shivanna, 2022).

Climate change and global warming are often used interchangeably, but they have distinct meanings and refer to different physical phenomena (Cabezas-García & León-Araúz, 2022). Climate change includes warming and side effects of warming (for example, heavy precipitation and increased wind speeds), while global warming refers only to long-term Earth's rising global mean surface temperature (Abbass et al., 2022; Schnegg, O'Brian & Sievert, 2021). Climate change is recognised as a serious threat to the ecosystem, biodiversity, and health (Williams, Beardsley, Isaacs, Preisz & Marais, 2023). It is associated with alterations in the physical environment of the planet Earth and it affects life around the globe. Climate change has always happened on Earth, but its rapid rate of change and important magnitude occurring now are of great concern (Ebi, Vanos, Baldwin, Bell, Hondula, Errett, Hayes, Reid, Saha, Spector & Berry, 2021). Climate change occurs as a result of an imbalance between incoming and outgoing radiation in the atmosphere (Gahlawat & Lakra, 2020). The global warming associated with climate change is different from past warming in its rate. It is anticipated that there will be a rise in global mean temperatures of up to 5.4°C by 2100. There is overwhelming evidence showing that human activities have contributed to climate change over the past century, while changes in solar activity and volcanic eruptions have played a minor role (Zanchettin, 2023). Over the last several decades, humans have engaged in large-scale transformation of natural systems, causing a net accumulation of carbon dioxide in the atmosphere (Nunes, 2023; Tong, Bambrick, Beggs, Chen, Hu, Ma, Steffen & Tan, 2022).

Climate change will affect the hospitality industry on a number of different levels, which can be categorised into a number of impacts. There will be direct impacts – climate is the principal driver of tourism demand. It influences the attractiveness of destinations (Ben Youssef & Zeqiri, 2022; Leal Filho, 2022). The weather directly influences operating costs, including heating and cooling, and food and water supplies. Indirect impacts – these include changes in water availability, biodiversity loss, reduced landscape aesthetic, increased natural hazards, coastal erosions, damage to

infrastructure and increased incidence of vector-borne diseases (Rodrigues, Junior & Canteras, 2023; Shin, Midgley, Archer, Arneth, Barnes, Chan, Hashimoto, Hoegh-Guldberg, Insarov, Leadley & Levin, 2022). Despite this fact, the statements issued by the Egyptian Meteorological Agency regarding the phenomenon of climate change can be criticised on the base that the agency denies the existence of the phenomenon or its threat to Egypt. Such statements can be described as scandalous, especially when these statements are raised in international conferences. It seems that the Egyptian government has always ignored the early warning systems for handling disasters and that Egypt does not have a vision in pre-emptive planning (Matthews & Vivoda, 2023; Wehrey, Dargin, Mehdi, Muasher, Yahya, Kayssi, Hassan, Andrews, Madain, Al-Mailam & Hamzawy, 2023).

Global warming and/or climate change are still fairly new terms and they are perceived to have consequences that will occur only in the future or ‘affect others first’ (Pearson, Jackson & McNamara, 2023). The lack of conceptual clarity makes it difficult for many consumers to understand what climate change really means (Pearson, Jackson & McNamara, 2023; Petrescu-Mag, Burny, Banatean-Dunea & Petrescu, 2022). A study targeted at UK’s consumers found that participants were unsure if climate change was symbolic of ‘pollution’, ‘rising sea temperatures or sea level rise’ or if it was a local or global phenomenon (Griggs & Reguero, 2021). No doubt, lack of clarity and distorted understanding led to people regarding climate change as a lower-ranking problem in their list of concerns. For example, only 12% of Americans felt that climate change would directly affect individuals and their families, while 68% believed that impacts will occur outside the United States.

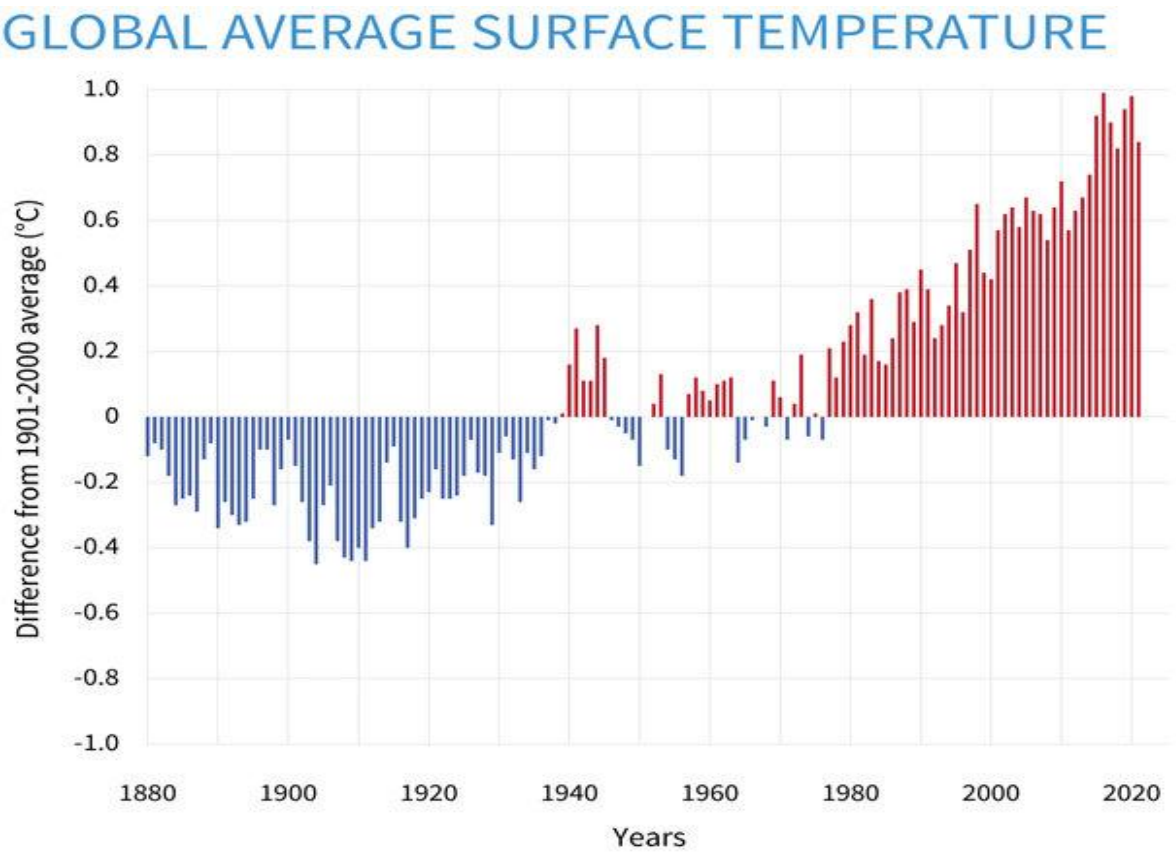

Figure 2.2: Global average surface temperature

Source: Lindsay, R. & Dahlman (2022)

Figure 2.2 shows the yearly surface temperatures compared to the 20th-century average from 1880–2021. Blue bars indicate cooler-than-average years; red bars show warmer-than-average years.

2.4.7 Water pollution and ocean acidification

In the context of ocean acidification (OA), the solubility, absorption, toxicity, and rates of redox processes of heavy metals in seawater can be affected by the decrease in concentrations of OH^- and $CO_{3,2}^-$ ions (Jin, Zhang, Wan, Overmans, Gao, Ye, Dai, Zhao, Xiao & Xia, 2021). Metals that form strong complexes with carbonate ions are supposed to be most strongly affected by a decrease in pH, resulting in an increase in their free ionic forms in the future as OA progresses (Alengebawy, Abdelkhalek, Qureshi & Wang, 2021). For example, Cu and Ni both form a strong complex with carbonates ($CuCO_3$, $NiCO_3$), and the decrease in CO32– concentrations driven by OA could result in an increase in free Cu_2+ and Ni_2+ concentrations (from the present-day ~8 and 4% to ~32 and 13% by the year 2250 for Cu^{2+} and Ni_2+, respectively).

Therefore, over the last decade, there has been a growing interest in the interplay between OA and heavy metals on marine biota (Aziz, Mustafa, Omer, Hama, Hamarawf & Rahman, 2023; Maphanga, Chidi, Phungela, Gqomfa, Madonsela, Malakane, Lekata & Shale, 2024).

Rapid urban development, improper sewage disposal by industries, oil spills, disposal of chemical and radioactive wastes, and plastic pollution are some of the major causes of water pollution (Siddiqua, Hahladakis & Al-Attiya 2022). Today, water scarcity and polluted water are posing a big threat to the human existence across many nations of the world (Lin et al., 2022). Ocean waters absorb around 30% of the carbon dioxide that is released in the atmosphere. Ocean acidification occurs when the CO_2 absorbed by the seawater undergoes a series of chemical reactions that lead to increased concentration of hydrogen ions, thus making the seawater more acidic (Jiang, Kozyr, Relph, Ronje, Kamb, Burger, Myer, Nguyen & Arzayus, 2023). This decreases the carbonate ions in the seawater, which makes it difficult for clams, deep sea corals, oysters, and so forth to build and maintain their shells and other calcium carbonate structures (Leung, Zhang & Connell, 2022). These changes in the ocean water chemistry can affect the behaviour of other organisms, too. This puts the entire ocean food web at risk.

Besides the pollution of coastal waters by heavy metals, there is growing concern regarding ocean acidification (OA), driven by increasing atmospheric carbon dioxide concentrations due to anthropogenic activities, which can lead to tremendous impacts on various marine organisms (Jin et al., 2021; Thangal, Priya, Vasuki, Gayathri, Anandhan, Yogeshwaran, Muralisankar, Ramesh, Rajaram, Santhanam & Maran, 2023). The increasing amount of CO_2 dissolved in the ocean has resulted in a pH decline of sea surface waters by ~0.1 units since pre-industrial times and based on RCP 8.5 there will be a further drop in pH of ~0.4 units by the end of this century (Jiang, Dunne, Carter, Tjiputra, Terhaar, Sharp, Olsen, Alin, Bakker, Feely & Gattuso, 2023). The pH of coastal waters is expected to drop 0.45 units by 2100, which is a 12% faster decrease than in the open ocean (George & Lugendo, 2021; Jin et al., 2021).

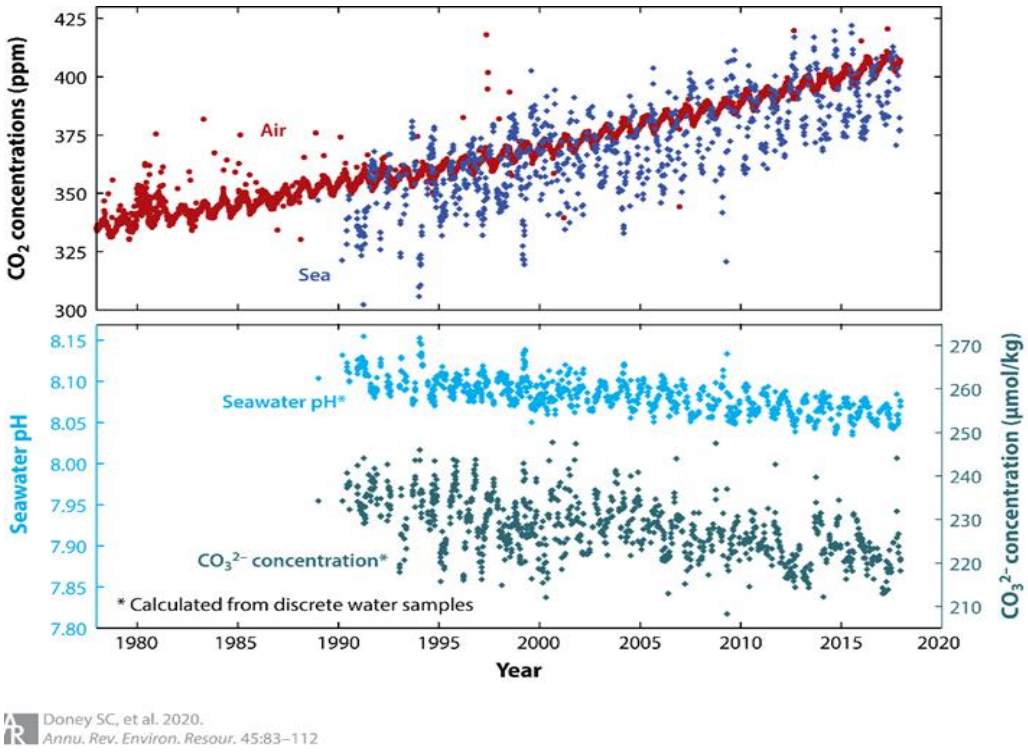

Figure 2.3: Ocean chemistry

Source: Doney (2020)

Figure 2.3 shows trends in surface (<50 m) ocean carbonate chemistry calculated from observations obtained at the Hawai'I Ocean Time-series (HOT) programme in the North Pacific during 1988–2015. The upper panel shows the linked increase in carbon dioxide (CO_2) in the atmosphere (red points) and the surface ocean (blue points), both presented in terms of CO_2 concentration in air (ppm). For seawater, the equivalent air concentration is computed assuming solubility equilibrium with the aqueous carbon dioxide concentration CO_2. Ocean CO_2 concentration is often also reported in terms of a carbon dioxide partial pressure pCO2 (µatm). The bottom panel shows a decline in seawater pH (light blue points, primary y-axis) and carbonate ion (CO_{2-3}) concentration (green points, secondary y-axis).

2.4.7.1 Environmental degradation and pollution

One major concern in the tourism and hospitality industry, particularly in the context of South Africa, is the issue of environmental degradation and pollution (Baloch et al., 2023). As tourism continues to grow rapidly in this country, it has also contributed to various environmental challenges. One of the significant impacts of the tourism industry on the environment is the increased production of waste, including solid waste

and wastewater (Pásková, Štekerová, Zanker, Lasisi & Zelenka, 2023). This is mainly due to the excessive consumption of resources and the generation of waste by tourists and hospitality establishments. Additionally, tourism activities such as transportation and accommodation contribute to air and noise pollution, as well as the degradation of natural habitats and biodiversity loss (Ștefănică, Sandu, Butnaru & Haller, 2021). These environmental disruptions not only harm the natural ecosystems, but they also have negative implications for the local communities and their livelihoods, as they heavily rely on their natural resources for sustenance (Shivanna, 2022). Therefore, addressing and mitigating environmental degradation and pollution caused by the tourism and hospitality industry in South Africa is crucial for sustainable long-term development.

In the years before Covid-19, the tourism industry in South Africa experienced significant growth, resulting in increased waste and pollution from tourism activities (Dube, Nhamo & Chikodzi, 2022). This has had a noticeable impact on the environment. The influx of tourists has led to an increase in the production of waste, including plastic bottles, food containers, and packaging materials. Additionally, the transportation sector, a crucial component of tourism, emits greenhouse gases and contributes to air pollution. According to Lin, Yang and Xu (2022), the increase in waste and pollution has adverse effects on both terrestrial and aquatic ecosystems, leading to the degradation of natural habitats, loss of biodiversity, and compromised water quality. Therefore, it is imperative for the tourism and hospitality industry to adopt sustainable practices and implement improved waste management systems to mitigate the negative environmental impacts and preserve South Africa's natural resources (Perkumienė, Atalay, Safaa & Grigienė, 2023).

Sustainable tourism practices are imperative in today's world, particularly in the context of the South African tourism and hospitality industry (Dube et al, 2022). The need for such practices is primarily driven by the detrimental impact traditional tourism has had on the environment. According to Mafiana, Jayeola and Iduseri (2022), unsustainable tourism practices, such as overconsumption of natural resources and pollution, have resulted in the degradation of ecosystems and loss of biodiversity. Furthermore, tourism development often leads to deforestation, water scarcity, and increased waste generation, exacerbating the ecological challenges faced by South Africa (Baloch et al., 2023). Therefore, sustainable tourism practices are essential to

mitigate these negative effects. By promoting responsible tourism, which includes conserving natural habitats, reducing waste, and supporting local communities, South Africa can achieve a balance between economic growth and environmental protection. Implementing sustainable practices within the tourism industry will ultimately contribute to the preservation of South Africa's unique natural and cultural heritage (Chiwawa & Wissink, 2023).

2.4.8 Loss of biodiversity

Globally, biodiversity is being lost and increasingly threatened through a range of anthropogenic actions (Sun, Behrens, Tukker, Bruckner & Scherer, 2022). Biodiversity helps maintain the balance of the ecosystem and provides biological resources that are crucial for our existence. Habitat destruction, climate change, pollution, secondary extinction and introduced non-indigenous species are a few of the ways in which humans are causing a negative impact on the biodiversity of this planet (Brodie & Watson, 2023). The most important drivers behind the current loss of biodiversity are habitat modification, overexploitation, climate change, invasive alien species, and chains of extinction, known collectively as the ‘evil five biodiversity threats’ (Harvey, Tougeron, Gols, Heinen, Abarca, Abram, Basset, Berg, Boggs, Brodeur & Cardoso, 2023; Jaureguiberry, Titeux, Wiemers, Bowler, Coscieme, Golden, Guerra, Jacob, Takahashi, Settele & Díaz, 2022).

Humanity is causing a rapid loss of biodiversity and, with it, Earth’s ability to support complex life. However, most people seem to find it difficult to grasp the magnitude of this loss, despite the steady erosion of the fabric of human civilisation (Bradshaw, Ehrlich, Beattie, Ceballos, Crist, Diamond, Dirzo, Ehrlich, Harte, Harte & Pyke, 2021; Shivanna, 2022). While suggested solutions abound, the current scale of their implementation does not match the relentless progression of biodiversity loss and other existential threats tied to the continuous expansion of the human enterprise (Ekardt, Günther, Hagemann, Garske, Heyl & Weyland, 2023). Time delays between ecological deterioration and socio-economic penalties, as with climate disruption for example, impede recognition of the magnitude of the challenge and the timely counteraction needed (Bradshaw et al., 2021). In addition, disciplinary specialisation and insularity encourage unfamiliarity with the complex adaptive systems in which problems and their potential solutions are embedded (Valentine, Durning, Shanahan & Schuwirth, 2023). Widespread ignorance of human behaviour and the incremental

nature of socio-political processes that plan and implement solutions further delay effective action (Bradshaw et al., 2021).

Major changes in the biosphere are directly linked to the growth of human systems (summarised in Figure 2.4). While the rapid loss of species and populations differs regionally in intensity, and most species have not been adequately assessed for extinction risk, certain global trends are obvious (Marske, Lanier, Siler, Rowe & Stein, 2023; Muluneh, 2021). Since the start of agriculture around 11,000 years ago, the biomass of terrestrial vegetation has been halved, with a corresponding loss of >20% of its original biodiversity, together denoting that >70% of the Earth's land surface has been altered by homo sapiens (Bradshaw et al., 2021; Provenza, Anderson & Gregorini, 2021). There have been >700 documented vertebrate and ~600 plant species extinctions over the past 500 years, with many more species clearly having gone extinct unrecorded (Cowie, Bouchet & Fontaine, 2022). Population sizes of vertebrate species that have been monitored across years have declined by an average of 68% over the last five decades, with certain population clusters in extreme decline, thus presaging the imminent extinction of their species (Bradshaw et al., 2021). Overall, perhaps 1 million species are threatened with extinction in the near future out of an estimated 7–10 million eukaryotic species on the planet, with around 40% of plants alone considered endangered (Díaz & Malhi, 2022). Today, the global biomass of wild mammals is globally less than was present 300 years ago, and >75% of rivers >1,000 km long no longer flow freely along their entire course (Greenspoon, Krieger, Sender, Rosenberg, Bar-On, Moran, Antman, Meiri, Roll, Noor & Milo, 2023). More than two-thirds of the oceans have been compromised to some extent by human activities; live coral cover on reefs has halved in <200 years; the seagrass extent has been decreasing by 10% per decade over the last century; kelp forests have declined by ~40%; and the biomass of large predatory fishes is now <33% of what it was last century (Bradshaw et al., 2021). As of 2020, the overall material output of human endeavour exceeds the sum of all living biomass on Earth (Ramakrishna, Hu & Jose, 2023).

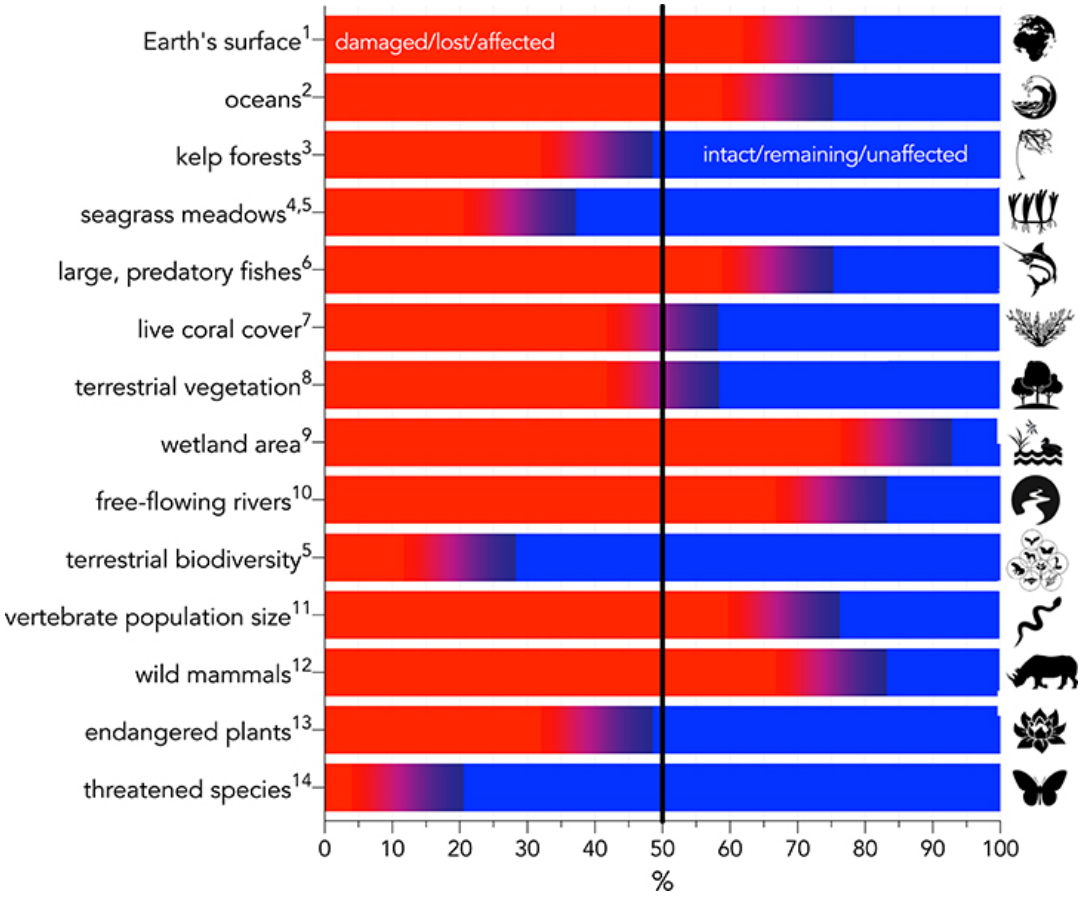

Figure 2.4: Summary of major environmental change

Source: Antonelli et al. (2020)

Figure 2.4 shows a summary of the major environmental change categories expressed as a %age change relative to the baseline given in the text. Red indicates the %age of the category that is damaged, lost, or otherwise affected, whereas blue indicates the %age that is intact, remaining, or otherwise unaffected. The next section will discuss the tourism grading in South Africa.

2.4.9 Negative impact on the tourism hospitality industry

The tourism and hospitality industry significantly impacts the environment, particularly in areas with high tourist activity. The overuse of natural resources, pollution, and waste generation contribute to environmental degradation. Key concerns include water resource depletion, exploitation of local resources, land degradation, air and noise pollution, and inadequate waste management.

2.4.9.1 Overuse of water resources

Tourism and hospitality facilities, including hotels, resorts, and restaurants, are among the largest consumers of water, utilizing vast amounts for guest accommodations, food preparation, cleaning, landscaping, and recreational activities. Hotels alone consume between 300 and 1,500 liters of water per guest per night, depending on their size, classification, and amenities (Alhudaithi, Arregui & Cobacho, 2022; Yoon, Sauri & Rico, 2022). Luxury hotels and resorts, particularly those featuring multiple swimming pools, spas, fountains, and extensive landscaped gardens, significantly increase water consumption, exacerbating shortages in arid and water-scarce regions (Braverman, 2020; Pásková, Štekerová, Zanker, Lasisi, & Zelenka, 2024). In addition to hotel operations, high tourist demand for water-based recreational activities, such as boating, snorkeling, and water parks, places further strain on local water bodies. According to Farsani, Jamshidi, Mortazavi and Eslamian (2021) large-scale theme parks and artificial lagoons require millions of liters of water annually, with high evaporation rates leading to additional water loss. Cruise ships, a major sector in the tourism industry, also consume vast quantities of freshwater daily for onboard operations while contributing to wastewater pollution (Folbert, Corbin & Löhr, 2022). Furthermore, unregulated tourism development often results in excessive groundwater extraction to meet increasing demands, leading to the depletion of local aquifers and reducing water availability for local communities and ecosystems (Mammadova & Negri, 2024). This over-extraction can cause land subsidence, saltwater intrusion in coastal areas, and the loss of critical freshwater resources necessary for both residents and biodiversity. The combination of highwater usage, recreational water activities, and unregulated development creates a scenario where tourism becomes a primary driver of water scarcity, necessitating urgent water conservation measures, sustainable resource management, and the implementation of efficient water-use policies to mitigate long-term environmental and socio-economic consequences.

2.4.9.2 Exploitation of local resources

Tourism activities place immense pressure on local resources, including energy, food, and building materials, often resulting in their overuse and long-term depletion (Baloch, Shah, Iqbal, Sheeraz, Asadullah, Mahar & Khan, 2023). The high demand for seafood, meat, and exotic delicacies in tourist destinations frequently leads to

overfishing, habitat destruction, and unsustainable agricultural practices, threatening marine biodiversity and food security for local populations (Dabeedooal, 2022). Additionally, the construction of tourism-related infrastructure, such as hotels, airports, and roads, requires vast quantities of timber, stone, and minerals, contributing to deforestation, soil erosion, and the destruction of natural habitats (Kware & Bena, 2024). As tourism expands, the overuse of energy resources becomes a growing concern, with hotels and resorts consuming large amounts of electricity for heating, cooling, lighting, and electronic guest services, leading to excessive fossil fuel consumption and increased greenhouse gas emissions. Many developing tourist destinations lack renewable energy infrastructure, further exacerbating the industry's reliance on non-renewable energy sources (Voumik, Rahman, Nafi, Hossain, Ridzuan & Mohamed Yusoff, 2023). Uncontrolled tourism growth also places immense pressure on local water resources, sanitation facilities, and transportation networks, often outpacing the region’s ability to sustain development in an environmentally responsible manner (Tehseen, Hossain, Ong & Andrews, 2024). This excessive resource consumption not only depletes non-renewable resources but also leaves local communities vulnerable to long-term economic and environmental instability, highlighting the need for sustainable tourism practices, resource conservation measures, and stricter regulations to minimize the negative impacts of tourism on local ecosystems and livelihoods.

2.4.9.3 Land degradation

Tourism development can significantly contribute to land degradation, as it often leads to deforestation, soil erosion, and the destruction of natural habitats, all of which pose a serious threat to biodiversity and the ecological balance (Monaco, 2024). The expansion of resorts, roads, and tourism infrastructure disrupts landscapes and wildlife habitats, with this impact being particularly evident in coastal tourism developments where activities such as beach tourism can accelerate coastal erosion and damage marine ecosystems, including coral reefs (Gazta, 2018). Additionally, the excessive use of off-road vehicles, hiking trails, and camping areas often results in soil degradation, reducing land fertility and further contributing to environmental deterioration (Cooke & Xia, 2020). If left unchecked, these forms of land use for tourism can cause irreversible damage to sensitive natural areas, with detrimental effects not only on local wildlife but also on surrounding communities that depend on

these ecosystems for their livelihoods. This highlights the urgent need for sustainable tourism practices that minimize environmental damage while promoting economic growth.

2.4.9.4. Air pollution and noise pollution

Tourism activities, particularly transportation and hospitality services, contribute significantly to both air and noise pollution, which have detrimental effects on air quality and public health (Eusébio, Carneiro, Madaleno, Robaina, Rodrigues, Russo, Relvas, Gama, Lopes, Seixas & Borrego, 2021). Increased emissions from various modes of transportation, including airplanes, buses, and cruise ships, release high levels of carbon dioxide (CO_2) and nitrogen oxides (NOx), exacerbating climate change and degrading air quality (Aminzadegan, Shahriari, Mehranfar & Abramović, 2022). Additionally, large-scale events, music festivals, and nightlife activities generate excessive noise, disturbing local communities and wildlife and contributing to a decline in the quality of life for both residents and visitors (Losque, 2023). Hotels and resorts also contribute to air pollution through the use of air conditioning systems, kitchen exhausts, and vehicle emissions, further degrading the surrounding environment (Baxter & Srisaeng, 2021). Prolonged exposure to elevated noise levels can lead to various health issues, including stress, hearing loss, and diminished well-being, affecting not only tourists but also the local population (Mehrotra, Shukla, Shukla, Manar, Singh & Mehrotra, 2024). The combined impact of air and noise pollution highlights the need for sustainable tourism practices that prioritize environmental and public health considerations.

2.4.9.5. Sweage and water pollution

The tourism and hospitality industry generates vast amounts of solid waste, including plastic, paper, and food waste, much of which ends up in landfills or, worse, in natural environments (Filimonau, 2021). Hotels, restaurants, and cruise ships are major contributors to plastic waste, producing items such as water bottles, single-use toiletries, and packaging, which often cannot be recycled effectively (Ramirez & George, 2019; Al-Shihabi, Aydin, Araci, Dweiri, Obeidat & Al Bataineh, 2024). This waste not only strains waste management systems but also pollutes natural landscapes. Littering at popular tourist sites, including beaches, mountains, and heritage sites, threatens local ecosystems, harms wildlife, and degrades the overall visitor experience (Tsypko, 2024). Many developing countries, where tourism is rapidly

growing, lack efficient waste management infrastructure, leading to the unregulated disposal of tourism-related waste into rivers, oceans, or public spaces (Yusoff, Kamaruddin, Hanif, Norashiddin, Shadi, Wang & Wang, 2022). Without proper recycling programs and sustainable waste management practices, solid waste from tourism continues to pose a significant environmental threat, exacerbating the issue of pollution and harming both natural areas and local communities.

2.5 TOURISM GRADING IN SOUTH AFRICA

Grading is one of the most important strategic mechanisms available to tourism establishments for ensuring the provision of quality customer services, customer experience, and value for money, and ultimately gaining a competitive advantage over competitors (Tourism Gauteng, 2022). The tourism sector has recognised the importance of exceptional customer service as a method of establishing a competitive edge in recent years (Zhou & Yao, 2023). Therefore, graded tourism establishments are likely to have a competitive advantage over non-graded tourism establishments. Grading is a legislative process of ranking tourism establishments by using nomenclature such as stars (or diamonds), with one-star denoting basic facilities and standards of comfort and five stars denoting luxury in facilities and services (Chauke, 2022). The grading process in South Africa is mandated to the Tourism Grading Council of South Africa (Tourism Grading Council of South Africa, 2021). Graded establishments benefit from an increased client base, profitability and ultimately business survival. This is because tourists are more likely to stay at a graded establishment, as they can be assured of predictable and guaranteed levels of quality (Tourism Gauteng, 2022).

In South Africa, graded tourism establishments are entitled to be marketed on the government agency's websites, namely TGCSA and South African Tourism (SAT) (Tourism Grading Council of South Africa, 2021). This puts graded establishments at a further advantage as they are endorsed by government, with non-graded establishments being regarded as 'informal', and sometimes as 'illegal'. Furthermore, grading of establishments ensures that South Africa, as a tourist destination, attains an optimum level of quality assurance, promotes maximum value for money and gives customer expectation the focus it requires (TGCSA, 2021). The number of black-owned graded establishments is low, which hinders government efforts toward transformation. The Tourism Grading Support Programme (TGSP) was introduced in

2015/16 and offers discounts of 80% or 90% on grading assessment fees for accommodation and meeting venues that apply for star grading by the Tourism Grading Council of South Africa (TGCSA). The application process is integrated into, and forms part of the online grading application process of the TGCSA. The programme enables establishments to receive feedback on areas that require attention prior to full grading application, thereby minimising the numbers of those that do not quaify, or increasing the uptake, especially for emerging small enterprises (Department of Tourism, 2023).

The Tourism Grading Council of South Africa (TGCSA) is the national tourism agency responsible for the marketing of South Africa as a preferred leisure and business events destination, a business unit of South Africa (TGCSA, 2021). It is the only body officially recognised for quality assurance of tourism establishments in South Africa (Department of Tourism, 2023). The main objective of the TGCSA is to ensure that a credible quality assurance process is applied across the entire spectrum of tourism accommodation facilities and services offered in South Africa (Mothoagae, 2020). The TGCSA quality assures various types of tourism establishments, which include guesthouses, lodges, caravan sites, camping grounds, backpackers, hotels, B&Bs, game reserves and meeting venues. The grading ensures that South Africa, as a tourist destination, attains an optimal level of quality assurance and provides optimum value for money to travellers, which results in increased customer satisfaction and repeat visits. However, despite the benefits of being graded, the number of graded tourism establishments in South Africa remains low, with only approximately 16% of known tourism establishments being graded (TGCSA, 2021).

The extensive number of components assessed as part of the grading exercise allows for comprehensive quality assurance of tourism establishments (Mothoagae, 2020). It ensures that all key components, which contribute to customer service, satisfaction and loyalty, are taken into account during the grading process (TGCSA, 2021). Classification of tourism establishments is important in that it allows for a standardised differentiation of tourism establishments based on quality of service and facilities (TGCSA, 2021). This also allows consumers to understand the level of quality of service and facilities that they can expect at a particular establishment. Grading stars are awarded to tourism as part of the grading process. Tourist establishments can use their star grading level to determine the price they will ask from consumers for services

and facilities. The most common grading scale used is between 1 star and 5 star, which is used by countries such as Kenya, Italy, French, Spain and Germany:

1 star: Fair to good quality of service and facilities

2 star: Good quality overall

3 star: Very good quality of service

4 star: Excellent comfort and quality of service with high standard of furnishings

5 star: Exceptional service and luxurious furnishings

5 star premium: Premium service and luxurious accommodation.

South Africa has one of the largest and most developed tourism markets in Southern Africa (Tourism Grading Council of South Africa, 2021). Consequently, the sector's performance has implications on the regional tourism market. The Tourism Grading Council of South Africa (TGCSA) (2021) launched a new grading system to ensure quality-assured accommodation and facilities that are accredited and graded by TGCSA comply with international standards. This means that accommodation establishments, hospitality and conference venues will be able to have a seamless process applying for grading. South Africa takes service excellence very seriously (TGCSA, 2021).

2.5.1 Grading associations in South Africa

The grading associations play a crucial role in standardising and assessing the quality of various industries, particularly in the tourism and hospitality sectors (Ali, Gardi, Jabbar Othman, Ali Ahmed, Burhan Ismael, Abdalla Hamza, Mahmood Aziz, Sabir, Sorguli & Anwar, 2021; Bhuian, 2021). Grading associations set benchmarks and criteria for evaluating establishments, such as hotels, guest houses, lodges, and restaurants, to ensure a consistent and reliable standard of service delivery (Olorunsola, Saydam, Arasli & Sulu, 2022). The grading system provides visitors and consumers with an indication of the quality and level of service they can expect from a particular establishment. The Tourism Grading Council of South Africa (TGCSA) is the official body responsible for quality assurance and grading in the tourism industry in South Africa (Ripinga & Mazenda, 2022). It operates under the auspices of South African Tourism and uses a star grading system to assess and rate accommodation

establishments, based on a set of criteria that includes facilities, service, cleanliness, and maintenance. The TGCSA also provides training and support to establishments to help them improve their grading and enhance their service delivery (Kokt & Mphirime, 2022).

The Restaurant Association of South Africa (RASA) is a leading industry body representing restaurants and food service establishments in South Africa (Giampiccoli & Mnguni, 2023). While the RASA does not operate a formal grading system, it provides guidance and support to its members on best practices, hygiene standards, and quality control measures. RASA plays a vital role in promoting excellence and professionalism in the restaurant industry and in advocating for the interests of its members (Vingerling, 2020). The Wine and Spirit Board (WSB) is responsible for regulating the production, labelling, and marketing of wine and spirits in South Africa (Priilaid, van Wyk & Talbot, 2021). While not strictly a grading association, the WSB plays a crucial role in ensuring the quality and authenticity of South African wines and spirits through certification and quality control measures. The WSB's Seal of Approval is a mark of quality and adherence to industry standards (Williamson, Curnick, Jacoby, Durant & O'Neill, 2022). The Federated Hospitality Association of Southern Africa (Fedhasa) is a national trade association representing the hospitality industry in South Africa (Sekoere, 2021). While Fedhasa does not conduct grading assessments, it plays a significant role in advocating for the interests of its members, promoting the industry's best practices, and providing support and resources to help establishments improve their service delivery and competitiveness. Overall, grading associations in South Africa play a vital role in maintaining standards, promoting quality, and enhancing the reputation of various industries, particularly in tourism and hospitality (Tomlinson, 2022; Tomlinson, Veske & Mokoena, 2023). By providing a standardised assessment system, grading associations help consumers make informed decisions; they create a level playing field for businesses, and contribute to the overall growth and development of the industries they serve.

2.6 SUMMARY OF THE CHAPTER

This chapter reviewed the hospitality industry from both an international and local perspective. The chapter analysed the definitions and contributions of the hospitality industry specifically in the South African setting. The literature reflected that the hospitality industry makes a positive contribution to poverty alleviation, employment

creation, economic growth and development and to foreign exchange earnings. Tourism and hospitality make significant contributions to economies worldwide, including job creation, revenue generation, and infrastructure development. In many countries, tourism is the most crucial sector that stimulates economic growth and provides opportunities for small and large businesses. It also offers cultural exchange, environmental conservation, and community development.

However, despite its benefits, tourism and hospitality face several challenges. These include seasonality, competition, changing consumer behaviour, climate change impacts, inadequate infrastructure, and sustainability concerns. The industry must address these challenges through proactive measures, such as diversifying tourism products, implementing sustainable practices, investing in infrastructure, and adapting to changing market demands. Tourism grading systems play a vital role in establishing and maintaining quality standards within the industry. These systems provide consumers with a reliable benchmark for evaluating the quality and service of accommodation establishments, restaurants, transportation services, and other related businesses. Tourism grading helps to build consumer confidence, fosters professionalism, and encourages the continuous improvement within the sector. Additionally, implementing tourism grading systems promotes quality and standards, ensuring customer satisfaction and encouraging businesses to strive for excellence. By recognising and addressing these factors, the tourism and hospitality industry can position itself better for sustained growth and success.

CHAPTER 3

LITERATURE REVIEW ON ENVIRONMENTAL CITIZENSHIP BEHAVIOUR FOR THE ENVIRONMENT

3.1 INTRODUCTION

The first part of this chapter will discuss the theoretical framework guiding this study. The chapter will draw on several theoretical perspectives, including the social exchange theory, social learning theory, social identity theory, organisational culture theory, organisational learning theory, psychological ownership theory, and the theory of work engagement. By integrating these theoretical frameworks, this study seeks to provide a comprehensive understanding of how green empowering leadership influences OCBE and drives environmentally responsible behaviours in organisations. The second part of this chapter will discuss the different concepts related to the study, namely organisational citizenship behaviour toward the environment (OCBE), green empowering leadership (GEL), green organisational culture, EPO, green work engagement and environmental concern. Reviewing the existing literature on green empowering leadership, the identified mechanisms, the chapter provides the relevant theoretical perspectives to establish a theoretical foundation for this study. This review will highlight the significance of exploring the links between green empowering leadership and OCBE and set the stage for the empirical investigation. By building on existing research and theoretical frameworks, this study aims to contribute to the growing body of knowledge on leadership, sustainability, and organisational behaviour, and provide practical insights for promoting environmental sustainability within organisations.

3.2 ORGANISATIONAL CITIZENSHIP BEHAVIOUR TOWARD THE ENVIRONMENT (OCBE)

Organisational citizenship behaviour toward the environment (OCBE) extends the concept of traditional organisational citizenship behaviour (OCB) to include behaviours that contribute to environmental sustainability and responsibility within the organisational context (Azam, Malik, Ren, Yuan, Mughal, Ullah, Fiaz & Riaz, 2022). As organisations face increasing pressure to address environmental concerns, OCBE becomes crucial in fostering environmentally responsible practices (Liu & Yu, 2023). Azam et al. (202) characterised OCBE toward the environment as discretionary behaviours on the part of employees that contribute to the prevention, reduction, or

amelioration of environmental harm. OCBE is an individual discretionary behaviour that is not part of employees' formal roles, but that is recognised by colleagues as environmentally beneficial and contributes to the well-being of the collective (Qu et al., 2022). The pro-environmental behaviours of employees, which are termed Organisational Citizenship Behaviour toward the Environment (OCBE), are individual voluntary actions that lead to effective environment performance in an organisation (Azam et al., 2022).

The environmentally friendly behaviour of employees is becoming essential for all organisations, no matter the sector, including the tertiary education sector (Ercantan & Eyupoglu, 2022). OCBE is concerned with voluntary and rewarded-free environmental activities beyond the job requirements in an organisational context. Examples include searching for ways that make facilities and goods more sustainable or delivering environmental guidance to co-workers (Anwar, Mahmood, Yusliza, Ramayah, Faezah & Khalid, 2020). OCBE reflects the desire of workers to collaborate with their organisation to carry out events that enable the natural environment beyond their obligations. Thus, OCBE refers to discretionary and environmentally friendly behaviour. It will help the company in minimising environmental costs and increasing the environmental image of the organisation (Anwar et al., 2020). Prior efforts focused largely on meeting renewable and low-carbon targets through the promotion and introduction of government policies and green technology innovation (Malik, Cao, Mughal, Kundi, Mughal & Ramayah, 2020; Malik, Hayat Mughal, Azam, Cao, Wan & Zhu, 2021). The role of active environmental behaviours of workers in the corporate green and low-carbon transformation has been overlooked by most research studies.

The low-carbon production of companies does not depend entirely on the restrictions of hard rules, but rather it includes the active response and cooperation of employees. Hence, it is important to pay attention to employees' OCB. OCBE relates to discretionary and eco-friendly behaviours. This constructive employee conduct not only adds to organisational environmental efficiency, but also it bridges the environmental gap beyond the corporations' formal systems (Malik et al., 2021). OCBE covers several sustainable activities, containing the regulation of workplace waste, recycling, and anti-carbon activities, and encouraging staff to pursue environmentally friendly practices (Anwar et al., 2020). OCBE requires employees' voluntary acts and behaviours that are often contradictory to formal processes and benefits (Micheli et

al., 2020). Not only does OCBE add greatly to the environmental efficiency of businesses, but it also improves their financial performance. OCBE has a positive impact on firms' environmental efficiency and will help them solve environmental problems, including global warming and climate change (Anwar et al., 2020; Malik et al., 2020). In this study, OCBE refers to the voluntary behaviours exhibited by employees within an organisation that contribute to the well-being and sustainability of the environment.

Lamm, Tosti-Kharas and King (2013) illustrated the characteristics of OCBE to distinguish it from other related constructs, such as daily sustainability behaviours, employees' green behaviour, and OCB. First, OCBE occurs in the context of the workplace. Second, OCBE refers to voluntary and proactive behaviours initiated by employees. Third, the purpose of OCBE is to contribute to environmental sustainability and indirectly achieve the benefit from the environmental performance and sustainability of the organisation. Boiral and Paillé (2012) identified OCBE as a three-dimensional construct, that is, eco-civic engagement, eco-initiatives, and eco-helping. Eco-civic engagement reflects voluntary participation in environmental events and programmes organised by the organisation. Eco-initiatives involve discretionary environmental behaviours in organisations, such as reducing pollution, saving resources and energy, and suggesting environment improvements. Eco-helping involves employees voluntarily helping colleagues to adopt environmental consciousness in the workplace.

3.2.1 Eco-civic engagement

Eco-civic engagement refers to voluntary participation in pro-environmental programmes and events sponsored by an organisation (Barnason, Li, Hall, Wilhelm Stanis & Schulz, 2022). Eco-civic engagement helps to achieve the organisation's environmental objectives and enhance its 'green' image among its members and stakeholders. Examples of eco-civic engagement might include attending voluntary training programmes or workshops to learn more about fostering sustainability within an organisation (Ardoin, Bowers & Gaillard, 2023). Eco-civic engagement relates to voluntary participation in the environmental programmes and activities of the organisation. OCBE, which is classified as eco-civic engagement, is defined as a voluntary and unprofitable participation of employees in the environmental activities (event, initiative, or project) that have been institutionalised by the organisation and it

contributes to improving its image or practice (He & Kim, 2021). Eco-civic engagement is related to events, initiatives, or projects that discuss the overall environmental situation of the organisation and this includes active participation in environmental events organised by the firm, keeping up-to-date with the firm's environmental initiatives, taking environmental actions that contribute positively to the organisation's image, and being willing to volunteer projects, or events dealing with environmental issues in the organisation.

3.2.2 Eco-initiatives

According to Gusmerotti, Todaro, Tosi and Testa (2023) eco-initiative is defined as any action taken by an employee that they thought would improve the environmental performance of the company. Eco-initiatives are discrete, individual behaviours that can occur at any organisational level and depend on employees offering innovative ideas and making suggestions to improve the situation. Eco-initiatives display aspects of 'taking charge', such as behaviour that is voluntary and intended to effect organisationally functional change (Zhenjing et al., 2022). Eco-initiatives often take the form of (change-oriented) organisational citizenship behaviour (OCB) and entail employees' investment of time and energy toward environmental improvement (Khan, Irshad, Ahmed & Khattak, 2021; Memon, Rasli, Dahri & Hermilinda Abas, 2022). Taking eco-initiatives is about the advancement of the green agenda, putting environmental interests first, and suggesting news ideas. There is, more often than not, a discretionary aspect to employees' initiatives toward the natural environment, which requires proactive efforts to promote environmental issues within the organisation (Woo & Kang, 2021). Although eco-initiatives to some extent can be subsumed within environmental management systems and policies, research has shown that formal procedures are not necessarily integrated well in organisations and that employees may only pay lip service to the standards in force (Gleißner, Günther & Walkshäusl, 2022). In other words, eco-initiatives often rely on the goodwill of employees to do the right thing for the environment by engaging in socially responsible behaviour (Moyo, Duffett & Knott, 2020).

3.2.3 Eco-helping

Eco-helping is supportive behaviour whereby individual employees promote, foster, and support sustainable and pro-environmental actions among their co-workers and in their organisation (Woo & Kang, 2021). Helping behaviours are cooperative and

facilitate interdependence and cooperation. Examples of eco-helping might include explaining environmental procedures to new employees, encouraging co-workers to recycle or conserve energy, or asking colleagues to get involved in an organisation's environmental initiatives (Duarte & Mouro, 2022). Eco-helping is associated with supporting behaviour and friendship that considers the environmental issues. OCBE, which is classified as eco-helping, is defined as voluntary and unprofitable behaviour to help colleagues to integrate better environmental solutions to problems at the workplace (Azam et al. 2022). Eco-helping includes spontaneous actions of employees to provide time in helping colleagues to consider environment in all activities performed, encourage colleagues to adopt more environmentally conscious behaviours, and encourage colleagues to express their ideas and opinions about environmental issues (Ojedokun, 2021).

3.3 GREEN EMPOWERING LEADERSHIP

Green empowering leadership is a new construct introduced by this study. Empowering leadership involves sharing power and motivating employees to superior performance (Wang & Yang, 2021). Broadly speaking, empowering leadership, connotes improving the meaningfulness of work, encouraging employees' participation in decision-making, showing confidence in high performance, and promoting autonomy from bureaucratic barriers (Wörtler, van Yperen & Barelds, 2022; Ye, Liu & Tan, 2022). Empowering leadership is commonly seen as more difficult and risk-taking from a leader's perspective, as it allows staff members more intellectual responsibility and stimulates a more non-hierarchical way of monitoring professional roles and actions (Bunders, Broerse & Regeer, 2021). The multitude of uncertainties experienced in complex and dynamic work fields can similarly add to leader's disposition to control, rather than reflect, and distribute power (Bunders, Broerse & Regeer, 2021). Empowering leadership is a style of leadership that focuses on giving individuals the tools, resources, and authority to make decisions and take ownership of their work. It is characterised by the leader's willingness to delegate, trust, and support their team members to take on responsibilities and make meaningful contributions to the organisation (Ye et al., 2022).

Empowering leadership provides autonomy at the workplace, fosters participation in decision-making and enhances participation in decision-making (Singh & Rangnekar, 2022). Empowering leadership is crucial for any organisation because this style is

associated with many positive individuals, team and organisation-level outcomes (Shahid, Muchiri & Walumbwa, 2021). For example, employees who feel empowered at their workplace are likely to be more satisfied with their job, life, and more engaged in their job and work, and they are likely to perform in a more creative way (Wang & Yang, 2021; Ye et al., 2022). Empowering leadership has a positive relationship with some teams and organisation-level outcomes, such as team effectiveness, effectiveness in leadership, team performance and increased organisational flexibility, organisational ambidexterity, productive work behaviours toward the organisation, lower-level team strategic vision and service performance (Cremers & Curşeu, 2023; Katou, Budhwar & Patel, 2021).

Prioritising power-sharing, empowering leaders show confidence in the abilities of their followers, highlight the importance of their work, enable them to engage in decision-making and remove bureaucratic constraints from them (van der Hoven, Mahembe & Hamman-Fisher, 2021; Wang, Hou & Li, 2022). They are inspiring role models who encourage initiative and goal focus, coordinate and share information and provide guidance (Huang, Sindakis, Aggarwal & Thomas, 2022). Empowering leadership, along with other leadership styles, such as transformational and servant leadership, have been known to benefit the hospitality and tourism workforce (Bavik, & Koseoglu, 2022; Hoang, Wilson-Evered, Lockstone-Binney & Luu, 2021). Empowering leadership is distinct from other leadership styles in that it emphasises autonomy and independence (Wang et al., 2022). For example, while transformational leadership focuses on inspiring followers with higher goals, servant leadership broadens the scope of organisational stakeholders and emphasises the development of the employees, and inclusive leadership facilities group members' belongingness and uniqueness, while contributing to organisational processes and outcomes. None of these leadership styles emphasise independence and autonomy for followers. In contrast, empowering leaders not only transfer power to their subordinates, but they also provide them with the information needed to execute their tasks, explain goals and decision-making processes, and coach and develop their skills (Aboramadan, Dahleez & Farao, 2022; Badar, Kundi, Nabeel & Abualigah, 2023). Based on these definitions of empowering leadership, this study defines green empowering leadership *as a style of leadership that puts an emphasis on environmental sustainability, while*

simultaneously encouraging employees' sense of empowerment, autonomy, and well-being.

3.4 GREEN ORGANISATIONAL CULTURE

Xanthopoulou, Sahinidis and Bakaki (2022) define organisational culture as a shared way of being, thinking and acting in a collective and coordinated way, where people have reciprocal expectations. Organisational culture is important to the success of corporate environmental management initiatives. The implementation of environmental practices must be embedded into the values and beliefs of the organisation (Fietz & Günther, 2021). Organisational culture can be defined as the values, beliefs and hidden assumptions that the members of an organisation have in common (Akpa, Asikhia & Nneji, 2021). Such shared values form the basis of communication and mutual understanding and affect employees' behaviour through its two main functions: internal integration and coordination (Musheke & Phiri, 2021). Thus, the organisational culture can stimulate innovative behaviour among the members of an organisation because it can lead them to accept innovation as a basic value of the organisation and foster commitment to it (Zeb, Akbar, Hussain, Safi, Rabnawaz & Zeb, 2021).

Green organisational culture is the set of values, symbols, assumptions, and organisational artefacts reflecting the obligation or desire of trying to be an environmentally friendly organisation (Imran & Gao, 2022). Organisational culture is defined as a set of shared mental assumptions that guide actions and interpretations in organisations by defining appropriate behaviour for different situation (Zhang et al., 2023). It is defined as the pattern of shared basic assumptions about environmental issues and environmental management (Mingaleva, Shironina, Lobova, Olenev, Plyusnina & Oborina, 2022). Green organisational culture includes shared beliefs, values, norms, symbols and social stereotypes about organisational environment management and it shapes the standard behaviours expected from the individuals (Aggarwal & Agarwala, 2022). The symbolism for the environmental management and protection within environmentally friendly culture/ green organisational culture shapes the perceptions and behaviours of the organisation's members (Subramanian & Suresh, 2023).

The conceptual approach of the green organisational culture is about being conscious of any environmental risks (Mendis & Welmilla, 2021; Qu, Khan, Yahya, Zafar & Shahzad, 2022). There is enough evidence of this paradigm shift in today's business climate, which is highly competitive and ever-changing. A holistic approach to hospitality and tourism business enterprises for a long-run strategic position is needed and this will have to include the environment (Dini & Pencarelli, 2022). With tangible programmes or examples, top management has to show and share the sustainability practice to be more acceptable by lower management and employees (Fry & Egel, 2021). Hotels should develop a green organisation culture and make investments on green innovation activities to gain a competitive advantage (Zhu, Zhang, Siddik, Zheng & Sobhani, 2023). Hotels demonstrating triple bottom line (TBL) reporting have increased profit, higher return on assets, capital profitability, better cash flow and solvency ratio, customer satisfaction, cooperation with local residents, environmental NGOs cooperation, less solid waste, less water consumption, lower CO_2 emission and quality of recycling waste (Babajee, Seetanah, Nunkoo & Ramdhany, 2021).

A green organisational culture is a symbolic context about environmental management and protection within which interpretations guide behaviours and processes of members' sense-making and set of values and norms describing how the company perceives the environmental variable (Ahmad, Al Mamun, Masukujjaman, Mohamed Makhbul, & Mohd Ali, 2023). The definition of a green organisational culture can be proposed as an integration of shared basic assumptions that the organisation should go beyond profit considerations and draw a broader view of its own, as well as of its social and natural environmental sustainable development (Aggarwal & Agarwala, 2022). A green organisational culture is broadly outlined as the extent to which the assumptions, values, symbols and artefacts of the organisation reflect a desire or need to operate in an environmentally sustainable manner. It has two dimensions: a) the "greenness" of the officially advocated company line, and b) the extent to which this exposed position is seen to be manifested in the form of company artefacts and behaviours (Ahmad, Al Mamun, Masukujjaman, Mohamed Makhbul & Mohd Ali, 2023). The effective implementation of an advanced environmental approach demands a culture based on ecological values. It includes a deep awareness on the part of the workers, otherwise, investments and management's efforts could lose part of their

value (Aggarwal & Agarwala, 2022). The measurement of an environmental organisational culture includes six items (Küçükoğlu & Pınar, 2015):

a) The company is concerned about the knowledge of environmental management and protection
b) The company is concerned about the collaboration of environmental management and protection
c) The company's concerns about environmental agreements
d) The company's concerns about the change of environmental management and protection
e) The company's concerns about the responsiveness of environmental management and protection
f) The company's concerns about the vision of environmental management and protection.

The terms for describing the concept of a green organisational culture have been described in a variety of other terms, including eco-friendly culture, environmentally friendly culture, sustainability-oriented culture, and so forth, which is mainly based on extending the organisational culture to a green oriented context (Fang, Shi, Gao & Li, 2022). A green organisational culture is one of the most debated topics by both the laymen and elite classes of people in society (Sharma, Kundu, Rana & Sharma, 2023). The green culture concept is mostly concerned with realising and obtaining an ecological balance (Subramanian & Suresh, 2023). It involves both the environment and people; hence, there is the need to carry out a green culture since it promotes ecological development and sustainable economic growth based on politics, science and aesthetics (Sharma et al., 2023; Subramanian & Suresh, 2023). Through globalisation, different economies have shared the benefits of undertaking green efforts and incorporating such practices in their organisational culture. Most of the organisations are restructuring their cultures to accommodate new factors on issues such as the environment, behaviour, and attitude related to environmental problems (Ahmad et al., 2023). The green organisational culture is made successful by a group of employees who understand the course of action needed in supporting environmental management (Noor Faezah, Yusliza, Ramayah, Teixeira & Alkaf, 2023). A green organisational culture will ensure all the practices of the business, including that the HR practices are in line with the green movement of environmental

sustenance (Ahmad et al., 2023). In this study, green organisational culture refers to the set of values, beliefs, and behaviours within an organisation that prioritise environmental sustainability and responsibility. This includes practices such as reducing carbon emissions, promoting energy efficiency, minimising waste generation, conserving resources, and implementing environmentally friendly processes and technologies.

3.5 EMPLOYEES' PSYCHOLOGICAL OWNERSHIP

Psychological ownership is a concept drawn mainly from the theory of possession (Morewedge, 2021). Psychological ownership can be observed at individual and collective level. Most of the literature is focused on individual psychological ownership. Collective feelings of ownership can be described as individual feelings of shared ownership toward an object (Batool, Raziq, Obaid & Sumbal, 2023). Psychological ownership can be defined as a cognitive-affective state in which people feel that they have awareness, beliefs, and thoughts that an object (tangible or intangible in nature, for example, job or organisation) or a piece of it is theirs (Ainsworth, 2020; Li, Qu & Wei, 2021; Kumar and Kaushal, 2021). In the context of work, employees' psychological ownership (EPO) is increasingly viewed as a primary feeling concerning work that brings about behavioural outcomes, for example, job performance (El-Aty & Deraz, 2021), as well as emotional outcomes (such as organisational commitment) for employees and organisations (Lee & Kim, 2023). In addition, EPO can achieve numerous advantages for customers, such as the promotion of a sense of responsibility, greater willingness to pay more, long-term loyalty, increased purchase intentions, and word-of-mouth behaviour (Batool et al., 2023; El-Aty & Deraz, 2021; Qu and Wei, 2021). EPO refers to the feeling of possession toward target objects (Jakada, Kurawa, Rabi'u, Sani, Mohammed & Umar, 2022). It plays an important role in the relationships between the organisation and its workers. It is an important indicator of the attitudes and beliefs of individuals (Kim & Chung, 2023). In addition, it provides the company and staff with many benefits, including the motivation to work, positive attitudes, ethical behaviour, job performance, and an enhanced sense of responsibility (Ye, Shang, Shafait & Xu, 2022).

Several researchers (Alhadar & Hidayanti, 2021; Kovacevic, 2023; Young, Games, Rivera & Eberman, 2022) state that there are four dimensions of EPO, which are self-efficacy, accountability, belongingness, and self-identity. These four dimensions play

an important role concerning the employee-organisation relationships. First, self-efficacy is one of the basic components of EPO related to their ability to perform tasks. It signifies the belief of individuals that they can successfully carry out a task. Moreover, to have a sense of self-efficacy, employees must communicate with colleagues, participate in the work environment, and have a high level of EPO, which can manage both material and immaterial objectives. Second, accountability refers to the implicit or explicit expectation that individuals control their beliefs, feelings, and activities and that they are responsible for their actions. It enables workers to respond to the company through their attitudes and actions. Third, belongingness refers to the extent to which employees feel that they are a part of the organisation's community. It achieves many benefits for employees in the organisations, such as increasing cross-cultural relationships and meeting social and socio-emotional needs. Fourth, self-identity is a part of the cognitive process connected with EPO (Alhadar & Hidayanti, 2021; Kovacevic, 2023; Young et al., 2022). It also involves employees' feelings and beliefs toward their workplace. In addition, EPO can express employees' self-identity and maintain the stability of the self from time to time (Guarana, & Avolio, 2022). In this study, employees' psychological ownership refers to the sense of ownership and attachment that an employee feels toward their organisation. This sense of ownership goes beyond legal obligations and instead, is based on an emotional connection and alignment with the organisation's goals and objectives. This emotional attachment can stimulate high levels of work engagement and result in positive organisational outcomes.

3.5.1 Antecedents to EPO

Several antecedents to EPO were identified by previous research, for example, hotel identification, psychological safety, autonomy, and information accessibility (Men et al., 2020, Peng et al., 2020). These four antecedents of EPO are explained in the following sections.

3.5.1.1 Hotel identification

Organisational identification, which is a form of social identification, is a psychological attachment to an organisation (Park & Back, 2020). It indicates the degree to which hotel employees define themselves as part of their company (Lythreatis et al., 2020). It gives workers a sense of pride to be a part of the company (Qian & Jian, 2020) and produces employees' positive behaviour for the company and common company

values (Park & Back, 2020), as well as numerous outcomes regarding workers' behaviour in the organisation, for example, job satisfaction, organisational commitment, and job involvement (Men et al., 2020).

3.5.1.2 Psychological safety

Psychological safety is a widespread belief among employees that represents individuals' expectations regarding the safety of interpersonal relationships (Abd El-Aty & Deraz, 2021). It is a critical factor that encourages workers to communicate information and ideas and it allows them to concentrate on attaching to the job at hand (Abbas et al., 2022; Hennel & Rosenkranz, 2021). Psychological safety plays a significant role in teamwork, team learning, organisational understanding, team competence, and creativity. It also permits employees to develop various solutions to their problems and enables them to overcome barriers to innovation, to learn, and to change in high-stress contexts (Hennel & Rosenkranz, 2021; Parker & Plooy, 2021).

3.5.1.3 Autonomy

Autonomy is an essential component of democratic constitutions; it refers to individuals' ability to choose work procedures and effectively manage these procedures and work conditions (Abd El-Aty & Deraz, 2021). It is also defined as the capability of making decisions and taking responsibility for the consequences of these decisions (Clemons et al., 2021). However, there are two limitations of autonomy: the choice between alternative options and the timing of the action (Antusch et al., 2021). Autonomy achieves many benefits for employees, such as increasing job attitudes (Wu & Zhou, 2022), creating new activities, enhancing the freedom of decision-making, improving work performance, developing critical analysis, acquiring new knowledge, scheduling the work and deciding the methods required to carry it out, and improving employees' resilience (Clemons et al., 2021). Autonomy also has several positive outcomes for organisations, including autonomous selections, self-determined decisions, self-sufficiency, and increased value-add (Hu et al., 2021; Kühnbach et al., 2020). On the other hand, loss of autonomy leads to many problems for employees, such as a decrease in confidence concerning their skills and a feeling of helplessness and weakness (Allison et al., 2021; Arntsen et al., 2021).

3.5.1.4 Information accessibility

Information accessibility is based on a broad collection of social exchange opinions and views (Ahmad, Nawaz, Ishaq, Khan & Ashraf, 2023). It refers to the conditions that allow individuals to access and get useful knowledge (Zhuang et al., 2020). Also, it can be defined as the quality and quantity of information interconnected and coordinated in a way that facilitates access to members (Yu et al., 2020). Increasing access to information depends on a set of factors, the most important of which are the quality and diversity of information, as well as the quality of the interface responsible for creating this information (Yu et al., 2020). Facilitating access to information leads to easier use of this information, more downloading, and easier access to it by a greater number of participants (Morewedge, Monga, Palmatier, Shu & Small, 2021). On the other hand, restricting access to information reduces the number of participants accessing communication channels, which brings about a decrease in the quantity and quality of information (Yu et al., 2020; Zhuang et al., 2020).

3.6 GREEN WORK ENGAGEMENT

According to Abdulrahman, Qader, Jamil, Sabah, Gardi and Answer (2022), work engagement refers to a work-related mental state that is positive and fulfilling, characterised by vigour (high levels of energy while working), dedication (sense of meaning, enthusiasm, inspiration, pride and challenge) and absorption (the individual's complete concentration at work, which makes time fly quickly without their noticing). The personal energy that individuals bring to their work is associated with work engagement (Nur, Shahira, Nurain, Noor, Afiqah & Hana, 2021). Engagement has been described as a state-shaped construct, that is, over a short period of time, a transient experience that fluctuates within individuals. Work engagement can reflect the employees' cognitive commitment, emotional attachment, and behavioural drivers to develop the person's aggregated aspects of role performance (Grubert, Steuber & Meynhardt, 2023). Work engagement is generally seen as a motivational mechanism that influences performance outcomes (Pincus, 2023), and as the level of the employees' connection to their work in terms of emotional, cognitive and physical engagement. Obuobisa-Darko and Sokro (2023) report three dimensions of work engagement, where (a) vigour refers to the sense of the employee's personal energy for work; (b) is the dedication when the employees experience a sense of pride in their

work and its challenges; while (c) refers to absorption and the employees' capacity to be engrossed in work and experience a sense of flow in what they do at work.

Work engagement can reduce absenteeism and turnover; and positively impact job satisfaction, organisational commitment and job performance, and improve individuals' subjective well-being and physical health. It is of great academic value to explore the antecedent variables of work engagement (Hakanen, Rouvinen & Ylhäinen, 2021; Neuber, Englitz, Schulte, Forthmann & Holling, 2021). Scholars have begun also to pay attention to employees' work engagement in the hospitality industry (Mmutle, 2021). They mainly studied the antecedents of work engagement from the following aspects: individual characteristics, such as psychological capital, resilience, calling; working environment factors, such as leader-member exchange, transformational leadership, job resourcefulness, stressors, and workplace spirituality. The studies also included high-performance work practices, management commitment to service quality and customer orientation; the interaction effect of individual characteristics and working environment factors, such as job demand (display rules) and individual resource (emotional intelligence). The studies iincluded the moderating effect of self-efficacy and gender on the relationship between perceived organisational support and work engagement, proactive personality, and the moderating effect of transformational leadership on engagement (Chou, Shen, Wu & Lin, 2023; Saeed, Hassan, Dastgeer & Iqbal, 2023).

Green work engagement represents the involvement of employees in green-level tasks. It may be described as the enthusiasm of employees about green tasks, their commitment to working on environmental tasks, and their pride, intensity, and involvement in environmental work (Aboramadan, 2020; Çop, Olorunsola & Alola, 2020; Karatepe et al., 2022). First, employees' engagement in involuntary and unrewarded green behaviours is a pre-step for the emergence of sustainable or green organisations (Jahanshahi, Maghsoudi & Shafighi, 2021). Second, exhibiting environmentally responsible behaviours, for instance, reducing energy consumption, can motivate other workers in the workplace to become involved in such environmentally friendly behaviours (Mouro & Duarte, 2021). Third, the voluntary involvement in green behaviours, such as conserving organisational resources and avoiding harm, can help to save costs and improve the firms' financial performance (Jahanshahi et al., 2021; Mouro & Duarte, 2021). For the purpose of this study, green

work engagement can be defined as the energy employees put in their green work-related tasks, the willingness to exert efforts at the green level and the absorption level in green work. It is important to identify those employees who engage in environmentally responsible behaviours at work.

3.7 ENVIRONMENTAL CONCERN (EC)

Environmental concern, also known as ecological awareness or environmental/ecological literacy, refers to the understanding and recognition of the importance of a clean, healthy, beautiful, and sustainable environment (Kuswendi & Arga, 2020). This understanding includes the awareness of ecological principles, such as interdependence, recycling, partnership, flexibility, and diversity (Toner, Desha, Reis, Hes & Hayes, 2023). Environmental concern encompasses the cognitive and emotional aspects of individuals' ecological knowledge and their general attitudes toward the environment (Wallnoefer & Riefler, 2022). Therefore, environmental concern can be described as the level of individuals' emotional involvement and commitment to addressing and solving environmental challenges. Environmental concern is a driver of individual pro-environmental actions, such as water conservation and recycling. Environmental concern is also likely to support eco-helping (encouraging colleagues to embed environmental concern in their workplace) and eco-civic engagement (participating in pro-environment programmes and activities) in the public workplace (Duarte & Mouro, 2021; Foster et al., 2022). Moreover, if their organisations have highlighted the importance of environmental sustainability, it is expected that individuals with higher levels of environmental concern will be more likely to take steps to mitigate their own environmental impact in their workplace (Jahanshahi et al., 2021).

Environmental concern is about the examination of, or a behaviour toward evidence, individual attitude, or others' attitude with implication for the natural habitat (Demir, Rjoub & Yeşiltaş, 2021). People who are environmentally conscious tend to know the hazards associated with the environment, such as pollution, and provide cooperation in ameliorating or eradicating the problem, and also show willingness to make a contribution toward solving the problem (Demir et al., 2021). Zammitti, Santisi, Magnano and Di Nuovo (2023) argue that EC could be scaled in many dimensions. For instance, the willingness and exact attitude of the people to conserve the environment and, the manner the people interact with such issue emotionally, so also

their environmental knowledge. Meanwhile, eco-friendly behaviour is multiple dimensional (Demir et al., 2021). Environmental awareness does not only have knowledge about the environment but an individual's attitude, values, and necessary skills to solve problems related to the environment (Handoyo, Astina & Mkumbachi, 2021). Moreover, environmental awareness is the first step to carry out responsive behaviour (Demir et al., 2021). People across the globe are becoming more aware of their environment (Zammitti, Santisi, Magnano & Di Nuovo, 2023). This may hold true for most of the developed countries, but the same attitude is still not evident in most developing countries. Awareness about the environment is about letting people know about the things that are favourable and/or harmful to the environment and the ways to reduce the harmful effects. Previous research on eco-friendly hotels often examined this aspect from a multidimensional view (Demir et al., 2021).

Environmental awareness, which reflects people's concern for and knowledge of the impacts of their behaviours on the environment, is commonly recognised as the first important step in preparing people to solve environmental problems (Fu, Sun, Zha, Liu, He, Sun & Jing, 2020). According to Kousar, Afzal, Ahmed and Bojnec (2022), individuals with high environmental awareness are more likely to behave in an environmentally sustainable manner. Equally, the lack of such awareness may lead to indifference, minimal changes in personal behaviour, and dependence on government actions (Aman, Hassan, Khattak, Moustafa, Fakhri & Ahmad, 2021). Therefore, environmental awareness is one of the main premises of the adoption of pro-environmental behaviour (Suárez-Perales, Valero-Gil, Leyva-de la Hiz, Rivera-Torres & Garcés-Ayerbe, 2021). Several studies have empirically examined the association between environmental awareness and behaviour among different groups, including campus stakeholders, students, contractors' project managers, citizens, households, Japanese consumers, and Hungarian manufacturing companies (Omarova & Jo, 2022; Shen & Wang, 2022, Si, Jiang & Meng, 2022; Yusuf & Fajri, 2022). For the purpose of this study, environmental concern can be defined as the level of individuals' emotional involvement and commitment to addressing and solving environmental challenges. This awareness influences people's behaviours and decisions, leading to actions that promote environmental preservation and sustainability.

3.3 THEORETICAL FRAMEWORK

3.3.1 Social exchange theory

Social learning theory posits that individuals learn appropriate behaviours through observation, imitation, and modelling the behaviour of credible role models (Bandura, 1971). The social exchange theory emphasises the exchange of resources between individuals to maintain relationships. In general leadership studies, leaders can apply this theory by recognising the needs and interests of their followers and facilitating an exchange of resources, such as support, recognition, and opportunities (Canavesi & Minelli, 2022). Leaders who engage in positive exchanges are more likely to build trust and commitment within their team, leading to higher performance and satisfaction (Mazzetti & Schaufeli, 2022). The social exchange theory suggests that individuals tend to respond positively when they receive benefits or rewards for their efforts (Bui, Liu, Ko & Curtis, 2021). Leaders can leverage this by creating a reciprocal relationship with their followers, providing support, guidance, and rewards in exchange for their commitment and performance. Leaders can enhance their followers' loyalty and motivation, fostering effective leadership relationships (Canavesi & Minelli, 2022; Chen & Sriphon, 2022; Ludwikowska, 2023).

The social exchange theory can be used in environmental leadership studies to explain how leaders and followers trade sustainable practices (Xu, Gao, Cai, & Jiang, 2022). Leaders may inspire behaviour change and sustainable behaviours by exchanging knowledge, resources, and incentives for environmentally responsible practices. This interchange can help to build a culture of sustainability in organisations and communities (Abbas et al., 2022; Liao, 2022). The social exchange hypothesis emphasises the need of reciprocity in environmental leadership. Leaders who participate in active communication, inclusion, and collaboration with stakeholders can develop trust and a feeling of shared environmental responsibility (Aboramadan, Crawford, Turkmenoglu, & Farao, 2022; Jayashree, El Barachi, & Hamza, 2022). By exchanging ideas, resources, and solutions, leaders can create a reciprocal relationship that motivates followers to actively engage in environmentally sustainable actions (Boeske, 2023). In general leadership studies and environmental leadership studies, the social exchange theory provides a framework to understand how leaders can engage in positive exchanges with their followers, thereby fostering productive relationships and promoting desired behaviours, whether it be in a general

organisational context or in the context of environmental stewardship (Alo & Arslan, 2022; Jayashree et al., 2022; Onyinyechi, Thomas & Juan, 2022).

3.3.2 Social learning theory

Social learning is a theory of a learning process of social behaviour, which proposes that new behaviours can be acquired by observing and imitating others (Bandura, 1977). It states that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement (Bandura, 1977; Boumpouri & Galanakis, 2022). In general leadership studies and environmental leadership studies, individuals can learn leadership skills by observing and imitating successful leaders. Through observing the leaders' behaviours, decision-making processes, and communication styles, individuals can acquire valuable leadership skills and apply them in their own contexts (Wang et al., 2022). The social learning theory emphasises the importance of observing and imitating others' behaviour. In general leadership studies, aspiring leaders can learn by observing successful leaders in action (Mukhalalati, Elshami, Eljaam, Hussain & Bishawi, 2022; Xiao & Mao, 2022). By closely observing their behaviours, decision-making processes, and communication styles, these individuals can acquire valuable leadership skills. Similarly, in environmental leadership studies, individuals interested in leading environmental initiatives can learn from successful environmental leaders by observing their strategies, approaches, and environmental stewardship practices (Boeske, 2023; He, Zhao, Li, Liu & Wei, 2023; Zhao & Liang, 2023). Social learning theory suggests that individuals are more likely to imitate behaviours they observe in role models who they perceive as credible, successful and influential (Lajnef, 2023).

In general leadership studies, prospective leaders frequently emulate and learn from great leaders who have had a beneficial impact on their organisations or communities (Karp, 2023; Kauppila, Ehrnrooth, Mäkelä, Smale, Sumelius & Vuorenmaa, 2022). These leaders serve as role models, motivating others to embrace similar leadership styles and behaviours. Similarly, in environmental leadership studies, persons seeking to make a positive environmental effect can look up to environmental leaders as role models and learn from their practices and accomplishments (Hou et al., 2022; Zhao & Liang, 2023). Individuals can learn from the positive and negative repercussions that leaders face in the context of leadership studies (Lettner, Weber, Lanzl, Gilli & Güttel,

2023; Walk, 2023). Individuals can get insights into effective leadership tactics and decision-making processes by witnessing how leaders' actions result in positive outcomes or setbacks (Thompson & Klotz, 2022; Wang et al., 2022). In environmental leadership studies, individuals can draw lessons from environmental leaders who have implemented successful projects and achieved positive outcomes. Likewise, they can also learn from the challenges and failures faced by other leaders to avoid similar pitfalls (Fry & Egel, 2021; Liao, 2022; Zhao & Liang, 2023). In general leadership studies, effective leaders understand the importance of creating a supportive and inclusive social environment. Such an environment fosters collaboration, knowledge-sharing, and collective problem-solving (Chaman, Zulfiqar, Shaheen & Saleem, 2021; Eslahchi, 2023; Huang et al., 2022). Similarly, in environmental leadership studies, leaders who can create an environment where individuals can collaborate, exchange ideas, and work toward shared environmental goals tend to foster effective leadership development (Hou et al., 2022; Liu & Yu, 2023).

The social learning theory emphasises the role of self-efficacy, which refers to individuals' beliefs in their own abilities in shaping motivation and behaviour (Malureanu, Panisoara & Lazar, 2021). In general leadership studies, individuals with high self-efficacy are more likely to take on leadership roles and persist in the face of challenges (Bergman, Gustafsson-Sendén & Berntson, 2021). Similarly, in environmental leadership studies, individuals with high self-efficacy are more likely to engage in environmental initiatives and inspire others to take action (Gupta & Kumar, 2023; Hou et al., 2023). By developing self-efficacy through learning and positive experiences, individuals can enhance their leadership abilities (Kauppila et al., 2022). By applying the social learning theory to general leadership studies and environmental leadership studies, one can better understand how individuals learn leadership skills and environmental stewardship practices, the importance of role models, the influence of social context, and the role of self-efficacy in leadership development (Gu & Liu, 2022; Piwowar-Sulej & Iqbal 2023). Using social learning theory provides a strong framework for investigating the impact of green empowered leadership on organisational civic conduct toward the environment among hospitality employees. Combining theories allows the researcher to gain a comprehensive grasp of the processes and contextual factors that influence this relationship, improving the study's theoretical foundation and practical ramifications. This comprehensive approach

guarantees that the study not only focuses on the direct impacts of leadership on OCBE, but also on the underlying mechanisms and contextual modifiers that alter these behaviours.

3.3.3 Social identity theory

The concept of social identity theory could be divided into three processes (Ellemers, Kortekaas & Ouwerkerk, 1999; van den Scott, 2023). The first, the cognitive component, refers to a cognitive awareness of a person's membership in a social group. The second, the evaluative component, refers to a positive or negative evaluation of a person to group membership. The third, the emotional and behavioural component, describes a person's sense of emotional and behavioural involvement with a group and their desire and efforts to maintain their membership. Social identity theory emphasises the importance of group identification in shaping individual behaviour and attitudes. In general leadership studies, leaders can utilise this theory by promoting a sense of belonging, shared identity, and common goals among their followers (Jun, Hu & Lee, 2023). By fostering a strong group identity, leaders can enhance cooperation, collaboration, and cohesion within their team, leading to improved performance and outcomes. Social identity theory also highlights the tendency for individuals to exhibit in-group bias, favouring members of their own group over outsiders (Hou, Song, Zheng & Lyu, 2021; Paganin, Avanzi, Guglielmi, Alcover & Mazzetti, 2023). Leaders can use this theory to promote positive in-group dynamics and minimise out-group bias within their team. By creating an inclusive and diverse environment, leaders can discourage discriminatory behaviours and encourage fairness and equality, thereby creating a positive leadership culture (Korkmaz, van Engen, Knappert & Schalk, 2022).

The social identity theory can be applied to environmental leadership studies by understanding the influence of group norms on environmental behaviour (Ketprapakorn & Kantabutra, 2022). Leaders can leverage this theory by establishing and promoting environmentally friendly norms within their organisations and communities (Dey, Bhattacharjee, Mahmood, Uddin & Biswas, 2022). By highlighting the shared environmental identity and emphasising sustainable practices, leaders can encourage collective action toward environmental conservation and stewardship (Hariram, Mekha, Suganthan & Sudhakar, 2023; Hu, Chang, Lee, Yen, & Ting, 2023). Social identity theory can also be used to foster group cohesion and solidarity for

environmental actions (Di Bernardo, Vezzali, Stathi, McKeown, Cocco, Saguy & Dixon, 2021; Finell, Tolvanen, Shuttleworth, Durrheim & Vuorenmaa, 2024). Leaders can emphasise the shared identity as environmental stewards and promote a sense of pride and commitment among followers. By creating a strong environmental group identity, leaders can motivate individuals to engage in pro-environmental behaviours, campaigns, and initiatives for the greater good (Abdou et al., 2023; Zhou et al., 2022). In both, the general leadership studies and environmental leadership studies, the social identity theory provides insights into how leaders can harness the power of group dynamics, shared identity, and norms to influence behaviour and achieve desired outcomes (Carton, 2022; Hou et al., 2021; Tear & Reader, 2023). Whether it is in a general organisational context or within the realm of environmental leadership, the theory helps leaders create a sense of belonging, promote collaboration, and drive change toward common goals.

In addition, social identity theory postulates that employees' organisational commitment correlates with their behaviour (Mphahlele, 2021). Arifin and Narmaditya (2024) suggest that employees' organisational commitment accelerates their extra-role behaviour beyond their duties, often referred to as organisational citizenship behaviour (OCB). Other studies confirm that employees who identify with their company tend to devote extra effort to accomplish the company's goal and vision through extra-role behaviour or OCB (Ekowati, Kasman & Sulistiawan, 2023; Sheikhi & Yousefi, 2023). Social identity theory (SIT) is extremely important for understanding how green empowered leadership affects OCBE. SIT sheds light on the identity-based mechanisms that drive OCBE by concentrating on social categorisation, social identification, and social comparison. Combining SIT with other theories provides a comprehensive framework for understanding the complex dynamics of leadership influence, employee behaviour, and organisational culture. This integrated approach ensures a complete understanding of the variables that contribute to environmental sustainability in organisations and facilitates the development of tailored strategies to promote green behaviour among employees.

3.3.4 Organisational culture theory

Schein's theory of organisational culture focuses on the basic underlying organisational assumptions, espoused values and artefacts and how their linkages can influence performance (Schein, 1990). Schein (1985) proposed that

organisational culture serves the dual roles of adaptation to changes in the environment that is external to the firm and enabling internal integration. The organisational culture theory focuses on how leaders shape and influence the culture within their organisations. Leaders play a crucial role in shaping the values, beliefs, norms, and behaviours that define an organisation's culture (ALFadhalah & Elamir, 2021). Leaders are responsible for setting the tone and establishing their employees' expectations of "how things are done" within the organisation. By understanding and leveraging the organisational culture, leaders can effectively lead their teams and achieve the organisational objectives (Srimulyani & Hermanto, 2022; Cote, 2023; Zhang, Zeng, Liang, Xue & Cao, 2023). This theory emphasises that leaders need to be aware of the existing culture and work toward aligning it with their organisation's vision and goals (Canavesi & Minelli, 2022). The organisational culture theory is particularly relevant as it highlights the importance of promoting a sustainable and environmentally friendly culture within organisations. Environmental leaders, whether in non-profit organisations or corporate settings, need to focus on creating a culture that values and prioritises sustainability (Feeney, Grohnert, Gijselaers & Martens, 2023; Ketprapakorn & Kantabutra, 2022; Liao, 2022). This includes cultivating a culture of environmental awareness, responsibility, and action. Through role modelling, strategic communication, and implementing environmentally friendly practices, environmental leaders can create an organisational culture that embraces sustainability and contributes to positive environmental outcomes.

The organisational culture theory also emphasises the importance of leadership in creating a culture of innovation and adaptability (Anning-Dorson, 2021). The general and the environmental leadership studies state that leaders need to foster a culture of continuous learning, creativity, and openness to change (Yas, Othman, Mohammad & Agala, 2022; Zhang et al., 2023). By encouraging experimentation, empowering employees, and promoting a growth mindset, leaders can create an organisational culture that values innovation and adapts to new challenges and opportunities (Leso, Cortimiglia & Ghezzi, 2023). Overall, the organisational culture theory provides useful insights for both general leadership studies and environmental leadership studies by emphasising the crucial role of leaders in shaping and influencing the culture inside organisations (Arghode, Lathan, Alagaraja, Rajaram & McLean, 2022; Dextras-Gauthier, Gilbert, Dima & Adou, 2023). It highlights the importance of aligning the

organisational culture with the vision, goals, and values of the leader and the organisation, while also emphasising the significance of sustainability and innovation in the specific context of environmental leadership.

The study findings in the area of organisational culture show the existence of a positive relationship between high employee involvement in the decision-making process and performance (Morkel, 2022). However, Akpa et al. (2021) argue that a high level of involvement in various activities creates a lack of specialisation, where difficulty exists to identify the responsible person for the particular assignment. Research has also shown that the existence of consistency in the organisation is a reflection of the organisational culture effectiveness. Obi, Weinoh and Samuel (2023) agree that consistency is one of the primary factors to create a strong organisational culture and improve employees' performance in the organisation. However, Lee and Kim (2023) argue that a high level of consistency in the organisation does not directly affect employees' commitment and performance in the organisation. Adaptability is the ability of business managers to perceive and respond to external environments (Zhang, Fong & Yamoah Agyemang, 2021). This implies that business managers must be passionate and responsive to internal and external factors and have the ability to modify the existing organisational culture to accommodate necessary changes. The change includes improving and modernising internal departments and products in response to external competitions (Ling, Liu, Chen & Sun, 2021). An effective organisational culture includes a set of fundamental assumptions that the members of the organisation are exposed to and have developed an ability to deal with external adaptation problems (Ketprapakorn & Kantabutra, 2022).

In the adaptability principle, employees are susceptible to adapt, restructure, and reinstitute internal processes, behaviours, and attitudes in response to external forces and demands. Adaptability is a critical organisational cultural element in promoting business performance (Carvalho, Sampaio, Rebentisch, McManus, Carvalho & Saraiva, 2023). Organisational culture theory sheds light on the cultural dynamics that underpin OCBE, by concentrating on common values, norms, and practices. Combining organisational culture theory with other theories provides a comprehensive framework for understanding the complex dynamics of leadership influence, employee behaviour, and organisational culture. This integrated approach ensures a complete understanding of the variables that contribute to environmental sustainability in

organisations and facilitates the development of tailored policies to encourage green habits among employees.

3.3.5 Organisational learning theory

The organisational learning theory articulates how organisational learning is practised in organisations (Argyris & Schön, 1978). Organisational learning looks at how organisations learn from numerous perspectives, including that of the individual and social environment (Tan & Olaore, 2021). Specifically, the individual may view learning as an individual phenomenon, whereby an organisation learns through individuals. Organisational learning literature has grown exponentially in recent years in the area of developing knowledge and learning practices within an organisation (Canavesi & Minelli, 2022). Organisational learning theory can be related to general leadership studies by highlighting the role of leaders in creating a learning culture within an organisation (Jung, Ullah & Choi, 2021). Leaders play a crucial role in fostering a learning environment, where employees are encouraged to acquire and apply knowledge to enhance performance and achieve the organisational goals (Achdiat, Mulyani, Azis & Sukmadilaga, 2023; Nejati & Shafaei, 2023). Leaders can do this by promoting a growth mindset, providing opportunities for training and development, and emphasising the importance of continuous learning and improvement.

Leadership studies also emphasise the concept of 'learning leadership', which involves leaders who are not only open to learning themselves, but who also actively facilitate and support learning within their teams (Crans, Aksentieva, Beausaert & Segers, 2022; Sliwka, Klopsch, Beigel & Tung, 2024; Wallo, Kock, Reineholm & Ellström, 2022). These leaders recognise the value of collective knowledge and engage their team members in collaboration, innovation, and critical thinking. By promoting a learning leadership approach, leaders can positively impact the overall performance and effectiveness of the organisation. In relation to environmental leadership studies, the organisational learning theory can be applied to create a more sustainable and environmentally responsible organisation (Bianchi, Testa, Boiral & Iraldo, 2022). Environmental leadership involves recognising the importance of sustainability, developing a deep understanding of ecological systems, and implementing practices that reduce negative environmental impacts (He et al, 2023). By adopting an organisational learning perspective, environmental leaders can encourage their organisation's employees to continuously learn and improve in terms

of sustainability practices (Boeske, 2023; He et al, 2023; Khan et al., 2023). This involves conducting environmental assessments, identifying weaknesses and areas for improvement, and implementing initiatives that align with the principles of sustainability. Leaders can also promote knowledge-sharing and collaboration within their organisation, encouraging employees to contribute innovative solutions for environmental challenges (Tian & Wang, 2023).

Leaders in environmental leadership studies use the organisational learning theory to promote a systemic perspective on environmental issues (Iqbal & Ahmad, 2021). By fostering a learning culture that values interdisciplinary collaboration, leaders can ensure that their organisation understands how environmental issues are interconnected and impact various aspects of the organisation's operations (Bianchi et al., 2022; Toseef, Kiran, Zhuo, Jahangir, Riaz, Wei, Ghauri, Ullah & Ahmad, 2022). Overall, the organisational learning theory has significant implications for both, the general leadership studies and environmental leadership studies (Lundqvist, Wallo, Coetzer & Kock, 2023; Mai & Do, 2023). It emphasises the importance of leaders in creating a learning culture within organisations and promoting continuous learning and improvement. In the context of environmental leadership, the organisational learning theory can be used to support the development of sustainable and environmentally responsible practices by encouraging knowledge-sharing, collaboration, and a systemic perspective (Piwowar-Sulej & Iqbal, 2023).

Accordingly, the hospitality industry is also concerned with learning awareness and strategies to assimilate and modernise the organisation (Sarfraz, Khawaja, Khalil & Han, 2023). The hospitality industry is a dynamic service-oriented business sector that depends on customer appreciation and feedback. The industry comprises practical tasks from concierge services to marketing and overall management (LaKewa, 2023). In this context, Khalid, Abdul Hamid, Raza, Promsivapallop and Valeri (2023) assert that the hospitality industry must establish a learning environment to enhance workplace effectiveness. Learning in the hospitality field is a continuous process that engages employees and management in becoming more proficient in the compliance of rules, and service processes, equipment, maintenance, interactions, and cultural adaptations (Stylos, Fotiadis, Shin & Huan, 2021). Organisational learning can help develop new knowledge and insights from service provisions, which in turn, can contribute to the growth of this industry (Haile & Tüzüner, 2022). For instance, new

information and ideas can be used to create, disseminate and interpret new knowledge for organisational use. However, the main problem of the hospitality industry's learning capability is processing and practising the new knowledge or skills in an effective manner (Sarfraz et al., 2023). Hotels usually adopt the learning theory as the mainstream approach in implementing or framing their capability. Organisational learning capability refers to the overall learning methods that include experimental, practical, interning, and training (Khalid et al., 2023; Maniram, 2022). The organisational learning theory is extremely helpful to gaining an understanding of how green empowered leadership affects OCBE in hospitality organisations. Combining the organisational learning theory with other theories provides a comprehensive framework for understanding the complex dynamics of leadership's influence, employee behaviour, and organisational learning. This integrated approach ensures a complete understanding of the variables that contribute to environmental sustainability in organisations and facilitates the development of tailored policies to encourage green habits among employees.

3.3.6 Psychological ownership theory

According to the psychological ownership theory (Pierce et al., 2001), individuals can achieve psychological ownership through three approaches: controlling the target, having greater knowledge of or being more familiar with the target, and investing themselves in a target (Pierce et al., 2001). The psychological ownership theory is a psychological concept that explains how individuals perceive and respond to objects or entities as if they were their own. It emphasises the subjective and emotional attachment individuals form with objects, which influences their behaviour and attitudes toward those objects (Kim, Li & So, 2024; Shahzad & Salo, 2023). This theory can be related to general leadership studies and environmental leadership studies, as it provides insights into the dynamics of ownership and its influence on leadership behaviour and environmental stewardship (Liao, 2022; Piwowar-Sulej & Iqbal, 2023). In the context of general leadership studies, the psychological ownership theory can help one understand how leaders perceive their leadership roles and act as if they have ownership over the organisation or the team they lead (Guarana & Avolio, 2022). Leaders who have a strong sense of psychological ownership are more likely to take responsibility, make decisions for the long-term benefit of the organisation, and invest their time and effort to ensure its success (Abbas et al., 2022; Degbey, Rodgers,

Kromah & Weber, 2021; Ismail & Hilal, 2023). Leaders then feel a personal connection to the organisation's goals and values, which motivates them to drive change, innovate, and inspire others (Wang et al., 2022; Ye et al., 2022). Understanding the role of psychological ownership in leadership can help organisations identify and develop effective leaders who possess this sense of ownership and drive positive organisational outcomes (Williams, 2022). When applying the psychological ownership theory to environmental leadership studies, it helps to explain individuals' attitudes and behaviours toward natural resources and the environment (Wang, Shi, Zhang, Wang & Gao, 2022). Leaders who have a strong sense of psychological ownership toward the environment perceive it as a precious resource that they feel responsible for protecting, conserving, and nurturing. They take proactive measures to mitigate environmental damage, promote sustainability, and advocate for eco-friendly practices (Afridi, Javed, Ali, Zafar & Haider, 2023; Rimsha et al., 2023). This sense of ownership extends beyond personal or organisational interests and encompasses a broader sense of stewardship, where leaders prioritise the long-term health and well-being of the environment.

Psychological ownership theory can also explain the role of community engagement in environmental leadership (Ambuehl, Kunwar, Schertenleib, Marks & Inauen, 2022). Leaders who foster a sense of ownership among community members, such as through participatory decision-making processes and collaborative initiatives, can create a shared sense of responsibility and commitment toward environmental conservation. This collective ownership can lead to increased environmental awareness, behaviour change, and the development of sustainable practices within communities (Sattayapanich, Janmaimool & Chontanawat, 2022; Wang et al., 2022). Psychological ownership theory offers valuable insights into the dynamics of ownership and its influence on leadership behaviour and environmental stewardship (Feldermann & Hiebl, 2022). Understanding individuals' attachment and sense of ownership toward objects, organisations, and the environment can inform the development of effective leaders who prioritise long-term goals, take responsibility, and drive positive change (Abbas et al., 2022; You, Hu, Li, Wang & Xu, 2022). Empowering leadership highlights the meaningfulness of work, encourages employees to participate in decision-making, expresses confidence in employees' ability to achieve high performance, and provides employees with a great degree of

autonomy (Wang & Yang, 2021). These empowering behaviours lead employees to feel psychological ownership toward the organisation. Employees with a feeling of psychological ownership tend to be more responsible for the sustainability of the organisation and display more OCBEs (Ullah et al., 2021). The psychological ownership theory, which focuses on control, self-investment, and personal knowledge, provides useful insights into the motivational mechanisms motivating OCBE. Combining the psychological ownership theory with other theories creates a comprehensive framework for understanding the complex dynamics of leadership influence, employee behaviour, and organisational culture. This integrated approach ensures a complete grasp of the variables that contribute to environmental sustainability in organisations and facilitates the development of tailored policies to encourage green behaviour among employees.

3.3.7 Theory of work engagement (WE)

Work engagement denotes the degree to which a person shows self-preference in job tasks to promote connections between self and job, which can increase role performance through cognitive, emotional, and physical self-investment (Kahn, 1990). Based on the WE theory, this study believes that the WE theory should be divided into cognitive engagement, emotional engagement, and physical engagement. The theory of work engagement can be related to general leadership studies by considering how leaders can influence and promote engagement among their subordinates (Mazzetti & Schaufeli, 2022). Engagement is a state of mind, characterised by dedication, vigour, and absorption in one's work, and it has been shown to be highly beneficial for both individuals and organisations. Leadership plays a crucial role in fostering work engagement (Schaufeli, 2021). Leaders who exhibit transformational leadership qualities, such as inspirational motivation, intellectual stimulation, and individualised consideration, have been found to have a positive impact on work engagement (Nawaz, Gajenderan, Manoharan & Parayitam, 2024). Transformational leaders create a positive work environment by setting clear goals, providing support, and encouraging autonomy and growth (Dias, Pascoal, Pereira & Costa, 2022). They inspire and motivate their subordinates to go above and beyond in their work, leading to higher levels of engagement.

Leaders who practise authentic leadership, characterised by self-awareness, relational transparency, balanced processing, and moral perspective, can also

contribute to work engagement (Kleynhans, Heyns, Stander & de Beer, 2022). Authentic leaders create trust and promote a sense of purpose, which enhances engagement among their followers (Baquero, 2023). They lead with integrity and model positive behaviours, which can influence and inspire employees to be more engaged in their work. Furthermore, the theory of work engagement can be related to environmental leadership studies, specifically in the context of sustainability and environmental conservation (Albrecht, Bocks, Dalton, Lorigan & Smith, 2021). Environmental leaders are tasked with mobilising and motivating individuals and organisations toward sustainable practices and actions (Adeel et al., 2022; Suliman, Abdou, Ibrahim, Al-Khaldy, Anas, Alrefae & Salama, 2023). Leaders who demonstrate engagement not only in their work but also in environmental issues can effectively inspire and influence others to take action (Firouznia, Allameh & Hosseini, 2021). When leaders are passionate about environmental sustainability and demonstrate their commitment through their own behaviours and actions, it can create a ripple effect and encourage their followers to become more engaged in environmental initiatives (Fan & Chung, 2023). Environmental leaders with transformative and authentic leadership styles can effectively engage people in environmental concerns. They can motivate people to become more involved in sustainable practices and environmental conservation efforts by establishing a clear vision and goals, giving resources and support, and cultivating a good and inclusive work environment (Liu & Yu, 2023; Omarova, L. & Jo, 2022). The work engagement theory has applications in both general leadership and environmental leadership research (Arshad, Qasim, Farooq & Rice, 2022). Leaders who foster participation among their subordinates, whether in a general organisational setting or in the field of environmental sustainability, can have a substantial impact on individual and organisational outcomes (Nduneseokwu & Harder, 2023).

Ramaite, Rothmann and van der Vaart (2022) reveal that engagement is positively associated with job performance and that job embeddedness mediates the relationship between engagement and performance. Similarly, the research work of Saks, Gruman and Zhang (2022) provides evidence of a positive association between engagement and performance. Their study shows that engagement mediates the relationship between value congruence, perceived organisational support, core self-evaluations and task performance. Further, Khusanova et al. (2021) show that

engagement is positively related to task performance and mediates the relationship between job characteristics and task performance. Corbeanu and Iliescu (2023) reveal a positive relationship between work engagement and task performance and also between work engagement and contextual performance. The work engagement theory sheds light on the emotional and motivational dynamics that drive OCBE by emphasising vigour, devotion, and absorption. Combining the work engagement theory with other theories provides a comprehensive framework for understanding the complex dynamics of leadership influence, employee behaviour, and organisational culture. This integrated approach ensures a complete understanding of the variables that contribute to environmental sustainability in organisations and facilitate the development of tailored policies to encourage green habits among employees.

3.4 SUMMARY OF THE CHAPTER

This chapter highlighted the importance of the interconnected concepts in promoting environmental sustainability within organisations. By fostering a culture of eco-consciousness, empowering leadership, and employee engagement, organisations can create a positive impact on the environment while also enhancing employees' well-being and overall organisational performance. Different dimensions of organisational citizenship behaviour toward the environment were discussed, which are eco-civic engagement, eco-initiatives, and eco-helping. In addition, the chapter explored several key theories that have relevance to the study of organisational behaviour and business studies. These theories include the social exchange theory, social learning theory, social identity theory, organisational culture theory, organisational learning theory, psychological ownership theory, and theory of work engagement. The chapter explored each of these theories in more depth, examining their core concepts, applications in organisational settings, and how they can inform the study on employee behaviour, organisational dynamics, and business performance. By integrating these theories into this research, the researcher aimed to provide a comprehensive understanding of the complex interplay between individuals, groups, and organisations within the business context. The next chapter will focus on the empirical literature that will be used in the empirical part of the study.

CHAPTER 4

EMPIRICAL REVIEW AND DEVELOPMENT OF HYPOTHESES

4.1 INTRODUCTION

Despite the theoretical importance of these mechanisms, empirical research on how green empowering leadership influences OCBE through green work engagement, green organisational culture, green learning orientation, employee psychological ownership and environmental concern is lacking. Understanding the interplay between these constructs can provide valuable insights into the mechanisms through which leadership can promote environmental sustainability within organisations. In addition, the empirical literature on the relationship between green empowering leadership and organisational citizenship behaviour for the environment is reviewed, with the mediating effect of green organisational culture, green learning orientation, employees' psychological ownership and green work engagement and the moderating effect of environmental concern on the green empowering leadership and organisational citizenship behaviour for the environment relationship. This chapter provides an overview of establishing a foundation for the research hypotheses and objectives. By exploring the literature, the researcher can gain insight into the current state of knowledge surrounding the topic and identify any gaps or areas for further investigation. Thereafter, the chapter proceeds with the proposal of relationships among factors of interest and hypotheses, to be tested later in the data analysis phase in Chapter 6. Lastly, the chapter summary is provided. The next section will discuss the direct and indirect relationship, mediation and moderation of the study.

4.2 DIRECT RELATIONSHIP, MEDIATION AND MODERATION

Direct relationships refer to the straightforward connections between two variables, where one variable directly influences or predicts another (Tessler, 2022). Conversely, indirect relationships explain how the independent variable influences the dependent variable through one or more intervening factors, also referred to as mediators (Koschate-Fischer & Schwille, 2021). Understanding the underlying mechanics of an effect is aided by indirect linkages. Research can gain a deeper and more complex understanding of the interactions between variables by using analytical methods like mediation and moderation (Hayes & Rockwood, 2020). Moderation reveals the contextual elements influencing the outcomes observed, while mediation explains the mechanisms behind them (He, Zhou, Zhao, Jiang & Wu, 2020). Through the

integration of mediation and moderation analyses, the researcher can create more extensive and resilient models, resulting in more efficacious interventions and superior theoretical understandings.

4.3 HYPOTHESISED RELATIONSHIPS

4.3.1 Direct relationship

To build a fundamental understanding of how leadership affects environmental behaviours, it is imperative to analyse the direct relationship between green empowering leadership and organisational citizenship behaviour toward the environment. The present research offers lucid and practical insights and empirical backing for GEL, so easing the creation of policies, educational programmes, and campaigns that foster sustainability. Organisations may enhance OCBE immediately by focusing on the direct benefits and establishing the foundation for future research into the mediation and moderation effects in a moderated mediation model.

4.3.1.1 Green empowering leadership and OCBE

Studies in the green leadership literature have focused on the perspective of the normative behaviour theory (Asante, 2023; Liu & Yu, 2023; Wang, Kou & Zhu, 2023), and the theory of planned behaviour (Omarova & Jo, 2022). Environmental leadership refers to a unique form of leadership that addresses environmental challenges and promotes sustainability. Specifically, it entails taking proactive measures to meet the needs of the present generation, without compromising the ability of future generations to meet their own needs (Boeske, 2023). According to Khan, Saqib, Abbasi, Mikhaylov and Pinter (2023), environmentally specific leadership entails facilitating the adoption of green practices, encouraging environmental innovation, and promoting sustainability as core organisational values. This type of leadership is crucial in the context of organisations facing increasing environmental pressures and seeking to achieve environmental performance goals. Abbas et al. (2022) state that environmentally specific leadership plays a crucial role in promoting organisational citizenship behaviour for the environment (OCBE). Research has shown that leaders who demonstrate a clear commitment to environmental sustainability and take proactive steps to integrate green practices into their organisations create a positive climate that fosters OCBE among their employees (Liu & Yu, 2023). Findings by Abbas et al. (2022) suggest that leaders' personal values and beliefs regarding sustainability lead to increased engagement in environmental initiatives and higher levels of OCBE.

Various research studies have highlighted the positive impact of environmentally specific leadership on organisational citizenship behaviour for the environment (OCBE). For instance, a study conducted by Lathabhavan and Kaur (2023) reports that leaders who exhibit environmentally specific behaviours and promote sustainability initiatives within the organisation are more likely to inspire employees to engage in environmentally responsible behaviours. Similarly, another study by Zhao and Liang (2023) demonstrates that environmentally specific leadership positively influences employees' pro-environmental work behaviours, such as energy conservation and waste reduction. Several factors contribute to the effectiveness of environmentally specific leadership on OCBE (Elshaer et al., 2023; Ullah, 2021). One such factor is the level of employees' environmental knowledge and awareness. Research suggests that employees with a higher level of environmental knowledge and awareness are more likely to engage in OCBE (Amrutha & Geetha, 2021). Additionally, the organisational culture and values regarding environmental sustainability play a crucial role in influencing employees' OCBE. Studies have shown that organisations with a strong commitment to environmental sustainability have higher levels of OCBE among their employees (Abbas et al., 2021; Liu & Yu, 2023; Woo & Kang, 2021). Another factor is the presence of supportive leadership, as leaders who demonstrate clear environmental values and actively engage in environmentally friendly practices inspire their subordinates to engage in OCBE (Gurmani, Khan, Khalique, Yasir, Obaid & Sabri, 2021; Ullah et al., 2021). The availability of environmental resources within the organisation, such as recycling facilities and energy-efficient equipment, can also enhance employees' OCBE (Liu & Yu, 2023).

Environmental sustainability has become an increasingly important aspect of organisational behaviour and corporate ethics (OCBE). To promote sustainable practices, environmentally specific leadership is crucial. The leadership style that emphasises environmental responsibility and strives to achieve sustainable goals can significantly influence an organisation's OCBE outcomes. As pointed out by Hou et al. (2023), environmentally specific leadership involves incorporating environmental concerns into decision-making, setting environmental goals, and fostering a culture of environmental responsibility. Therefore, it is imperative for leaders to adopt an

environmentally specific leadership approach to promote OCBE (Elshaer et al., 2023; Ullah et al., 2021).

Green empowering leadership can indeed be considered a relatively new construct, and empirical studies on its relationship with OCBE and voluntary pro-environmental behaviour are scarce. This scarcity of research may be attributed to the relatively recent focus on sustainability and the integration of environmental considerations into leadership practices. Green empowering leadership combines two important aspects: leadership that empowers individuals and leadership that prioritises environmental sustainability (Badar et al., 2023). To advance knowledge in this area, it is crucial for future research to delve into the relationship between green empowering leadership and OCBE. Conducting empirical studies that measure the impact of green empowering leadership on employees' voluntary pro-environmental behaviours and their engagement in OCBE can provide valuable insights (Yue et al., 2022). While the concept of empowering leadership has been studied extensively in leadership literature, the specific incorporation of environmental aspects within this construct is still emerging (Badar et al., 2023; Piwowar-Sulej & Iqbal, 2023; Ye et al., 2022). Green empowering leadership can positively affect OCBE by fostering a sense of ownership, increasing motivation and satisfaction, promoting learning and skills development, and establishing trust and transparency. By empowering employees to contribute to sustainability initiatives, leaders create an environment where OCBE flourishes, benefitting both the organisation and its employees. Based on these concepts, the following hypothesis is proposed:

H1: There is a significant positive relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

4.3.1.2 Green empowering leadership and green organisational culture

One significant trend in recent years is the increased use of renewable resources and sustainable practices in organisations (Nishtar & Afzal, 2023; Wang et al., 2022). This shift can be attributed to the growing awareness of environmental issues and the need for responsible stewardship of natural resources (Bocken & Short, 2021). For instance, companies have been investing in renewable energy sources, such as solar and wind power, to decrease their reliance on fossil fuels (Osman, Chen, Yang, Msigwa, Farghali, Fawzy, Rooney & Yap, 2023). Additionally, organisations are

adopting more sustainable practices, including waste reduction, recycling programmes and sustainable supply chain management (Mugoni, Kanyepe & Tukuta, 2024). This shift toward renewable resources and sustainable practices reflects a more intense commitment to mitigating the environmental impact of business operations and promoting long-term sustainability.

Building trust and credibility with stakeholders is essential for organisations aspiring to implement sustainable practices (Suriyankietkaew et al., 2022). Research has shown that environmentally specific leadership positively influences green organisational culture (Al-Swidi et al., 2021). By demonstrating a commitment to environmental sustainability, organisations can enhance their reputation, attract socially responsible investors, and foster long-term stakeholder relationships (Li, Bhutto, Waris & Hu, 2023). Additionally, engaging stakeholders in sustainable decision-making processes promotes transparency and accountability, facilitating the building of trust and credibility with both internal and external stakeholders (Fobbe & Hilletofth, 2021). Several studies have highlighted the importance of environmentally specific leadership in fostering a green organisational culture. Research conducted by Tian and Suo (2021) suggests that leaders who demonstrate a strong commitment to environmental sustainability can positively influence employees' environmental attitudes and behaviours. Similarly, a study conducted by Hou et al. (2023) reports that environmentally specific leadership practices are associated with higher levels of environmental performance in organisations. These findings support the notion that leadership plays a crucial role in shaping an organisation's green culture, emphasising the need for leaders to promote and prioritise environmental sustainability.

The impact of environmentally specific leadership on a green organisational culture reveals the significance of this leadership style in driving eco-friendly practices and attitudes within organisations (Khan et al., 2023). Environmentally specific leaders prioritise sustainability initiatives and encourage employees to adopt environmentally responsible behaviours (Yuan & Li, 2023). Ojo and Fauzi (2020) highlight how such leadership practices foster a culture of environmental awareness and action, leading to reduced resource consumption and increased environmental performance. While empirical studies on the relationship between green empowering leadership and OCBE are scarce, there is a growing body of research exploring the relationship between green empowering leadership and green organisational culture (Badar et al.,

2023). Green organisational culture refers to the values, norms, and practices in an organisation that prioritise and promote environmental sustainability (Liu & Xuan, 2023; Tran, 2023). It encompasses the shared beliefs, attitudes, and behaviours toward sustainability among employees and leaders (Zacher et al., 2023). Green empowering leadership plays a crucial role in shaping and fostering a green organisational culture. Based on this information, the following hypothesis is proposed:

H2: There is a significant positive relationship between green empowering leadership (GEL) and green organisational culture.

4.3.1.3 Green empowering leadership and green learning orientation

Empowering leadership is beneficial for the organisation and individuals (Ye et al., 2022). Empowering leaders focus on empowering employees and helping them find new resources to expand their skills and capabilities, thus allowing them to create better products or services that improve their organisation's operation (Ren, Zhang, Chen & Liu, 2022; Ye et al., 2022). Empowering leaders help people follow their own career path and provide opportunities to enhance creativity and innovation. Empowering leadership embraces the three Cs of leadership: caring, connecting and challenging (Rehman, 2022). With these three traits, leaders create an environment where individuals can contribute their best to the organisation. Yin and Liu (2022) opine that empowering leaders encourage the people around them to take risks and to be open to new ideas. They make it clear to employees that they are being treated as real members of the organisation, rather than mere employees. They create an environment that promotes effective internal strategies, promotes a sense of purpose and enthusiasm during work, and assists in resolving conflicts and improves efficiency. Empowering leadership is the process or skill of providing direction that leads to employees creating and implementing something novel that is significant for the organisation (Wang & Yang, 2021).

In recent years, there has been a growing concern about the environmental sustainability of organisations across various sectors (Barros, Salvador, do Prado, de Francisco & Piekarski, 2021). This has led to a significant emphasis on the role of leadership in fostering a green learning orientation within organisations. According to Badar et al. (2023), environmentally specific leadership refers to the ability of leaders to promote and support environmentally sustainable practices and initiatives. Such

leadership is crucial for organisational learning and the development of a green culture (Liu & Yu, 2023). Consequently, the impact of environmentally specific leadership on a green learning orientation has gained significant attention in the literature (Hou et al., 2023; Wang et al., 2022). One crucial factor that influences an organisation's green learning orientation is the presence of environmentally specific leadership (ESL). According to Aboramadan, Kundi and Farao (2021), ESL refers to leaders who possess a deep understanding of environmental issues and drive sustainable practices within their organisations. These leaders actively promote the adoption of environmentally responsible behaviours and encourage employees to engage in green learning initiatives (Yang et al., 2023). Such leadership has demonstrated a positive impact on fostering a culture of sustainability and promoting knowledge acquisition related to environmental responsibility within organisations (Khan et al., 2023).

A study conducted by Hou et al. (2023) found that environmentally specific leadership has a significant impact on fostering a green learning orientation among employees. Their findings illustrate that leaders who engage in environmentally specific practices, such as setting green goals and encouraging sustainable behaviours, positively influence employees' willingness to acquire environmental knowledge and engage in eco-friendly practices. This supports the notion that environmentally specific leadership has the potential to promote a green learning orientation among individuals (Badar et al., 2023). Employee motivation and engagement are crucial factors that contribute to organisational success. Research has shown that employees who are motivated and engaged tend to perform at higher levels and are more committed to their organisations (Zhenjing et al., 2022). This is particularly relevant in the context of environmentally specific leadership, as leaders who effectively motivate and engage employees in green initiatives can foster a culture of sustainability and promote green learning orientation within the organisation (Badar et al., 2023).

Through empowerment, leaders can foster a culture of innovation, collaboration, and learning, where employees feel motivated to seek new knowledge, learn from their experiences, and continuously improve their environmental practices (Huang et al., 2022). GEL is expected to have a positive impact on green learning orientation within organisations (Wang et al., 2022). When leaders empower their employees to participate in environmental initiatives, it creates a supportive climate for learning and

encourages employees to develop and enhance their environmental knowledge and skills (Wang et al., 2022; Yue et al., 2022). Therefore, understanding the impact of employee motivation and engagement on green learning orientation is essential for organisations aiming to be environmentally sustainable (Aboramadan, 2022; Ansari, Farrukh & Raza, 2021). Based on this information, the following hypothesis is proposed:

H3: There is a significant positive relationship between green empowering leadership (GEL) and green learning orientation (GLO).

4.3.1.4 Green organisational culture and OCBE

The relationship between a green organisational culture and OCBE has been widely studied and it has been found that there is a positive correlation between the two (Mohanty, 2023; Pham, Chiappetta Jabbour, Vo-Thanh, Huynh & Santos, 2023; Saputro & Nawangsari, 2021). Ahmad et al. (2023) report that a green organisational culture fosters employees' pro-environmental behaviours, such as engaging in energy conservation or waste reduction activities. This is because a green organisational culture creates an environment that supports and encourages such behaviours. It has been observed that a green organisational culture significantly influences employees' attitudes toward the environment and their willingness to engage in environmentally responsible behaviour (Mirahsani et al., 2023). A green organisational culture entails employees' shared perception that the organisation's environmental policies and procedures enhance environmental sustainability and green values (Ahmad et al., 2023; Shahriari, Riahi, Azizan & Rasti-Barzoki, 2023; Yeşiltaş, Gürlek & Kenar, 2022). Employees' shared perception of the organisations' policies, procedures, and practices are formed by the social cognitive processes (Khaw, Alnoor, AL-Abrrow, Tiberius, Ganesan & Atshan, 2023). Social interactions enable employees to develop a shared perception of the organisation's practices and policies (Vu, 2022; Yaqub & Alsabban, 2023). In other words, employees' interaction with their organisation's social environment and discussions about the organisation's practices and policies shape the psychological climate.

Similarly, although there are very few published papers investigating the effect of a green organisational culture on OCBE, Zhang, Dong, Zhang, Wang and Jiang (2024) state that when employees perceive organisational support in engaging in pro-

environmental behaviour by providing necessary resources, they will be more likely to make extra eco-efforts. If human resource management and companies have a environmentally oriented management strategy and supportive policies in the environment, employees are more willing to behave eco-actively in the workplace (Zhu, Tang, Wang & Chen, 2021). Since the green policies communicated to all employees, and the organisational support for a good environment performance boost an individual's organisational commitment, this in turn, will enhance their eco-behaviour in the company (Ribeiro, Gomes, Ortega, Gomes & Semedo, 2022). Ye, Cai, Li and Wang (2023) suggest that top management's green message, translated to the employees' level, helps improve their awareness and makes them focus on the environmental protection. Therefore, employees are likely to pay more attention and have greater concern for green activities, which in turn, involves more active eco-behaviour (Ercantan & Eyupoglu, 2022). This argument is supported by findings in a hotel study. The authors conclude that hotels have policies to create a green organisational climate at the workplace that positively influences OCBE. Thus, a green organisational culture is necessary to enhance OCBE (Muisyo, Qin, Ho, Julius & Barisoava Andriamandresy, 2022). Based on this information, the following hypothesis is proposed:

H4: There is a significant positive relationship between a green organisational culture (GOC) and organisational citizenship behaviours for the environment (OCBE).

4.3.1.5 Green learning orientation and OCBE

Researchers mention training as a systematic and planned effort to develop or modify attitudes, skills and knowledge through employees' experience with the purpose to gain high performance in one or multiple activities (Adeel, Mahmood, Khan & Saleem, 2022; Wang, 2022Yafi, Tehseen & Haider, 2021; Yimam, 2022). Therefore, in a green context, scholars define training in terms of the environment also known as green training which is also seen as the policy regarding the environment, and which has the purpose to provide knowledge and create awareness regarding its practice (Moradeke, Ishola & Okikiola, 2021). The development of new skills, knowledge, behaviour and attitude among employees which stops the 'old' integrated knowledge, outdated skills and attitude fall under the category of training (Škrinjarić, 2022). In literature, training is perceived as the preparation of employees who are multi-talented

and have a concern regarding the acquisition of skills and knowledge (Giday & Elantheraiyan, 2023).

It has been observed that employees are more obliged to acquire extra skills if they perceive benefits from such new skills and better opportunities provided by the organisation (Son, Yang & Park, 2022). In the context of the environment, when an employee is provided with opportunities and training by the firm, they will reciprocate positively as well for the organisation. Researchers perceive OCBE as a behaviour that is reciprocal in the context of the environment and studies related to the environment (Baldassari, Eberhard, Jiang, Muller-Camen, Obereder, Schiffinger & Thiele, 2023; Che, Zhu & Huang, 2022). Additionally, there is a need for training in the context of the environment so that employees can act proactively regarding any environmental challenges (Ilyas, Awan, Kanwal & Banaras, 2023). Researchers indicate that educational practices and training develop green competencies in line with better trained employees. They will work beyond their normal duties in the environmentally related activities and will become engaged on a voluntary basis for green-related activities at the workplace. Therefore, it is expected that the employees' OCBE will be impacted positively because of green training (Kang, Hsiao & Ni, 2022; Liu & Yu, 2023; Yafi et al., 2021).

In addition, environmental training helps employees become more aware of environmental standards and enables them to change to a proactive behaviour. Chen, Jiang, Li and Gao (2021) indicate that the training and educating practices build a green competence, which encourages employees to 'go the extra mile' in eco-activities and engage in voluntary green behaviour at the workplace. Mensah, Shukla and Iqbal (2023) state that GHRM practices (including green training) are necessary to increase the effect toward employees' pro-environmental behaviour, when their company pays more attention to creating a green climate at the workplace. Consequently, the green training programme is expected to play an important role in positively improving OCBE (Saputro & Nawangsari, 2021). Based on this information, the following hypothesis is proposed:

H5: There is a significant positive relationship between green learning orientation (GLO) and organisational citizenship behaviours for the environment (OCBE).

4.3.1.6 Green empowering leadership and employees' psychological ownership

Empowering leadership not only helps increase followers' self-efficacy, but it may also help followers develop feelings of psychological ownership, which is characterised by belongingness, self-identity related to the organisation, and accountability (Al Halbusi, Al-Sulaiti, AlAbri & Al-Sulaiti, 2023). An important part of an employee's self-concept can be derived from membership or identity in an organisation or group, where organisational identity is defined as the perception of oneness with or belonging to an organisation (Dadaboyev, Paek & Choi, 2024). Empowering leaders pay attention to followers' voice and encourage them to engage more fully in their task activities. When employees feel that they are heard and have input into their work environment, feelings of belongingness are likely to develop (Xiang, Zhang, Ning, Wu & Chen, 2021). Through participative goal setting and discussions, employees can strengthen their role within the organisation, amplifying their sense of belongingness, which is a core component of psychological ownership (Cremers & Curşeu, 2023). An experience of control, which accompanies participation and influence, can make people feel responsible for the work and for the organisation (Lundmark, 2023). Thus, a sense of belonging and feelings of organisational identification are related to the construct of psychological ownership.

D'Souza, Apaolaza, Hartmann and Nguyen (2023) report that people use a sense of ownership for the purpose of defining themselves and expressing their self-identity to others. Empowering leader behaviours are likely to contribute to increasing the perception of self-identity, because individuals have a drive to search for their identity in the work settings and develop feelings of psychological ownership through experiences with the target organisation (Wang et al., 2023). Empowering leaders are willing to provide a wealth of opportunities for their followers to invest themselves in the job or work outcomes, and thereby to help them gain a sense of connectedness with the organisation (Cremers & Curşeu, 2023). Leaders' behaviours, such as encouraging followers' initiative and letting them make decisions, will lead to followers' increased sense of accountability or responsibility (Ren et al., 2022). If employees are encouraged to engage in the decision-making process, they show high attention to their tasks and feel more responsible for their performance, which can affect their psychological ownership. Thus, empowering leadership should help influence three elements in the definition of psychological ownership: belongingness, self-identity, and

accountability, all of which are predicted to result in feelings of psychological ownership (Kim et al., 2024).

Empowering leadership might promote psychological ownership in followers through four mechanisms (Schermuly, Creon, Gerlach, Graßmann & Koch, 2022). First, empowering leadership highlights the meaningfulness of followers' work; therefore, employees have a better understanding of their goals and contributions, which will lead to an increased sense of familiarity with their work and organisation. Thus, a sense of familiarity and knowledge of the organisation are related to the development of employees' psychological ownership. Second, empowering leadership encourages followers to participate in decision-making, through which employees have greater control over their work conditions (Medhn Desta & Mulie, 2024). Thus, when employees involve themselves into the development of their organisation and control their work situation, they will form a sense of psychological ownership. Third, empowering leadership expresses a confidence in followers' ability to achieve high performance. Research showed that such empowering behaviour is positively related to employees' self-efficacy (van Graan, Naidoo & Schultz, 2023). Thus, for all these reasons, it is quite likely that empowering leadership will increase employees' psychological ownership. Based on this information, the following hypothesis is proposed:

H6: There is a significant positive relationship between green empowering leadership (GEL) and employees' psychological ownership (EPO)

4.3.1.7 Green empowering leadership and green work engagement

The impact of environmentally specific leadership on green work engagement has been widely studied in recent years (Abdou et al., 2023; Liu & Yu, 2023; Suliman et al., 2023). Studies have shown that leaders who focus on environmentally friendly practices and encourage their employees to engage in green behaviours can significantly increase their employees' level of green work engagement (Abdou et al., 2023; Aboramadan, 2022; Tran, 2023). Work engagement has been a noteworthy facilitator in many research studies (Aboramadan, 2022; Huang, Ting & Li, 2021; Salama, Nor El Deen, Albakhit & Zaki, 2022). Employees' level of enthusiasm for their work is often believed to be a key motivator in determining their productivity (Salama et al., 2022). Research has shown that organisations with green leadership

programmes have higher levels of employee engagement and commitment to environmental sustainability (Abdou et al., 2023; Liao, 2022). Leadership development programmes and training have gained significant attention in recent years due to their potential to enhance leadership skills and promote organisational success. According to Ercantan and Eyupoglu (2022), these programmes aim to equip individuals with the necessary knowledge and skills to lead effectively, especially in environmentally specific contexts. This is crucial as leaders who possess expertise in environmental issues can motivate and engage employees toward sustainable and green practices (Khan et al., 2023). Consequently, organisations implementing such programmes can increase green work engagement and contribute to environmental sustainability.

The impact of environmentally specific leadership on green work engagement has gained increasing attention in recent years (Suliman et al., 2023). Environmental leadership, defined as leaders' ability to promote and support environmentally friendly behaviours within organisations, has been found to positively influence employees' engagement in green work practices (Noor, Tunnufus, Handrian & Yumhi, 2023). These practices include adopting sustainable work behaviours and actively participating in environmentally friendly initiatives at the workplace, such as waste reduction and energy conservation (Duarte & Mouro, 2022). Leadership styles that emphasise environmental responsibility and sustainable practices have been found to positively impact employees' motivation to engage in environmentally friendly behaviours and contribute to sustainable practices within their organisations (Khan et al., 2023; Liao, 2022). Based on this information, the following hypothesis is proposed:

H7: There is a significant positive relationship between green empowering leadership (GEL) and green work engagement (GWE).

4.3.1.8 Green work engagement and OCBE

Researchers point out that employees, who are involved in problems related to the environment, have more knowledge regarding environmental issues (Pham, Jabbour, Usman, Ali & Phan, 2022; Zhang et al., 2021). They also have more capability to solve the problems related to the environment, which lead to improved environmental performance (Omarova & Jo, 2022; Zhenjing et al., 2022). The five aspects were identified by Tang, Chen, Jiang, Paillé and Jia (2018), which play an important role to encourage employees to become engaged in green activities. The first point is to have

a very clear green vision. The second point is the necessary learning regarding a green climate, and the third point includes climate channels. Due to these points, employees became more concerned regarding environmental problems. A green culture can be created within a firm through informal and formal communication. Based on these kinds of conversations, employees perceive themselves as being comfortable and ready to improve their green behaviour. This behaviour will be involved in green behaviour and help the environment to become green.

Researchers stress the importance of a green culture within the organisation (Shahriari et al., 2023). On the other hand, researchers point out that HR managers must try to improve the work environment in which employees can participate and where all employees can be free to think regarding environmental issues (Adeel et al., 2022; Rana & Arya, 2024). These employees are needed to implement environmental behaviour. Additionally, researchers mention that development of a culture is important in which workers can share their ideas with colleagues (Morales-Huamán, Medina-Valderrama, Valencia-Arias, Vasquez-Coronado, Valencia & Delgado-Caramutti, 2023). The culture efforts related to the green environment are supported through the process in which involvement of employees creates effects. Involvement of employees are affected through two other processes, the empowerment of employees and engagement of employees, to make suggestions related to the environment (Ercantan & Eyupoglu, 2022).

Wiradirja, Ras, Pranadita, Macmud, Anwar and Haspada (2020) mention that the fourth aspect to offer environmentally friendly practices is the establishment of teams who work for the solution to an environmental problem. Through green practices, employees can participate in environmentally friendly activities. The last aspect is the encouragement of environmentally friendly activities through which employees become engaged in environmentally friendly practices (Omarova & Jo, 2022; Tirno, Islam & Happy, 2023). Practices of green employee involvement show the opportunities, which represent the voice of employees in the management of the environment and a solution for the environmental problem is suggested. Scholars mention that employees who have been granted empowerment in terms of decision-making have high skills for problem-solving and a high level of self-control (Xiang et al., 2021; Ye et al., 2022). Employees within the organisation can be involved in opportunities regarding the environmentally friendly culture of the organisation through

a shared vision, exchange of ideas and open discussion regarding environmental aspects (Woo & Kang, 2021).

Employees will be involved in initiatives related to the environment through informal communication, formal communication and the exposure to the organisation's vision regarding the environment (Mmutle, 2021). Additionally, green teams can be used also to enhance the organisation's practices of environmental management. Opportunities are provided to employees through teamwork regarding the solution of problems that are complex in nature, sharing of knowledge and working together with other employees (Zajac, Woods, Tannenbaum, Salas & Holladay, 2021). Engaged employees see sustainability as integral to their values and they are more likely to contribute actively to the organisation's green initiatives, resulting in behaviours that align with OCBE. Based on this information, the following hypothesis is proposed:

H8: There is a significant positive relationship between employees' psychological ownership (EPO) and organisational citizenship behaviours for the environment (OCBE).

4.3.1.9 Employees' psychological ownership and OCBE

Kim and Chung (2023) state that employees' sense of ownership is positively associated with their organisational citizenship behaviour, which motivates employees to engage in extra-role behaviours. Employees belief that the organisation is 'theirs' (psychological ownership) gives birth to the feelings of being a part and owner of the organisation, developing a sense that they are also responsible for the organisation, and striving hard for its sustainability. This pro-organisational affection and motivation leads to employees performing extra-role activities for the sustainability of the organisation (Abbas et al., 2022). OCBE refers to the voluntary actions of employees that are not governed by any formal reward system and that are directed toward environmental safety and sustainability. Abubakar et al. (2022) claim that environmentally oriented actions address environmental issues and help the organisation to growth by saving water, reducing the usage of paper, reducing the consumption of electricity, and other green practices and procedures. The four-dimension conceptualisation of psychological ownership that was emphasised by Avey Avolio, Crossley and Luthans (2009), includes self-identity, self-efficacy, belongingness, and accountability. If employees assume the organisation as 'theirs',

then they consider the organisation a significant part of their lives. They have developed a sense of belongingness and ownership, and they feel responsible and accountable for the organisation's sustainability. Psychological ownership makes employees think that if their organisation is sustainable and prosperous, then employees are successful (Abbas et al., 2022; Raimundo & Proença, 2023). This sense of ownership will lead to an extra motivation for their work, including them committing voluntarily in extra-role activities that are beneficial for the employees, the organisation, and society, i.e., OCBE. Thus, employees with psychological ownership regarding the organisation will take care of the organisation's sustainability and take on initiatives directed toward organisational behaviour directed toward the environment for the organisation's support, i.e., OCBE (Abbas et al., 2022).

There is a growing body of literature suggesting a positive relationship between employees' psychological ownership and OCBE. For instance, a study conducted by Gardner, Pierce and Lv (2022) reports that employees who experienced higher levels of psychological ownership were more likely to engage in OCBE. This may be because employees with a sense of ownership view themselves as integral contributors to the organisation and they are therefore more inclined to go above and beyond their formal job requirements (Zhenjing et al., 2022). Research by Sheikhi and Yousefi, (2023) states that employees who have a strong sense of ownership are more likely to identify with their organisation, resulting in increased willingness to engage in OCBE. Other research also has suggested that employees who have a higher sense of psychological ownership are more likely to engage in OCBE (Ullah et al., 2021). This is because they perceive themselves as having a stake in the organisation and therefore take ownership not only of their work tasks but also of the overall well-being and success of the organisation. Consequently, they go beyond their formal job requirements and proactively contribute to the organisation's goals and objectives. Based on this information, the following hypothesis is proposed:

H9: There is a significant positive relationship between employees' psychological ownership (EPO) and organisational citizenship behaviours for the environment (OCBE).

4.3.2 Indirect relationship

In order to comprehend the intricacies of the relationships between variables, moderation and mediation are essential in research (Malik, Khwaja, Hanif & Mahmood, 2023). While moderation focuses on the circumstances and settings that affect these effects, mediation sheds light on the mechanisms and processes that underlie the impacts that are observed (Malik et al., 2023). When combined, they make it possible to comprehend theoretical models in greater detail, they provide guidance for creating focused interventions, and increase the usefulness and impact of research findings. When coupled, they produce more reliable, explanatory, and predictive research results that are essential for theory and practice alike (Turulja & Bajgoric, 2020).

4.3.2.1 Green organisational culture mediates the relationship between green empowering leadership and OCBE

A green organisational culture refers to the atmosphere formed by a series of sustainable development policies implemented by the organisation, or employees' common views on the organisation's environmental management policies, practices, and processes (Liu & Yu, 2023). A green organisational culture shapes an implicit code of conduct. It shows which behaviours are effective and appropriate, and which do not meet the expectations/requirements of the organisation (Subramanian & Suresh, 2023). When employees face the dilemma of how to balance economic goals and environmental goals, green change leaders can guide employees to clearly perceive the organisation's environmental value orientation and strategic goals (Fallah, Mohabbati-Kalejahi, Alavi & Zahed, 2022; Liu & Yu, 2023). Specifically, in organisational environmental management practices, green transformational leaders convey environmental values through the issuance of policy statements, the assignment of environmental tasks to subordinates, and by explaining the reasons for the specific plans of the organisation (Lathabhavan & Kaur, 2023). A positive green cultural culture can be created among different levels of employees by building a common vision within the group (Zheng, Wang, Hoekstra, Krol, Zhang, Guo, Sanwal, Sun, Zhu, Zhang, Lounsbury, Pan, Guan, Hertwich & Wang, 2021). Therefore, the formation of a green organisational culture is influenced by the attention and support of managers to environmental management policies (Fan & Chung, 2023). At the same time, green transformational leadership has a demonstration effect on employees' behaviours, providing organisational members with charisma and the

representation of direct observational learning (Du & Yan, 2022). This can shift their focus from the one-way influence of formal leadership toward feeling the collective influence of the organisation.

A green organisational culture can induce employees' green behaviour by allowing them to conduct social interactions (staff with colleagues, staff, and leadership) with extra effort and in ways that are consistent with environmental protection behaviours (Liu & Yu, 2023; Zhang, Ul-Durar, Akhtar, Zhang & Lu, 2021). On the one hand, the process of social interaction will strengthen employees' social learning, through their actions and behaviours, and motivate them to participate in environmental protection behaviours, such as recycling, energy conservation and encouraging others to protect the environment (Shah, Al-Ghazali, Bhatti, Aman, Fahlevi, Aljuaid & Hasan, 2023). On the other hand, the atmosphere of implementing environmental protection practices can affect employees' environmental resonance (Biswas, Uddin, Bhattacharjee, Dey & Rana, 2022; Piwowar-Sulej & Kołodziej, 2022). This can promote the implementation of employees' green behaviours by green transformational leadership establishing a common environmental vision among members (Zhao, Liang, Pan & Du, 2022; Liu & Yu, 2023). The environmental values and environmental protection practices displayed by green transformational leadership can be easily perceived by employees. Further, a transmission of psychological resources after information processing can be internalised. Such an influencing process can create an atmosphere that encourages employees' OCBE and the formation of a relatively consistent environmental orientation in the group (Malik, Hayat, Azam, Cao, Wan, Zhu & Thurasamy, 2021). It also can promote mutual dependence and learning among members, thus motivating their colleagues to produce OCBE (Xiao, Zhou, Yang & Qi, 2021). Based on this information, the following hypothesis is proposed:

H10: Green organisational culture has a mediating effect on the relationship between green empowering leadership and OCBE.

4.3.2.2 Green learning orientation mediates the relationship between green empowering leadership and OCBE

Green learning orientation, defined as an employee's proactive engagement in acquiring knowledge and understanding of environmental issues, plays a vital role in mediating the relationship between environmentally specific leadership and

organisational citizenship behaviour for the environment (OCBE) (Karatepe et al., 2022). By fostering a culture of continuous learning and knowledge-sharing related to sustainability, environmentally specific leaders provide employees with the necessary tools and motivation to engage in eco-friendly behaviours and they contribute to the overall environmental performance of their organisation (Khan et al., 2023). Green learning orientation plays a significant mediating role in the relationship between environmentally specific leadership and organisational citizenship behaviour toward the environment (Rimsha et al., 2023). Companies that promote green learning foster employees' knowledge, skills, and attitudes related to sustainability, leading to the development of OCBE (Woo & Kang, 2021). This finding suggests that organisations should emphasise green learning initiatives as a means to enhance environmental citizenship behaviours among their employees (Japir Bataineh, Ghasemi & Ghadiri, 2023).

One of the positive impacts of environmentally specific leadership on OCBE is that it encourages and supports green initiatives in organisations (Iqbal et al., 2023). This type of leadership provides guidance and sets a clear direction for promoting environmentally friendly practices (Liu & Yu, 2023). By aligning their actions and values with sustainability goals, leaders can inspire employees to adopt environmentally responsible behaviours (Japir Bataineh, Ghasemi & Ghadiri, 2023). The presence of environmentally specific leadership is crucial in fostering a culture of environmental awareness and sustainability (Hou et al., 2023). Such leadership drives organisational commitment to environmental initiatives and influences the adoption of environmentally friendly practices by individuals within the organisation (Liao, 2022).

One potential mechanism through which environmentally specific leadership influences organisational citizenship behaviour for the environment (OCBE) is by shaping employees' green learning orientation. This orientation involves developing knowledge, skills, and attitudes that are aligned with the environmental sustainability goals (Abbas et al., 2022; Hui et al., 2021). This demonstrates the role of leadership in fostering environmentally conscious behaviour within the organisation. Green learning orientation, defined as an employee's proactive engagement in acquiring knowledge and understanding of environmental issues, plays a vital role in mediating the relationship between environmentally specific leadership and organisational citizenship behaviour for the environment (Japir Bataineh et al., 2023; Liu & Yu, 2023).

By fostering a culture of continuous learning and knowledge-sharing related to sustainability, environmentally specific leaders provide employees with the necessary tools and motivation to engage in eco-friendly behaviours and they contribute to the overall environmental performance of their organisation (Khan et al., 2023; Saqib, Abbasi, Mikhaylov & Pinter, 2023).

Environmental leaders serve as role models and provide guidance on adopting environmentally responsible behaviour, which subsequently promotes OCBE (Wang, Shen, Chen & Carmeli, 2021). Additionally, the cognitive perspective highlights the importance of individuals' cognitive processes, such as perception, interpretation, and decision-making, in shaping their behaviour. Green learning orientation, as a cognitive process, facilitates the acquisition and integration of knowledge, skills, and attitudes related to environmental issues, enabling individuals to translate environmentally specific leadership into OCBE (Badar et al., 2023). Green learning orientation is an essential driver for sustainable practices in organisations. Research has demonstrated that environmentally specific leadership positively influences green learning orientation, which, in turn, leads to OCBE (Badar et al., 2023; Japir Bataineh et al., 2023). Green learning orientation can potentially mediate the relationship between green empowering leadership and OCBE, while there is no theoretical rationale supporting the potential mediating role of green learning orientation between green empowering leadership and OCBE. Based on this information, the following hypothesis is proposed:

H11: Green learning orientation mediates the relationship between green empowering leadership and OCBE.

4.2.2.3 Employees' psychological ownership mediates the relationship between green empowering leadership and OCBE

Empowering leadership can promote psychological ownership in followers through four mechanisms (Schermuly et al., 2022). First, empowering leadership highlights the meaningfulness of followers' work; therefore, employees have a better understanding of their goals and contributions, which will lead to an increased sense of familiarity with their work and the organisation. Thus, the sense of familiarity and knowledge of the organisation are related to the development of EPO. Second, empowering leadership encourages followers to participate in decision-making, through which employees

have greater control over their work conditions (Schermuly et al., 2022; Wang et al., 2021). Thus, when employees become involved in the development of their organisation and they control their work situation, they will form a sense of psychological ownership. Third, empowering leadership expresses confidence in followers' ability to achieve high performance. Research shows that such empowering behaviour is positively related to employees' self-efficacy (Schermuly et al., 2022; Khan, Li, Chughtai, Mushtaq & Zeng, 2023). Employees' psychological ownership emerges when they have more confidence in the organisation and control over their work (Kim & Chung, 2023). Finally, empowering leaders provide followers with a great degree of work autonomy. Work autonomy indicates that employees can control their work, which in turn, increases their experience of psychological ownership (Berber, Findikli, Marescaux, Rofcanin, Mughal & Swart, 2023; Olckers, C. & Booysen, 2021). Thus, for these reasons, it is likely that empowering leadership will increase employees' psychological ownership.

Empowering leadership highlights the meaningfulness of work, encourages employees to participate in decision-making, expresses confidence in employees' ability to achieve high performance, and provides employees with a great degree of autonomy (Wang & Yang, 2021; Xiang et al., 2021; Ye et al., 2022). These empowering behaviours lead employees to feel psychological ownership toward the organisation. Employees with a feeling of psychological ownership tend to feel more responsible for the sustainability of the organisation and display more OCBEs (Chen, Lien, Lo & Tsay, 2021; Ye et al., 2022). The mediation effect of EPO suggests that the relationship between green empowering leadership and OCBE is not only based on empowering employees, but it also rests on employees developing a sense of psychological attachment to the organisation's values and goals. This highlights the importance of promoting a culture of ownership in the workplace to enhance environmental sustainability and employee engagement (Abbas et al., 2022). Based on this information, the following hypothesis is proposed:

Hypothesis 12: Psychological ownership mediates the relationship between empowering leadership and OCBEs.

4.2.2.4 Green work engagement mediates the relationship between green empowering leadership and OCBE

Work engagement has shown to be a significant mediator in several studies (Heyns, McCallaghan & Beukes, 2021; Kossyva, Theriou, Aggelidis & Sarigiannidis, 2023; Ma, 2023). Work engagement is generally seen as a motivational mechanism that influences performance outcomes (Pincus, 2023). Building on SET, the study proposes GWE as a potential intervening mechanism between the independent and dependent variables in this study. Employees with greater levels of engagement (GWE, in this case), are more prone to be involved in quality social exchanges with the employer. As a result, employees will display positive outcomes, including those of green outcomes (Aboramadan, 2022).

Several research studies have probed the impact of green transformational leadership on employees' environmental performance (Darban, Karatepe & Rezapouraghdam, 2023; Suliman et al., 2023). Consistent with Suliman et al. (2023), green transformational leadership stimulates staff to accomplish the environmental objectives of an organisation by offering them a vibrant aspiration, passion, inspiration, and vision, in addition to supporting requirements to realise environmental efficacy. Consequently, green transformational leadership is perceived to be the forecaster of environmental efficacy. Visamitanan and Assarut (2021) present that green transformational leadership directly and positively influences environmental job engagement. These standpoints lead to this study's recommendation of a direct and positive association between green transformational leadership and environmental efficacy. These outcomes validate the fundamental role of leadership in cultivating the green behaviour of staff, as green transformational leadership instigates the staff's involvement in the sustainable, environmental objectives of their organisation, delivering their supporters a clear passion, aspiration, and vision in addition to backing requirements to accomplish environmental efficacy (Irfan, Elavarasan, Ahmad, Mohsin, Dagar & Hao, 2022; Sobaih, Hasanein, Aliedan, Gharbi & Abu Elnasr, 2022).

In the context of the mediating role of work engagement in the relationship between green transformational leadership and OCBE, no recent study in the hospitality sector context has examined this role, to the best of the researcher's knowledge. A similar study was conducted in the textile sector that looked at the mediating role of work engagement in the relationship between green transformational leadership and OCBE

of the employees (Gustiah & Nurhayati, 2022). That study reveals that GWE significantly partially mediated the relationship between green transformational leadership and the environmental performance of the employees. Considering the previous findings, which confirmed the significant positive effect of green transformational leadership on GWE, and the substantial effect of GWE on OCBE, this study suggests that GWE may act as a mediator in the relationship between green transformational leadership and OCBE. In other words, it is believed that green transformational leadership can lead to higher levels of GWE, which in turn, can lead to higher levels of OCBE. Based on this information, the following hypothesis is proposed:

H13: Green work engagement (GWE) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

4.2.2.5 Environmental concern moderates the relationship between green work engagement and OCBE

Environmental concern represents individuals' concern for and understanding of environmental problems, as well as their willingness to solve problems and make extra efforts (Chen, Wu & Jiang, 2022). Under the new environment paradigm, managers' inherent values and beliefs are different, and their choices of corporate environmental behaviours may also vary (Liu & Yu, 2023). Managers with a higher degree of environmental concern are more likely to realise the seriousness and urgency of environmental problems (Abubakar et al., 2022). They are also more inclined to emphasise common environmental goals and emotions in their work, thus improving collective environmental awareness among the organisation's members and intensifying the formation of green organisational climates (Liu & Yu, 2023). This can also be achieved by initiating and participating in environmental cooperation, as well as sharing and exchanging relevant environmental knowledge through open discussion. All these efforts can create a more pro-environment organisational climate (Mouro & Duarte, 2021). At the same time, high environmental concern means that managers are better able to actively acquire and master relevant information to help the organisation better deal with uncertainties/ risks (Wang et al., 2022).

Environmental policies formulated under this condition are more likely to gain support and trust, and thus, they are more likely to form a consensus on environmental issues (Liu & Yu, 2023). On the other hand, low environmental concern makes it difficult for the organisation's members to feel their organisation's determination to solve environmental problems, and they may even detect hesitation. This is not conducive to the formation of a strong organisational climate (Khan & Khan, 2022). Environmentally committed employees respond positively to the signal from their organisation regarding the environment and green practices (Karatepe et al., 2022). The role of management is vital in the delivery of this signal. Managers who have strong knowledge of environmental issues and have control and decision-making powers are more capable of convincing employees about environmental concerns (Abbas et al., 2022). Zhao and Liang (2023) convey that the employees' environmental commitment develops in employees who see their leaders' commitment as being positive and they support their pro-environmental objectives.

Zappalà, Radassao and Toscano (2023) report that employees will selectively engage in behaviours that are supported by leaders based on the leaders' environmental concern. In turn, this will directly affect whether employees are willing to make additional environmental protection efforts (Liu & Yu, 2023). Research shows that attitude is a direct predictor of actual behaviour, and managers who pay more attention to the environment are more likely to change from being in the initial consciousness stage to possessing deeper values. Such leaders take the initiative in environmental protection behaviour by setting an example and inducing a role model effect in their work (Debrah, Vidal & Dinis, 2021; Lu, Zhang, Diao, Liu, Chen, Long & Cai, 2021; Zhao & Liang, 2023). To a certain extent, it is easier to form descriptive norms, convey strong environmental value orientation to organisation members, and clarify to the employees the corresponding behavioural scope, which can motivate them to take the initiative in environmental protection efforts (Yuan & Li, 2023). Based on such information, the following hypothesis is proposed:

H14: Environmental concern moderates the relationship between green work engagement (GWE) and organisational citizenship behaviours for the environment (OCBE).

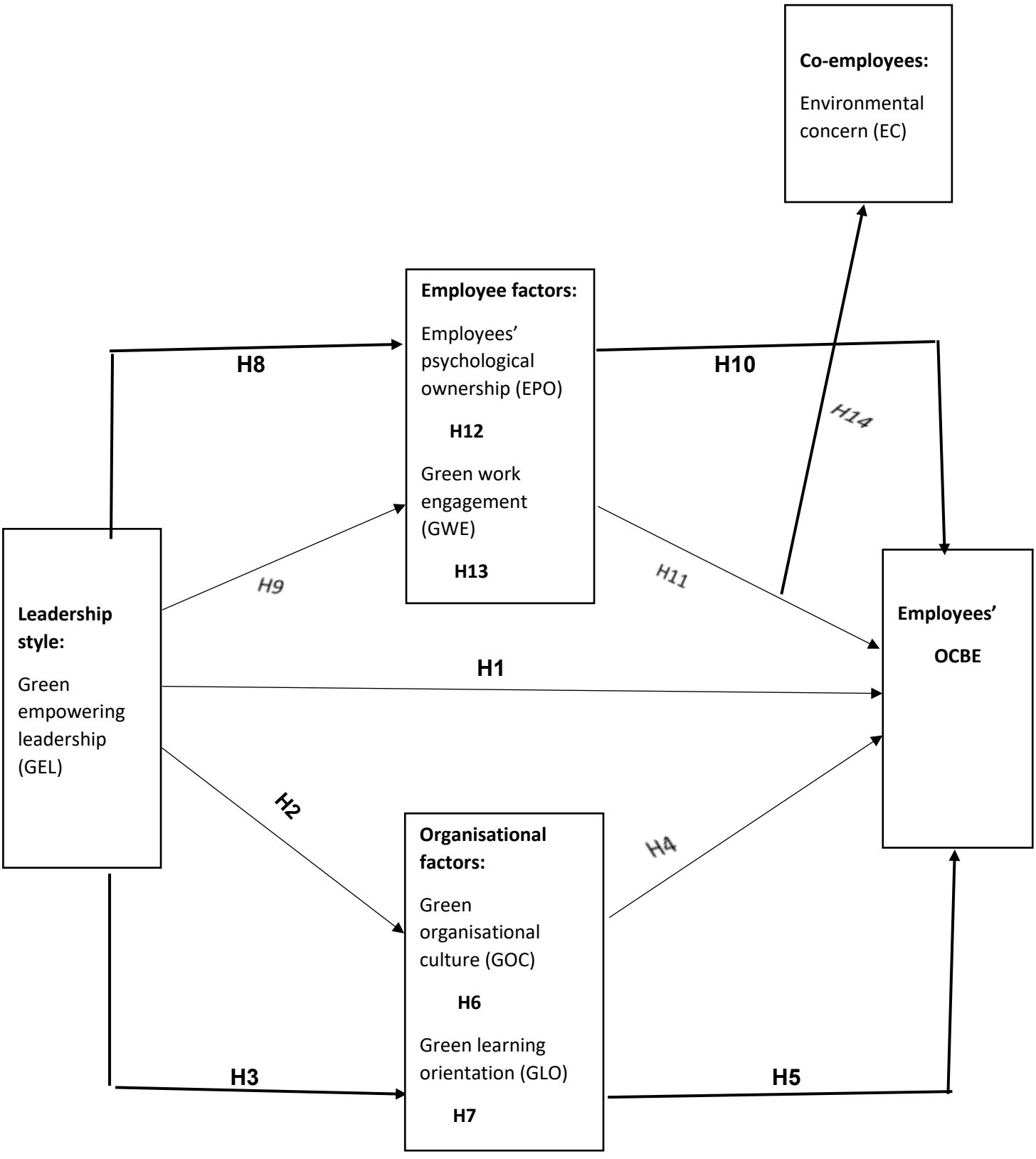

Figure 4.1: Conceptual model

Source: Author's conceptualisation

4.3 SUMMARY OF THE CHAPTER

This chapter provided a comprehensive summary of the empirical literature related to the hypotheses being investigated. The literature review demonstrated that there is a significant body of research addressing the variables under investigation. The findings from these studies were consistent in supporting the hypotheses, further validating the research question. This chapter highlighted the gaps in the existing literature that the current study aims to address. By bringing together the findings from different studies, this review provides a solid foundation for the current research, guiding its design and informing the hypotheses' formulation. This chapter also presented the rationale for the current study, emphasising the novelty and contribution it makes to the field. The empirical portion of the study's research technique, as well as how the data were analysed and are presented, will be the main topics of the next chapter.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 INTRODUCTION

The preceding three chapters reviewed the literature behind this research scholarship. The overview of the hospitality industry was provided in Chapter 2, wherein the primary concerns pertaining to the hospitality industry, their benefits and challenges were outlined. Chapter 3 presented the theoretical literature framework of the study by providing a discussion of the seven constructs underpinning the study. Chapter 4 provided the conceptual framework and the hypotheses' development aspects of the study. In all academic research, it is vital to provide a detailed methodology on how the researcher went out to gather the data and process it to answer the research problem. Hence, this chapter unpacks the research methodology to provide a step-by-step illustration of the process adopted to answer the research questions. It provides a roadmap on how to achieve the research objectives. The research methodology details all the crucial steps taken by the researcher to conduct the study. The chapter starts by discussing the honeycomb of research methodology and this is followed by the different research philosophies that inform the research approach and research design adopted in this study.

5.2 THE HONEYCOMB OF RESEARCH METHODOLOGY

The honeycomb of research methodology is a comprehensive framework that underscores the multi-dimensional and iterative nature of research design and methodology (Khan, 2024). By considering the interplay of different dimensions and perspectives, researchers can make informed decisions about the most appropriate methods, techniques, and approaches for their research study, ultimately enhancing the quality and rigour of the research process. At the core of the honeycomb is the research paradigm, which refers to the worldview or theoretical perspective that underpins a researcher's approach to conducting research (Oberholzer, Botha & Middelberg, 2023). Common paradigms include positivism, interpretivism, critical theory, and constructivism, each emphasising different assumptions about the nature of knowledge and reality (Omodan, 2021).

The honeycomb of research methodology was deemed to be particularly appropriate for guiding this research study because it offers a structured, systematic approach to

the research design that encouraged the researcher to consider each layer of the research process in a holistic manner. By incorporating elements such as research philosophy, research approach, research strategy, data collection methods, and data analysis techniques, the honeycomb framework helps researchers to ensure that their study is methodologically sound and rigorously executed (Khan, 2024). The honeycomb of research methodology allows researchers to tailor their research design to the specific research objectives, context, and research questions of their study (Pandey & Pandey, 2021). This flexibility and adaptability make the framework suitable for various research paradigms and methodologies, enabling the researcher to make informed decisions about the most appropriate research methods and techniques for a study.

Figure 5.1 The honeycomb of research methodology

Source: Wilson (2014)

Figure 5.1 shows the honeycomb of research methodology used to guide the methodology of this study. The research methodology of this study adopted each of the steps from the honeycomb of research methodology.

5.3 RESEARCH PHILOSOPHY

All research conceptualisation is guided by certain key assumptions (Braun & Clarke, 2023). Unknowingly, when researchers engage in research, there are basic assumptions that guide them to choose a certain topic over others, developing their research questions and finally choosing the type of methodology they intend to use (Dawadi, Shrestha & Giri, 2021). These assumptions can be epistemological, ontological and axiological assumptions.

Epistemological assumptions describe knowledge and how it is understood, captured and shared. The important consideration under epistemological assumptions is that the researcher should identify what is acceptable in that field of study (Harley & Cornelissen, 2022; Ronkainen & Wiltshire, 2021). Knowledge accrues over time and should be testable for it to qualify as knowledge that can be shared in a certain field. Ontological assumptions explain how researchers interpret reality. Reality is construed differently, based on the field of research. It shapes one's philosophy and the entire methodological process (Moroi, 2021). For instance, a researcher whose ontological assumptions are derived from the natural sciences, tends to adopt the positivist research philosophy, while those who believe that reality can be shaped subjectively can adopt the phenomenology research philosophy. Axiological assumptions deal with values and the researcher's ethical behaviour. Ethics form a crucial element of quality research (Lim, 2023). How individuals conduct themselves and treat others in pursuing their research must be bound by ethical values. The issue of ethics in research is discussed in detail in section 5.7 of the methodology. All research is shaped by the researchers' assumptions on existing knowledge and how they construe reality and it is a product of one's values. One's values are crucial in determining the research philosophy and data collection methods chosen by the researcher. More importantly, values and ethics also determine the integrity of the research (Helgesson & Bülow, 2023). It follows that the ability to combine this set of assumptions helps the researcher produce excellent research.

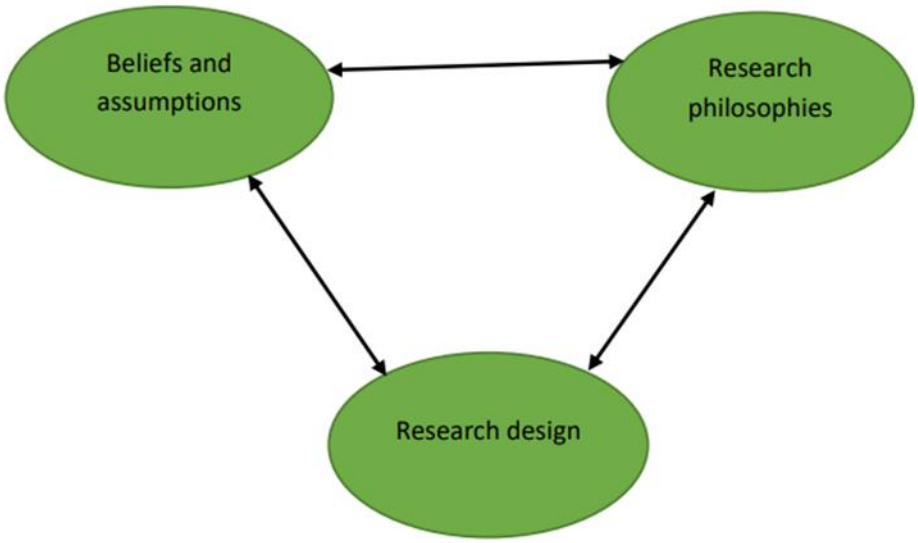

Figure 5.2: Research philosophy development

Source: Saunders and Lewis (2012)

Figure 5.2 shows how a research philosophy is developed. Each of these underlying assumptions determines the research philosophy adopted by the researcher. Turyahikayo (2021) identifies positivism, critical realism, interpretivism, postmodernism and pragmatism as research philosophies in research. Other studies argue that there are two main research philosophies, which are positivism and interpretivism (Junjie & Yingxin, 2022; Kumatongo & Muzata, 2021). All five research philosophies will be discussed in the next section, and this is followed by the selection of best research philosophy suited for this study.

5.3.1 Positivism

The positivism philosophy argues that knowledge is objective and quantifiable (Junjie & Yingxin, 2022). According to Omodan (2022), in terms of ontology, an independent view is adopted, while epistemologically, the proponents adopt the cause-and-effect view, grounded in scientific perspectives. Turska and Ludwig (2023) assert that the positivism approach is centred on the scientific approach, which believes that natural science can be applied to social sciences, as well as to make generalisations. In that philosophy, the proponents believe that reality can be objectively construed and that the information about a phenomenon can easily be collected without a researcher's intervention (Lim, 2023) and the researcher's role is limited to distributing a data collection instrument and to leave the participants to complete it on their own. This explains a value-free axiology used in positivism, where the researcher is totally

detached from the participants (Byrne, 2022). Consequently, observations and experiments tend to be the major instruments used by positivist researchers. The positivism philosophy is based on theories that are used to guide quantitative studies.

5.3.2 Critical realism

This philosophy is based on the structured ontology that forms the lenses to understand what is seen and experienced (Mercier, Sanders & Munford, 2023). Critical realism believes in the independence of reality and that it is beyond what one may perceive as true (Zhang, 2023). In terms of epistemology, critical realism is based on the understanding that reality is historically construed (Koopmans & Schiller, 2022). To understand a research phenomenon, critical realists embark on two crucial steps that are relying on the senses to observe something and create experiences from it. The second step involves cognition, where the mind is activated to recall past events, which can help in understanding what could have caused what was observed. Thus, critical realism argues that what is first observed is ony but empirical evidence; hence, understanding actual reality may require backward mental processing (Mukumbang, 2023). This implies that depending only on empirical evidence in research is not sufficient according to critical realism. Based on the understanding that reality about organisational circumstances can be derived from structured historical events, critical realists often adopt epistemological relativism, where they can be subjective in order to fully understand the phenomenon. In terms of axiology, critical realism philosophy acknowledges that issues of bias maybe common in understanding a phenomenon; hence, there is an emphasis on objectivity to eliminate bias (Frederiksen & Kringelum, 2021).

5.3.3 Interpretivism

The interpretivism research philosophy is an antagonist to the positivist research philosophy. The interpretivism philosophy is subjective in nature and is driven by the desire to understand human behaviour (Ikram & Kenayathulla, 2022; Omodan, 2022). It employs qualitative research methods to help understand and explain human behaviour. This philosophy is of the view that reality cannot be understood from a natural science perspective, but that it requires a researcher's in-depth participation and engagement with the participants, so as to better understand how they construe reality, which explains their ontology (Junjie & Yingxin, 2022). Based on this stance, the interpretivism philosophy proponents argue that it is mainly through the

understanding of one's feelings, emotions and attitudes, as well as body language that reality can be shaped and clearly explained (Finlay, 2021). In the context of business organisations, Junjie and Yingxin (2022) submit that interpretivism is based on the understanding that human beings are unique because of their cultural, language and historical backgrounds, which entails that researchers should immerse themselves in the context of participants if they are to derive meaningful conclusions. Interpretivism is further broken into phenomenology, which tries to understand the experiences of participants, while hermeneuticists use cultural underpinnings to understand reality by investigating the beliefs, norms and symbols, and symbolic interactionists derive meaning and reality by observing participants in social gatherings or meetings (Alhazmi & Kaufmann, 2022). The epistemology in interpretivism is based on narrations and the understanding of unique stories provided by the participants (Godwin, Benedict, Rohde, Thielmeyer, Perkins, Major, Clements & Chen, 2021). In terms of axiology, interpretivism is imbedded in values as the proponents believe that their core values play a significant role in enhancing the rigour of research since the research process requires them to be actively immersed in the research context (Fuyane, 2021).

5.3.4 Postmodernism

Postmodernism is premised on the power of language to question commonly acceptable concepts and uncover suppressed views (Alhazmi & Kaufmann, 2022). Thus, this philosophy challenges the assumptions of positivism and argues that a phenomenon cannot be understood fully based on the objective view, but it needs to be viewed through flexible and unstructured ways. In terms of ontological perspective, postmodernism argues that reality is socially constructed through power relations (Dybicz & Hall, 2021). Because of power imbalances, some reality may end up being dominant, while others are suppressed. Thus, the epistemology of postmodernism is based on uncovering hidden reality, suppressed voices and texts by challenging commonly accepted reality, which became dominant because of power relations (Alhazmi & Kaufmann, 2022). As such, the postmodernism philosophy is premised on deconstructing what is accepted as reality in order to validate the truth that has been marginalised (Wheatley, 2021). This is achieved by questioning the power relations that have approved and sustained that reality. Ideally, under this philosophy, researchers are encouraged to investigate and deconstruct existing data, knowledge

and theories in order to validate and legitimise previously overlooked truth and reality (Alhazmi & Kaufmann, 2022). In terms of axiology, there is strong emphasis on values, but it is based on power relations between the researcher and the participants (Shan, 2022).

5.3.5 Pragmatism

The pragmatism philosophy is based on the idea that research is only useful if it can result in action (Allemang, Sitter & Dimitropoulos, 2022). Also, this philosophy endeavours to make both the objective and subjective perspective useful by basing its assumptions on theoretical underpinnings, ideas and hypotheses, which are all premised on leading to practical actions (Allemang et al., 2022). Ideally, pragmatist researchers' quest to investigate a phenomenon is informed by an obvious, existing problem, which requires a tangible solution (Ramanadhan, Revette, Lee & Aveling, 2021). To identify that a problem exists in the current knowledge, the pragmatists may start doubting it, which then pushes them to initiate a concept that can successfully lead to action (Kistruck & Slade Shantz, 2022). Based on the desire to derive practical solutions, pragmatic research may incorporate both the objective and subjective approach to gather quality data (Dawadi, Shrestha & Giri, 2021).

Research philosophy adopted in this study

The positivism research paradigm was chosen because it utilises formal propositions, quantifiable measurement of variables, hypotheses testing, and inferences concerning a phenomenon taken from a sample that is representative of a particular population. Positivism stresses the value of utilising or copying methods that are used in natural sciences (Walliman, 2021). Furthermore, positivistic research studies (as in this study) often are steered by theory and hold that reality is objectively provided and is capable of providing guidelines for how firms, workers and customers should behave (Holloway & Galvin, 2023). Positivists seek to attest theory, with the quest to enhance the extrapolative understanding of occurrences and subjects of research (Walliman, 2021).

The positivism epistemological position supports the study at hand, emanating from the fact that the social world is regarded to exist externally and is considered objectively (Walliman, 2021). The researcher selected the positivist's position because it provides independence to the researcher when conducting the research. In this

case, the researcher occupied the part of an objective analyst. According to Casula, Rangarajan and Shields (2021), positivism utilises both deductive and inductive approaches to research and it focuses on the phenomena that are observable by senses as they can be verified as objects and sources of knowledge.

5.4 RESEARCH APPROACHES

There are two research approaches: the deductive and the inductive approaches (Casula et al., 2021; Kumar & Ujire, 2024). These two research approaches are linked to the different research philosophies discussed above. A deductive approach uses literature to construct a conceptual framework/ theory that is tested through a set of data, while an inductive approach collects data first and formulates a theory from the findings (Casula et al., 2021; Naeem, Ozuem, Howell & Ranfagni, 2023). The differences between the two approaches are explained further and diagrammatically illustrated as shown in Figure 5.3 and Figure 5.4, respectively:

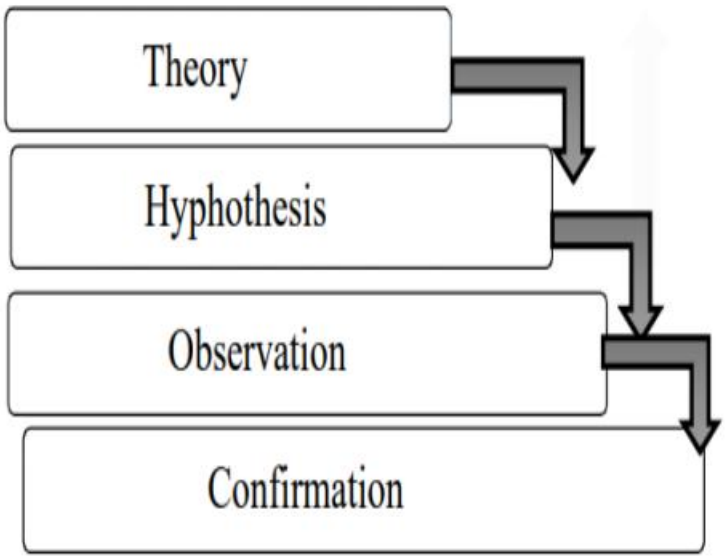

Figure 5.3: Deductive research approach

Source: Adopted from: Casula et al. (2021)

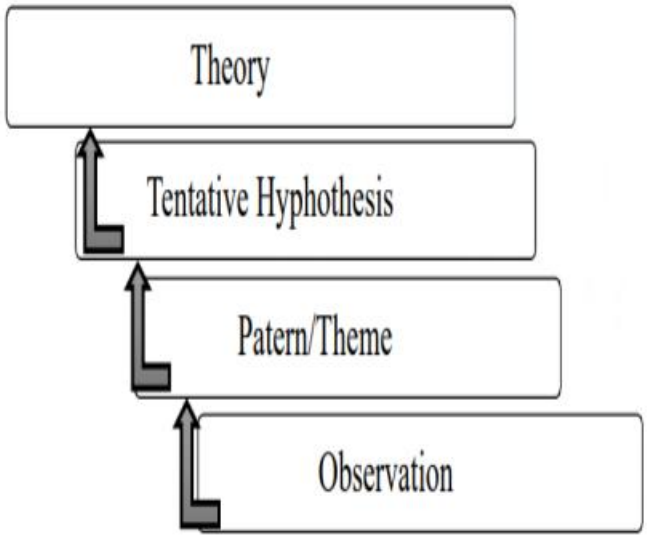

Figure 5.4: Inductive research approach

Source: Adopted from: Casula et al. (2021)

Table 5.1: Comparison between the deductive and inductive research approaches

DEDUCTIVE APPROACH	INDUCTIVE APPROACH
Is informed by an existing theory that is tested	A theory is conceptualised after the findings
Utilises quantitative data	Utilises qualitative data
Researcher independence	The researcher is fully engaged in the entire research process
Takes a structured approach	Takes a flexible approach to accommodate changes encountered in the research process
Generalisability is emphasised	Generalisability is not important

Source: Kumar and Ujire (2024)

In deductive approach, the researcher intends to approve or disapprove an already known theory on the basis of the phenomenon being investigated, whereas the inductive approach is used when the researcher intends to investigate relationships from the primary data, after which they can build a theory to explain that phenomenon (Fardet, Lebredonchel & Rock, 2023). The deductive approach is linked to scientific

research, while the inductive approach is linked to qualitative research, which is subjective in nature (Adler, 2022; Casula et al., 2021; Naeem et al., 2023).

Okoli (2023) points out that an inductive research approach is linked to an interpretivism research philosophy. Conversely, a deductive research approach is mainly associated with the positivism research philosophy. Contrasting the deductive approach to that of the inductive approach, a researcher is most likely to adopt an inductive research approach in studies with no or few theories available to the body of science that needs theories and structures to be generated (Hall et al., 2023) (see Figure 5.3). The inductive approach has no framework that initially informs the data collection, and the framework can be formed after the data has been collected (Casula et al., 2021) (see Figure 5.4). While an inductive approach is more commonly used in qualitative research, a deductive approach aids in developing the hypotheses based upon a given pre-existing theory and thereafter formulates the research approach to test it (Barroga & Matanguihan, 2022; Kumar & Ujire, 2024).

Deriving from the above research approach discussion, this study made use of the deductive research approach. The rationale of this choice was that deductive research was best suited to contexts, where the research is focused on examining whether the observed phenomena fit with expectation(s) based upon previous research (Kumar & Ujire, 2024). Since a deductive approach was considered particularly suited to the positivist approach, it permitted the formulation of hypotheses and the statistical testing of expected results to an acceptable level of probability (Casula et al., 2021). It was, therefore, best suited for this study.

5.5 RESEARCH PARADIGMS

Paradigms have paramount worth in practical and empirical research because they significantly influence the research design together with the outcomes of the research (Guraya, Harkin, Yusoff & Guraya, 2023). Consistently, Kumatongo and Muzata (2021) pinpoint that paradigmatic assumptions have direct implications on the ultimate methodology adopted, the assortment of methods, procedures and tools that are regarded as ideal. Ugwu, Ekere and Onoh (2021) indicate that paradigmatic assumptions also influence the meanings and conclusions that are attached to the findings or data produced through these procedures.

A research paradigm is defined as a supreme viewpoint under which ideas and actions are configured (Kumatongo & Muzata, 2021). Chimakonam and Ogbonnaya (2021) define a paradigm as an all-inclusive worldview, a systematic cosmology, with its associate (often unconscious meta-physical) suppositions concerning truth, knowledge, and reality. Stutchbury (2022) posits that a paradigm relates to the entire arrangement of views, ideals and practices common among members of a particular society. Underpinning each research process is how the three fundamental questions regarding ontology, epistemology and methodology are approached in research (Ugwu et al., 2021). Omodan (2022) states that paradigms guide a research study ontologically and epistemologically when a researcher is deciding upon a research methodology.

A research paradigm, when established, stands as a set of lenses before the researcher. The set of lenses enables the researcher to regard the fieldwork within prescribed set of assumptions, thereby integrating the abstract value of the paradigm with the pragmatics of carrying out demanding research (Allemang et al., 2022). Accordingly, Liu (2022) pinpoints that there is a significant difference between paradigms, and researchers should avoid combining them. Liu (2022) argues that selecting a research paradigm should precede making a choice on the research methodology, because the former ought to influence the methodological decisions in research. Ontology and epistemology are regarded as the beginning point of the research process (Guraya, Harkin, Yusoff & Guraya, 2023).

5.5.1 Research ontology

The ontological question asks about the nature of ‘reality’, as well as the existence of what is to be known (Lim, 2023). Ontology pertains to what is reality and how existence can be understood. Kumatongo and Muzata (2021) argue that questions of social ontology focus on the manner of social objects. The concept of ontology is closely intertwined with the concept of epistemology. While epistemology is concerned with knowing − ontology focuses on the aspect of being (Ylönen & Aven, 2023). Ontology is a composite term emanating from the Greek language, with words ‘onto’ meaning being and ‘logo’ referring to study. Matta (2022) argues that ontology is a mechanism of belief that reveals the researcher’s construal pertaining to what makes up a fact.

Simply put, ontology is concerned with the principal problem of whether social entities should be regarded as objective or subjective (Guraya et al., 2023). Objectivism (or positivism) and subjectivism are the two significant aspects of ontology. Ontologically, the positivism paradigm regards knowledge as facts that are based on rigorous theoretical reviews (Turyahikayo, 2021). Positivism argues that facts are facts. According to Godwin et al. (2021), positivism considers the world as outside, which should be ascertained or measured utilising objective mechanisms. Objectivism presupposes the condition that social entities are in existence externally to the social actors concerned with the reality being searched. In other words, the objectivism ontological position holds that social phenomena and their meanings exist separate from that of social actors (Handema, Lungu, Chabala & Shikaputo, 2023).

On the other hand, the interpretivist paradigm regards the world as subjective to the interpretation of the people as the social actors (Pervin & Mokhtar, 2022). Subjectivism (also regarded as constructionism or interpretivism), considers that social phenomena emanate from perceptions and subsequent activities of the social actors involved in their existence. According to Fuhse (2022), constructionism can be formally viewed as ontological viewpoint, which stresses that social phenomena and their meanings are continually being accomplished by social actors. The constructionism ontological position contradicts the position that categories such as organisation and culture are presupposed and therefore considers social actors as outside realities that play no influential role (Eberle, 2023).

5.5.2 Research epistemology

Epistemologically, a paradigm addresses the manner of the relationship between the researcher and knowledge (Omodan, 2022). Urhahne and Kremer (2023) describe epistemology as the part of the research that addresses the question of what is (or should be) deemed to be tolerable knowledge within a discipline. Sol and Heng (2022) further elucidate that as far as epistemology is concerned, the major concern is on the principles that should be utilised in studying the social world. Ugwuanyi (2021) indicates that epistemology is apprehensive of the prospects, nature, origins and constraints of knowledge in a particular discipline of study.

Sol and Heng (2022) cite various epistemic stances that researchers can occupy in the quest to obtain knowledge. These epistemic stances have a significant influence

on the kind of knowledge researchers obtain. The famous epistemic stances that researchers can occupy include pragmatism, positivism, operationalist, referential, instrumentalist, empiric, rationalistic, realism, and more. Epistemic stances influence how knowledge is obtained because they posit a systematic consideration of reality, the knowledge about reality, and the meaning attached to the reality (Lim, 2023). Consequently, the research on hand was conducted under the positivism epistemic stance.

Researchers could also utilise the interpretivism epistemological approach, where the interpretivists argue that it is impossible to understand the social world through the utilisation of research principles obtained from natural sciences. Instead, the interpretivism approach holds that research in social sciences should be conducted using an unrelated research philosophy (Dewi, 2021; May & Perry, 2022). For interpretivists, this argument emanates from the premise that the subjects being researched in social sciences (human beings and organisations) are significantly different from those of natural sciences (Junjie & Yingxin, 2022). According to Pilarska (2021), interpretivism has three elementary principles, namely: the social domain is created and the meaning is subjectively created by the human beings; the researcher is included in the observation being made' and the research is propelled by interests.

However, interpretivism was disregarded in this study because of its primary demerits. Interpretivism has the major problem of generalisability of findings. This becomes a major concern considering the incessant changes of the business world (Pilarska, 2021). Furthermore, the collection of data in interpretivism can be challenging and time-consuming and the researcher is required to be part of what is being researched (Mwita, 2022; Omodan, 2022). The subsequent section will focus on the research design.

5.6 RESEARCH DESIGN

A research design outlines the methods and procedures for collecting and analysing the needed information. A research design provides insights for solving the research problem (Jack & Phoenix, 2022; Walliman, 2021). In addition, a research design offers the framework that guides the utilisation of a research method and the analysis of the resultant data (Liu, 2022). The research design determines how the researcher will exhibit causal associations between the variables being researched (Taherdoost,

2021). Through the research design, the way the researcher understands and describes behaviours, and their meaning can be attached to that behaviour in the given social context. Tawodzera, Mabasa and Themane (2022) elucidate that the research design also determines how researchers describe social phenomena, their associations and transformations over time.

The selection of a research design stipulates the choices pertaining to the value placed upon the various dimensions of the research process (Walliman, 2021). Also, research designs ascertain the extent to which results are generalisable to the whole population as individuals or organisations other than those participating in the research (Taherdoost, 2021). There is a myriad of research designs and their categorisation is non-harmonious. Dawadi et al. (2021) indicate that there are various dimensions that can be utilised to classify research designs.

According to Leavy (2022), five research designs exist, namely, experimental, cross-sectional, longitudinal, case study and comparative. Casula et al. (2021) cite that research designs can be classified as exploratory, causal and descriptive. Remler and van Ryzin (2021) note that research designs can either be exploratory, formal, monitoring, communication, experimental, ex-post facto, descriptive, causal, cross-sectional, longitudinal case study, statistical study, field setting, laboratory research, simulation, actual routine, modified routine, and many others. Qualitative, quantitative and a combination of the two designs, which is termed methodological triangulation, are also used as the basic three types of research design (Taherdoost, 2022). The next sub-section discusses the differences between quantitative and qualitative research for a better understanding of the choice of quantitative measures for this study.

5.6.1 Qualitative research

Qualitative data is non-statistical and is usually unstructured or semi-structured. This information is seldom quantified or using hard numbers that are used to create graphs and charts (Matanda, 2022). Instead, it is classified according to its properties, features, symbols and other descriptors. Qualitative data can be used to ask the questions of why and how (Taherdoost, 2021). They are investigative and often open-ended, pending further research. The generation of data from qualitative research is

used for theorisation, interpretation, hypothesis development and first insights (Casula et al., 2021; Deterding & Waters, 2021).

Tarmini, Safi'i and Aulia (2022) characterise qualitative research as meanings, concepts, definitions, metaphors, symbols and descriptions of things. This definition clearly shows that qualitative research contains all the necessary tools that can evoke memory that supports problem-solving (Reed, Ferré, Martin-Ortega, Blanche, Lawford-Rolfe, Dallimer & Holden, 2021). Jain (2021) suggests that qualitative data tools, such as observation, open-ended questions, in-depth interviews (audio or video) and field notes, are used to collect data from participants in their natural environment. The methods used in data collection give a full description of the research in relation to the participants involved (Alam, 2021). The observation by the participants and the focus group nature of the qualitative research approach provides an additional understanding of the participants' behaviour. The qualitative research approach provides ample data about real people and situations (Muzari, Shava & Shonhiwa, 2022).

5.6.2 Quantitative research

Quantitative research is a systematic scientific investigation of quantitative properties and phenomena and their relationships (Amadi, 2023). The objective of the quantitative approach is to develop and employ mathematical models, theories and/or hypotheses pertaining to a phenomenon. The provision of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Borgstede & Scholz, 2021). Sekaran and Bougie (2012) state that the requirements for quantitative research include (1) the generation of models, theories and hypotheses; (2) the development of instruments and methods of measurement; (3) the collection of empirical data; (4) the analysis of data; and (5) the evaluation of results (Heckman, Carver, Sherriff & Al-Zubidy, 2021). Quantitative research is the examination of methods of research objectives, and the evaluation of associations between variables (Duckett, 2022). A variable can be documented as dynamics easily manipulated on research (Sekaran & Bougie, 2023). The word quantitative is regarded as numbers or units. Data gathered during a specific study is captured in quantities or numerically; hence, captured information is considered statistical data (Taherdoost, 2021).

Quantitative research is considered the most suitable research method when sampling large results and making generalisations and leads to the acquisition of data and the study of correlation between variables (Mertens, 2023; Pandey & Pandey, 2021). These outcomes are quantified in numbers (Taherdoost, 2021). The current study made use of a quantitative research design. This method involves the collection of primary data samples with the intention of projecting results on a wider population (Bell, Bryman & Harley, 2022). This method was selected because it uses numerical data to collect information that can, in turn, be used to explain and determine connections between variables. The method can also be used to test cause-and-effect queries. The research approach was quantitative in nature as Likert scales were used to quantify the responses (Alabi & Jelili, 2023). Quantitative research enabled the researcher to use statistical tests to analyse the data (Mertler, Vannatta & LaVenia, 2021). This study adopted quantitative research as the objective was to explore the relationship between GEL and the OCBE of hotels: the role of GLO, GOC, EPO and GWE as mediating variables and EC as moderating variable in the relationship. The quantitative approach was used because the design commonly uses a method to measure the relationship between variables. Utilising computational methods cantered on surveys and the numerical gathering of data, quantitative research uses ways to gather, analyse and apply data (Tiersma, Reichman, M., Popok, Nelson, Barry, Elwy, Flores, Irwin & Vranceanu, 2022). Table 5.2 below indicates some common differences between quantitative and qualitative research approaches for additional differences in the two commonly used approaches.

Table 5.2: Comparison of quantitative and qualitative research approaches

Research aspects	Quantitative	Qualitative
Types of questions	Limited probing	Probing
Approach	Measure and test	Observe and interpret
Research independence	Researcher uninvolved, observer results are objective.	A researcher is intimately involved, results are subjective.
Common purpose	Test hypotheses or specific research questions.	Discover ideas used in exploratory research with general research objects.
Most often used	Descriptive and causal research designs.	Exploratory research design.
Samples	Large samples to produce generalisable results.	Small samples and often in natural setting.
Degree of replicability	High	Low
Data collection approach	Structured response categories provided.	Unstructured, free form.

Source: Adopted from Dehalwar and Sharma (2024)

5.6.3 Mixed-methods design

Mixed-methods can be defined as research where the researcher collects, analyses and integrates the results and draws conclusions, using both qualitative and quantitative approaches and methods in a single study (Dawadi et al., 2021). Such research is not constrained by the use of traditional data collection approaches, but it is guided by an inquiry underlying the research activity (Leavy, 2022). A mixed-methods study includes a qualitative and a quantitative dimension, but difficulties often arise when the researcher attempts to articulate how the two elements are related (Amadi, 2023; Kurniawan, Ardiansyah, Aryanti, Ujihanti & Meirani, 2021; Mertens 2023).

However, there is disagreement among researchers about what constitutes mixed-methods research (Dawadi et al., 2021; Fàbregues, Escalante-Barrios, Molina-Azorin, Hong & Verd, 2021). Some interpretations see mixed-methods as the collection and

analysis of quantitative and qualitative data (Dawadi et al., 2021). Fàbregues et al. (2021) note that the more contemporary writings in this area have attempted to develop an understanding of the importance of fully integrating the two approaches. Åkerblad, Seppänen-Järvelä and Haapakoski (2021) argue that as mixed-methods research is still evolving, discussion of what it is should be kept open. Similarly, Ngulube and Ngulube (2022) suggest that the definition of mixed-methods research will change over time as this research approach continues to develop. Depending on the data needed for a study's challenge, one of three research kinds can be employed in quantitative, qualitative, or both forms of research. Exploratory, descriptive, explanatory and incidental are the three categories of study.

5.6.3.1 Explanatory research

Explanatory research design is employed to develop, delve deeper into and illuminate researchers' concepts and hypotheses (Naeem et al., 2023). According to Toyon (2021), this kind of study strategy is used to isolate the as-yet-unexplored facets of a particular subject and attempt to fill in the blanks. Makri and Neely (2021) examines how ideas may be developed and tested in a particular field of study via explanatory research. An explanatory study identifies causes, confirms the causal relationships between variables and assesses the effects of social behaviour (Toyon, 2021). Previous assertions of behaviour are frequently kept on file for use in the future when new information is received (Makri & Neely, 2021). An explanatory study must provide the reasons behind events. This sort of study uses data collection to examine and test ideas or hypotheses (Toyon, 2021).

5.6.3.2 Experimental research

It is a random design that observes the influence of the independent variable on the dependent variable (Silver & Kelsay, 2023). It is an extremely practical research design method as it helps solve a pending problem (Kandi & Vadakedath, 2021). The independent variables are manipulated to monitor the change in the dependent variable (Ge, 2023). Liu, Jones, Uzzi and Wang (2023) suggest that it is widely used in the social sciences to observe human behaviour through the analysis of two groups. Researchers can have participants change their actions and examine how people around them react to gain a better understanding of social psychology (Bamberg & Verkuyten, 2022; Silver & Kelsay, 2023).

5.6.3.3 Descriptive research

When researchers are primarily concerned with explaining the circumstance or case under inquiry, they will utilise a descriptive design (Priya, 2021). Descriptive research helps to clarify the research topic and provide answers to the following questions: who, what, when, where and how (Taherdoost, 2021). The understanding that the researcher already knows or understands the underlying connections of the study topic is implicit in descriptive research. It is a theory-based design approach, where data is gathered, examined and communicated (Kamper, 2020). Although the researcher may have a basic knowledge of the research topic, it is still necessary to obtain compelling data that answers the question to direct the method (Biber, Gray, Staples & Egbert, 2021).

In this way, the researcher can provide information about the why and how of the research. Descriptive design helps others better understand the research needs (Taherdoost, 2021). However, Makri and Neely (2021) and Haile (2023) posit that exploratory research can be utilised when the problem is not clear. Although the researcher may have a general knowledge of the research topic, it is still necessary to collect solid data that answers the question to inform the strategy (Haile, 2023). There are two methods for conducting descriptive research: longitudinal and cross-sectional (Brauer, Sendatzki & Proyer, 2022). A fixed sample of items (a panel) is frequently measured in longitudinal research (Asiamah, Mends-Brew & Boison, 2021). On the other hand, cross-sectional studies are a sort of study in which data is only ever gathered once from each member of the sample population (Lu, Xu, Huang, Li, Ma, Xu, Yin, Xu, Ma, Wang & Huang, 2021). This study used the cross-sectional approach, where data was collected from the participants only once through the survey method (Asiamah et al., 2021).

5.6.3.4 Causal research

Causal research determines if a variable represents or causes another factor's value (Hashemi, Amoozad Mahdiraji, Azari & Razavi Hajiagha, 2022). According to causal analysis, there is a cause-and-effect connection between the dependent and independent variables (Remler & van Ryzin, 2021). A symbol or idea that is anticipated to be explained or influenced by an independent variable is known as a dependent variable (Abenavoli, Rojas, Unterman, Cappella, Wallack & Morris, 2021). A symbol or idea that the researcher has some influence over is referred to as an independent

variable (King, Keohane & Verba, 2021). According to Kline (2023), in order to obtain correct findings, additional confounding variables that may impact the outcomes are either kept constant while the data is being collected, or they are under statistical control.

A researcher can never be certain that there are no other hidden variables impacting the causal relationship between two variables, causal research is particularly difficult to do (Zhao & Hastie, 2021). An organisation may use causal research, for instance, to look at how its consumers respond when the price of its items increases. They could conduct experiments to determine how various elements influence clients' behaviour (Zhao & Yao, 2021). However, they can never be certain because there can be some unobserved factors that could influence consumer choices even more (Dwivedi, Ismagilova, Hughes, Carlson, Filieri, Jacobson, Jain, Karjaluoto, Kefi, Krishen & Kumar, 2021). No matter how careful a researcher is to obtain accurate results, there can always be a few psychological factors that a consumer might consider that are influencing them even if they are not conscious of them (Zhao & Yao, 2021). Only if there is causal evidence supporting the relationship between the two variables can the cause-and-effect relationship be verified (Khuong, Ly & Anh, 2023).

The selection of the appropriate research approach in a particular study should be based on the problem of interest, the available resources, the skills and training of the researcher and the audience for the research (Sharma, Jha, Koirala, Aryal & Bhattarai, 2023). Despite the fact that certain studies may employ both quantitative and qualitative methodologies in their purest form, the underlying premises of both approaches, as well as the methods used for gathering and analysing data, differ significantly (Fellows & Liu, 2021; Thomas, Martin, Etnier & Silverman, 2022). This study used the quantitative research methodology, which is defined as an objective, formally structured and systematic process that generates information using numerical data on a specific research topic (Sharma et al., 2021). It involved the gathering of numerical data, as well as the justification of the relationship between theory and study by using an unbiased understanding of social reality. Utilising statistics to analyse data was the primary component of this quantitative approach (Balakrishna, Manda, Mwambi & van Graan, 2022).

5.7 DATA COLLECTION METHODS

Information gathered by a researcher expressly for a study project is known as primary data (Zina, 2021). It is important for the researcher to gather primary data when no previous data has been compiled or published in a forum accessible to the public (Cerar, Nell & Reiche, 2021). Hatch (2023) states that primary data is original in nature and directly relates to the issues or problems and current data. Primary data has not undergone human intervention or alteration; its validity is higher than that of secondary data (Taherdoost, 2021). The following are primary data collection methods.

5.7.1 Observation

Observation is a process by which observers (humans or machines) obtain primary data about the behavioural pattern of people, objects, or events. Observation involves collecting information without asking questions (Lofland, Snow, Anderson & Lofland, 2021). Uwamusi and Ajisebiyawo (2023) suggest that this method is more subjective as it requires the researcher or observer to add their judgement to the data. However, in some circumstances, the risk of bias is minimal. For example, if a study includes the number of people in a restaurant at a given point in time, provided the observer does not miscount, the data should be reasonably reliable (Spector, 2021). Variables that require distinctions from the observer, such as how many millennials visit a restaurant in a given period can lead to potential problems (Dhawan & Choo, 2021; İlhan, Balyalı & Aktaş, 2022). Observation can determine the dynamics of a situation that generally cannot be measured by other data collection techniques (Taherdoost, 2021). Observation can also be combined with additional information such as video (Virues-Ortega, Casas, Martin, Tarifa-Rodriguez, Hidalgo, Cox & Navarro Guzmán, 2023).

5.7.2 Experiment

An experiment is a type of data collection method where the researcher changes some variables and observes how they affect other variables (Duckett, 2021). The variables the researcher manipulates are said to be independent, while the variables that change as a result of manipulation are dependent (Szinay, Cameron, Naughton, Whitty, Brown & Jones, 2021). According to Fellows and Liu (2021), the main advantage of conducting an experiment is the ability to investigate causal linkages, which is not possible with observational research. Experimental research may be used in a variety of disciplines, including sociology, psychology, agriculture and medical research (Box-Steffensmeier, Burgess, Corbetta, Crawford, Duflo, Fogarty, Gopnik,

Hanafi, Herrero, Hong & Kameyama, 2022). However, experiments have the drawback of being costly and time-consuming (Jain, 2021; Taherdoost, 2021).

5.7.3 Survey

A poll is used to evaluate someone's opinions, beliefs, feelings, traits, needs and actions (Jain, 2021). It involves asking participants to respond to questions, and once the survey has been completed, their responses are examined (Sammut, Griscti & Norman, 2021). In survey research, participants are chosen from the population by the researcher using a structured questionnaire. As other data collection techniques were insufficient for examining the research objectives of this study, the survey research method was employed (Mazhar, Anjum, Anwar & Khan, 2021). A survey approach was also chosen because of its benefits, which include being less expensive, taking less time and being a reliable way to analyse data on a certain population (Jain, 2021). Even though there are various merits about the survey method, the researcher has to decide on the type of method to carry out (Rashid, Rasheed, Amirah, Yusof, Khan & Agha, 2021). There are two types of studies a researcher must choose from, namely, cross-sectional and longitudinal studies.

According to Cvetković-Vega, Maguiña, Soto, Lama-Valdivia and Correa-López (2021), the study setting is not changed by the researchers as they collect data on their subjects. The distinguishing characteristic of a cross-sectional study is its ability to compare various demographic groupings at a particular point in time (Rashid et al., 2021). Consider it like taking a picture. Whatever fits within the frame is used to form conclusions (Cowman, Holleran, Lonergan, O'Connor, Birchwood & Donohoe, 2021). A cross-sectional study design has the advantage of enabling researchers to compare numerous factors at once (Dash & Paul, 2021).

However, cross-sectional studies may not provide conclusive evidence of cause-and-effect links (Maier, Thatcher, Grover & Dwivedi, 2023). Kuçukkarapinar, Karadag, Budakoglu, Aslan, Ucar, Yay, Timurcin, Tumkaya, Hocaoglu and Kiraz (2021) report that this is because such studies provide only a moment; they do not take into account what happens before or after the snapshot is taken. Therefore, one is unable to definitively determine whether the daily walkers had low cholesterol prior to beginning their exercise programmes or whether their daily walking behaviour helped reduce previously high cholesterol (Arippa, Nguyen, Pau & Harris-Adamson, 2023; Salway,

Foster, de Vocht, Tibbitts, Emm-Collison, House, Williams, Breheny, Reid, Walker & Churchward, 2022). The following discussion will be based on survey research and how different methods of a survey can be used in a research study.

5.7.3.1 Various methods of conducting surveys

Olson, Smyth, Horwitz, Keeter, Lesser, Marken, Mathiowetz, McCarthy, O'Brien, Opsomer and Steiger (2021) point out that the methods for conducting surveys are in-person interviews, telephone surveys, written surveys, online surveys, and self-administered surveys.

Face-to-face interviews

Face-to-face interviews are methods of gathering information from participants that are significantly more effective than other methods because participants are more likely to trust the surveyors and provide open and honest feedback on the topic at hand (West, Zhang, Wagner, Gatward, Saw & Axinn, 2023). Researchers are highly effective when discussing difficult subjects because they can quickly tell if their subjects are uncomfortable with the questions they are being asked (Lareau, 2021). Compared to in-person surveys, telephone surveys need far less investment (Chang, Lai, Gupta, Nguyen, Berry & Shelley, 2021).

Telephone survey

Telephone surveys can be as expensive as or somewhat more expensive than internet surveys, depending on the necessary reach (Biffignandi & Bethlehem, 2021). Alaloul, Qureshi, En, Khan, Musarat, Alzubi and Salaheen (2023) state that telephone surveys are less time-consuming and labour-intensive methods of contacting participants than in-person interviews. If interviewers are in the same location as the participants, they can cross-check their questions to make sure the intended audience is asked questions that are free of errors (Philipps & Mrowczynski, 2021). The biggest disadvantage of using the telephone to conduct surveys is that it is difficult to build a friendly rapport with the participant because of the barrier created by the medium (Olson & Smyth, 2021). Since the researcher's credibility can be questioned, participants are also very likely to opt to remain anonymous when providing feedback over the phone.

Mail-in

Mail-in questions are some of the most popular styles of self-administered surveys. Mail surveys are another style of survey that is frequently employed (Huebner & Zacher, 2021). This type of survey uses the traditional mode of data collection of pen and paper because they may be used in places where laptops, computers and iPads cannot be utilised (Weigold, Weigold, Dykema, Drakeford & Martin-Wagar, 2021). Monzon, Julio and García-Martinez (2020) state that this technique improves the quantity and quality of survey responses obtained when collecting survey data for field research. Mail-in surveys are a method of collecting data through a self-administered questionnaire that is sent to participants via postal mail (West et al., 2023). This method is often used in conjunction with other methods, such as online surveys, to collect data from a wider range of participants (Jones, 2022). Mail-in surveys can provide in-depth data, as participants are not limited by the length of an online survey (Taherdoost, 2021). This allows researchers to gather more detailed information and ask more complex questions.

Online surveys

Online surveys have become a popular method for conducting surveys in various fields, including marketing, social sciences, and education (Bell, Bryman & Harley, 2022). The advantages of online surveys over traditional methods, such as paper-based surveys or face-to-face interviews, are numerous (Tate & Smallwood, 2021). Online surveys are the fastest and cheapest way to gather data and reach the widest audience (Douglas, Ewell & Brauer, 2023). These surveys perform much better than the other data collection techniques in terms of reach (Schneider, D. & Harknett, 2022). Some researchers prefer to conduct online surveys over the more conventional in-person or telephone surveys when multiple questions need to be asked of the target sample (van Quaquebeke, Salem, van Dijke & Wenzel, 2022).

Another illustration of a self-administered survey is an online questionnaire distributed to participants via email invitations (Nanes & Haim, 2021). For this study, data from participants were gathered via a self-administered survey and a questionnaire was sent out as the main study instrument. A questionnaire is a defined series of questions used to gather data from participants (Kim, Cho, Kim & Chu, 2021). An open-ended questionnaire is a pre-coded, systematic and standard technique that is occasionally

used to collect data from participants who record their answers (Taherdoost, 2021). The researcher used a questionnaire to collect data from participants as it ensured that information from different participants is comparable (Saunders & Kulchitsky, 2021). The responses obtained through questionnaires can be easily coded, facilitating data processing (Nanes & Haim, 2021). In addition, the use of questionnaires saves time and money (Albarrak, Mohammed, Almarshoud, Almujalli, Aljaeed, Altuwaijiri & Albohairy, 2021). The questionnaires were personally sent to the participants by the researcher, but the participants completed them without the researcher's intervention.

Self-administered surveys

Self-administered surveys, also known as self-report surveys, are a type of survey methodology where participants complete a questionnaire on their own, without the assistance of an interviewer (Taherdoost, 2021). The term 'self-administered survey' refers to a data gathering procedure where the researcher is completely absent while participants complete the survey (Wolf, Christmann, Gummer, Schnaudt & Verhoeven, 2021). Berinsky, Margolis, Sances and Warshaw (2021) state that the researcher delivers the survey to the participants along with instructions on how to complete it, then waits for the responses. In a self-administered survey, most questions tend to be close-ended and pre-coded to allow for ease of completion. However, open-ended questions allow participants to express their ideas completely and without any limitations (Wolf et al., 2021). This method is widely used in social sciences, market research, and healthcare studies to gather information from a large sample size (Shearer, 2021). Self-administered surveys can be more cost-effective than traditional interviewer-administered surveys, as they do not require the presence of an interviewer (Olson, Smyth, Horwitz, Keeter, Lesser, Marken, Mathiowetz, McCarthy, O'Brien, Opsomer & Steiger, 2021). Furthermore, self-administered surveys can provide the participants' anonymity, which can increase the likelihood of honest responses (Saunders & Kulchitsky, 2021).

The survey method was deemed instrumental in this study as the researcher was not interested in or had minimum control over behavioural incidents. Also, the survey method was considered relevant as it ensured an accurate way of evaluating data about the sample and enabled the researcher to reach conclusions about the findings

from a sample of responses to a population (Taherdoost, 2021). Self-administered questionnaires were selected to gather primary data for the research.

However, before and after collecting data, some errors may occur, and the researcher ought to mitigate potential errors in data collection (Taherdoost, 2021). Common mistakes identified in several research studies can be combined into fieldworker error and participant error. There are other types of errors, which include, but are not limited to, intentional participant and unintentional participant errors. The mechanisms of controlling these stated errors include ensuring anonymity, confidentiality, validation checks, person tactics, crafting well-formulated questions, assessing direct questions, reversal of scale endpoints, instituting frequent breaks, and alternative surveys (Badampudi, Fotrousi, Cartaxo & Usman, 2022).

5.7.4 Cross-sectional study

A cross-sectional study is a type of observational study that involves collecting data from a sample of participants at a single point in time (Wang & Cheng, 2020). It is a primary data collection method that allows researchers to examine the characteristics, behaviours, and outcomes of a population at a specific point in time (Butler, Battista, Leatherdale, Meyer, Elliott & Majowicz, 2022). It is a common research design used in various fields, including medicine, social sciences, and economics (Priya, 2021). Cross-sectional studies can be classified as descriptive or analytical, depending on whether the outcome variable is assessed for potential associations with exposures or risk factors (Wang & Cheng, 2020). Descriptive cross-sectional studies simply characterise the prevalence of one or multiple health outcomes in a specified population (Razdan, Jungnickel, Schropp, Væth & Kirkevang, 2022). In analytical cross-sectional studies, investigators collect data for both exposures and outcomes at one specific point in time for the purpose of comparing outcome differences between exposed and unexposed subjects (Simkus, 2023). The exposures and outcomes are measured simultaneously; therefore, it is difficult to determine whether the exposures preceded or followed the outcomes in an analytical cross-sectional study (Zuleika, 2022). In a subtype of cross-sectional study, known as the repeated (or serial) cross-sectional study, data collection is conducted on the same target population at different time points (Rossor, Kapoor, Wellington, Spaulding, Sleigh, Burgess, Laura, Zetterberg, Bacha, Wu & Heslegrave, 2022). At each time point, researchers take a different sample (different subjects) of the target population. Thus, repeated cross-

sectional studies can be used for analysing population changes over time (also known as aggregate change over time) (Razdan et al., 2022). They cannot be used to look at individual change (as in a cohort study). Cross-sectional studies are often less expensive than longitudinal studies, as they require only a single data collection point (Simkus, 2022).

5.7.5 Longitudinal study

A longitudinal study is observational like a cross-sectional study. Once again, researchers respect the privacy of their subjects (Butler et al., 2022). Researchers observe the same themes over and over in the course of a longitudinal study that can stretch out over years of time (Ma & Green, 2023; Petersen, Apfelbaum & McMurray, 2022). A longitudinal study has the advantage of allowing researchers to track changes or developments in the characteristics of target populations at both group and individual levels (Benzeval, Crossley & Aguirre, 2023). Crucially, longitudinal studies cover a longer period of time than a single moment (Deppermann & Pekarek Doehler, 2021). As a result, they are able to create timelines. In general, the design should be influenced by the research (Hill, Kivi, Hansson, Thorvaldsson & Allemand, 2022).

The best design may, however, occasionally be determined by how the research develops. Studies that are cross-sectional rather than longitudinal can be completed more quickly (Hill et al., 2022). Baranger, Finsaas, Goldstein, Vize, Lynam and Olino (2023) suggest that researchers can start with a cross-sectional study to determine if there are correlations or relationships between different variables. To study cause-and-effect, they would then set up longitudinal research. This study used the cross-sectional type of observation since it is relatively cost-effective and less time-consuming than other types of research and provides the researcher with a quick, simple and affordable way to get information (Brauer et al., 2022; Conlin, Hoffman, Steinley & Sher, 2022). Cross-sectional studies can be carried out easily and affordably by using methods like personal interviews, telephone surveys, mail surveys, self-administered surveys and computer-assisted surveys. This enables researchers to gather a large amount of data quickly (Hill et al., 2022; Taherdoost, 2021). The following section will discuss the types of methods in conducting surveys.

5.7.6 Designing the research instrument

Structured questionnaires were employed in this research study. As a research instrument, structured questionnaires utilise predetermined questions to gather the data. In line with the large volume of data that was required for the study, questionnaires were regarded to be highly effective (Keshavarz & Shekari, 2020). Self-administered questionnaires were personally distributed by the researcher. The researcher chose this technique because of its convenience and effectiveness in communication. The questionnaire primarily constituting 5-point Likert scale type of questions was operationalised based on former works. Likert scales are deemed to be highly reliable and resulting in large quantities of data as compared to other forms of scales. They are also relatively quick and easy to formulate (Jebb, Ng & Tay, 2021). Paap, Anders-Jefferson, Balakrishnan and Majoubi (2023) posit that Likert scales have a significant advantage in that they are free from bias.

Annexure 1 provides details of the structured self-administered questionnaire used in this study. The self-administered questionnaire incorporated a cover letter that explained what the research is about and informed participants of their anonymity as part of upholding ethics, to be discussed later. The cover letter provided participants with the contact details of the researcher; this was done to allow participants to contact the respective individuals if they needed any clarification for any research-related matters. The questionnaire of this study is divided into six sections, namely: (1) demographic information, (2) green empowering leadership, (3) organisational factors, (4) employee factors, (5) environmental concern and (6) organisational citizenship behaviours for the environment.

The next sub-section provides a discussion on the construct and scale development process included in the questionnaire.

5.7.6.1 Construct and scale development

The operationalisation of constructs is essential to suit a study's contextual requirements, and this influences the development of scale items. Shuttleworth (2021) defines operationalisation as the procedure of appropriately defining conceptual variables into measurable factors. The process aims to define uncertain concepts evidently and permits them to be measured quantitatively and empirically.

Elangovan and Sundaravel (2021) explicate that when developing a questionnaire, a researcher can choose from any of the following options: either formulating a completely new set of questionnaire scale items for the research instrument or adopting (adapt) existing scale items. This study adopted scales from previous empirical studies and adapted them to fit the context of the study, based on their sound psychometric properties (Saunders & Kulchitsky, 2021). Akirmak (2021) emphasises that the adaptation of scale items assists researchers to save time and make reliability comparisons by operationalising variables and Cronbach's alphas that have been tested in previous empirical research.

Table 5.3 presents the study's constructs or variables of interest, the development of scale items in the context of this study and Cronbach's alpha from developed and adapted measurement scales.

Table 5.3: Development of measurement scales

Construct	**Origin**	**Literature reference**	**Cronbach's alpha**
Green empowering leadership	Developed	Arnold et al. (2000)	
Organisational factors			
Green organisational culture	Adapted	Wang (2019)	0.81
Green learning orientation	Adapted	Fong and Chang (2012)	0.80
Employee factors			
Psychological ownership	Adapted	Pierce et al. (1991)	0.87
Green work engagement	Adapted	Schaufeli et al. (2006)	0.85
Co-employees			
Environmental concern	Adapted	Weigel and Weigel (1978)	0.85
Organisational citizenship behaviours for the environment	Adapted	Boiral and Paillé (2012)	0.86

Multi-item scales were the chosen measurement technique for the constructs of interest. According to Saunders and Kulchitsky (2021), multi-item scales refer to

several rating questions used and combined with other rating questions to create a single scale. These items were adopted (adapted) from previous empirical studies, which permitted enhancing the reliability and validity of the applied measures. The provided Cronbach's alphas from previous empirical research in Table 5.4 are a good indication that adopting the scale items from previous studies was suitable for this study as they have shown to be consistent in their scale reliability and validity. Reliability and validity will be discussed later in this chapter.

5.7.7 Study area, population and sampling

5.7.7.1 The study area

The researcher concentrated on hotels in two major towns in Gauteng Province: Johannesburg and Tshwane municipalities. Gauteng is South Africa's economic hub, thus there is an abundance of three-, four-, and five-star hotels available. The two selected municipalities have a diverse range of hotels functioning in various industries. This increased the researcher's chances of collecting the essential data for the study. Johannesburg and Tshwane municipalities are significant cities in South Africa, with a broad and active hospitality industry that caters to both business and leisure tourists. By examining three-, four-, and five-star hotels in these cities, the researcher was able to capture a diverse range of luxury accommodation alternatives according to varied demographics, interests, and needs of tourists. By selecting a sample that represents the population of interest in these cities, the researcher was able to generate valuable insights and findings that contribute to the hospitality industry's knowledge base and support informed decision-making for hotel management, marketing strategies, and policy development.

5.7.7.2 The target population, elements and sampling units

A target population is an all-inclusive pool of the observations of interest to the researcher (Casteel & Bridier, 2021). Sampling is administered in line with the population being investigated (Eisele, Vachon, Lafit, Kuppens, Houben, Myin-Germeys & Viechtbauer, 2022; Noor, Tajik & Golzar, 2022). Thus, the population is the complete set of elements from which a survey is drawn. In this study, the population was mid level hotel managers (Heads of various hotel departments) in the Gauteng Province, which comprised the sample frame for this study. Mid-level managers have a deeper understanding of the day-to-day operations and can effectively communicate with frontline employees, making them well-positioned to

foster green empowering leadership and organizational citizenship behavior. Furthermore, mid-level managers are often at a developmental stage where they are honing their leadership skills, making them more receptive to new ideas and willing to adopt innovative approaches, such as green empowering leadership. The study's focus on mid-level managers allowed for useful, actionable insights that can improve the implementation and success of green leadership programmes in the hotel industry. According to Taherdoost (2021), sampling units refer to the degree of aggregation of the data gathered during the following data analysis phase. Researchers can collect data at more than a single level of analysis (Byrne, 2022). As such, there is need to specify the level at which data is gathered and thereby stipulate the unit of analysis. The sampling units in this study refer to the mid-level managers. The study focused on mid-level managers who work in hotels. This is significant because leadership theories highlight the critical role of mid-level managers in converting the efforts of organisational and executive leadership into better outcomes at various levels of the organisation (Wang et al., 2021).

The study deemed it appropriate to select three-, four and five-star hotels as part of the population of the study. Three-star hotels are often considered mid-range establishments that balance affordability with amenities (Sadhale, 2023). Employees working in these hotels may have a relatively high level of job satisfaction but might not have access to the same level of resources or training as their colleagues in higher-rated hotels (Siaw, Agbenyeke, Gyasi & Afari, 2022). As a result, three-star hotel employees may be more likely to adopt environmentally friendly behaviors out of personal conviction or habit rather than through explicit organizational encouragement. Whilst, four-star hotels typically offer a higher level of service quality and amenities, which may attract employees who value their work-life balance and career development opportunities (Sadhale, 2023). Employees in four-star hotels may be more likely to engage in environmental OCB due to their higher levels of job satisfaction and sense of autonomy (Karatepe, Rezapouraghdam & Hassannia, 2021). Four-star hotels often have more resources dedicated to environmental sustainability, which can facilitate green empowering leadership and OCB. Furthermore, five-star hotels are known for their exceptional service quality, luxury amenities, and high-end reputation (Sadhale, 2023). Employees in these establishments may have a strong sense of pride and loyalty to their organization, which can translate into a willingness

to engage in environmentally responsible behaviors (Zhao, Zhou, He & Jiang, 2021). Five-star hotels often invest heavily in sustainable practices and employee training, which can foster a culture of environmental responsibility (Aboramadan, M. & Karatepe, 2021). Green empowering leadership can thrive in these environments, where employees are encouraged to take ownership of environmental initiatives and make suggestions for improvement. Lastly, the Tourism Grading Council of South Africa website was utilised by the researcher to determine which hotels were three-, four-, and five-stars. This was due to the researcher's ability to obtain the physical address and contact details of such hotels via the website. The Tourism Grading Council of South Africa's website was found to be an appropriate source for information about three-, four-, and five-star hotels in Gauteng province due to its standardised grading system, extensive coverage, established reputation, emphasis on environmental sustainability, ease of use, and objective data.

5.7.7.3 Sample size

According to Pagano, Gauvreau and Mattie (2022), the law of inertia of large numbers asserts that the larger the sample size, the higher the chances for the results to be accurate. In this study, a large sample size was utilised. However, the aspect of sample size determination has been a highly contentious subject within the structural equation modelling community (Ogburn, Sofrygin, Díaz, & van der Laan, 2024). A sample size focuses on the number of participants who are required to take part in a study. In determining the sample size, various factors should be considered by researchers and these include: (a) the nature of the research, (b) the importance of the decision to be made in the study (c) the nature of the analysis, (d) sample sizes adopted in previous related studies and (e) resource constraints (Rahman, 2023; Schuster, Kaiser, Terhorst, Messner, Strohmeier & Laireiter, 2021). Zitzmann, Helm and Hecht (2021) report that larger samples provide much more stable parameter estimates. However, there is no agreement as to what constitutes a large sample size. Gunawan, Marzilli and Aungsuroch (2021) and Lakens (2022) state that a sample size of 100 is poor, 200 is fair, 300 is good, 500 is very good, and 1000 or more is excellent. On the other hand, Althubaiti (2023) emphasises that sample sizes for quantitative research need to be no less than 30 participants for better results to be accomplished.

In addition, a sample size larger than 30 and less than 500 is appropriate for most research studies (Gunawan et al., 2021). When testing a model using partial least

square structural equation modelling (PLS-SEM), the minimum sample size should be 10 times the greatest number of structural routes that are simultaneously directed at the latent component (Sarstedt, Hair, Pick, Liengaard, Radomir & Ringle, 2022). Ringle, Sarstedt Mitchell and Gudergan (2020) contend that sample sizes greater than 30 and lower than 500 are adequate for the majority of studies where the population is unknown. When the population or sample frame is unknown, studies have employed the PLS-SEM as the analytical method (Russo & Stol, 2021).

In partial least squares structural equation modelling (PLS-SEM), the sample size is a crucial consideration for ensuring the reliability and validity of the results (Sarstedt et al., 2021). The appropriate sample size for PLS-SEM is influenced by various factors, including the complexity of the model, the number of constructs and indicators, the level of effect size, the desired statistical power, and the level of precision required for the estimation of parameters (Zeng, Liu, Gong, Hertogh & König, 2021). A common rule of thumb for the minimum sample size in PLS-SEM is to have at least 10 times the number of indicators per construct (Lin, Lee, Liang, Chang, Huang & Tsai, 2020; Sarstedt et al., 2021). In this study, 54 items were used to measure the constructs, and this meant that the sample size of at least 540 (10 x 54) was deemed to be appropriate. The sample size was multiplied by two during data collection to allow for the occurrence of incorrectly completed questionnaires and non-response from the participants. A larger sample size increases the statistical power of the analysis, allowing for more accurate estimation of model parameters.

5.7.7.4 Data collection process

Data collection is crucial in research projects since it involves obtaining information from multiple sources to answer questions, test hypotheses, and evaluate outcomes (Ghauri, Grønhaug & Strange, 2020). This procedure varies greatly, based on the research design, methodologies, and goals (Taherdoost, 2021). The two-wave method of data collection was deemed appropriate as it is a robust technique designed to mitigate common method variance (CMV) in research (Ding, Chen & Jane, 2023). CMV occurs when measurement error is introduced due to the data collection method rather than the actual constructs being measured, potentially biasing results (Köhler, Hartig & Schmid, 2021). The two-wave method involves collecting data at two different points in time, which helps to reduce CMV by temporally separating the measurement of independent and dependent variables (Liao, Huang, Wong, Shyu, Ho, Wang, Cheng

& Teng, 2023). By applying the two-wave method, the researcher can significantly mitigate the risk of CMV, leading to more valid and reliable findings (Ding et al., 2023). This method is particularly valuable in studies where self-reported data on both predictors and outcomes are collected, providing a temporal buffer that helps disentangle true relationships from method-induced artefacts (Dogan, Akbulut, Catal & Mishra, 2022; Howard, 2023).

In wave 1 (T1) the researcher collected data on green empowering leadership and employees' environmental citizenship behavior (OCBE). This wave provided a snapshot of the current state of employees' environmental behaviors and their relationship with leader empowerment practices. In wave 2 (T2), data was collected on the mediators and moderator. Several studies have used the two-wave method with T1 and T2 data to investigate the relationship between green leadership and OCB. Abbas et al. (2022) investigated the mediating role of psychological empowerment in the relationship between green leadership and OCB among Chinese employees. Priyadarshini, Chatterjee, Srivastava and Dubey (2023) explored the effects of green leadership on OCB among employees in an Indian manufacturing organization. Results showed that green leadership was positively related to OCB at T1, and this relationship remained significant at T2 after controlling for initial levels of OCB. Khan and Khan (2022) examined the impact of transformational leadership on OCB in a sample of employees from various industries. Findings indicated that transformational leadership was positively related to OCB at both T1 and T2, suggesting that green leadership has a long-term influence on employees' willingness to engage in OCB.

Pre-hoc common method variance (CMV) refers to the bias introduced in the data collection process due to the method used rather than the actual constructs being measured (Baumgartner, Weijters & Pieters, 2021). This type of variance can significantly affect the validity and reliability of the research findings (Steenkamp & Maydeu-Olivares, 2021). Pre-hoc measures are those taken before the data collection process to mitigate this bias (Kock et al., 2021). Mitigating common method variance (CMV) is crucial to ensure the validity of research findings (Baumgartner et al., 2021). The researcher assured participants that their responses will remain anonymous and confidential. This can reduce social desirability bias, where participants provide answers that they believe are more socially acceptable rather than truthful. A pilot test

was conducted with a small sample, representative of the study population. This helped identify potential sources of CMV and other challenges in the survey design. The feedback was used to refine and improve the survey questionnaire before full-scale data collection. Harman's test involves performing an exploratory factor analysis (EFA) on all the measurement items of a survey (Howard, 2023). The purpose of this test is to determine whether a single factor accounts for the majority of the variance in the data. If one factor explains a large portion of the variance, it indicates potential CMV, suggesting that responses might be biased due to the measurement method rather than reflecting the constructs of interest (Baumgartner et al., 2021; Podsakoff, Podsakoff, Williams, Huang & Yang, 2024). By incorporating the principles of Harman's factor test in the pre-hoc phase, the researcher was able to design the study to mitigate CMV, thereby ensuring more accurate and reliable research outcomes (Howard, 2023). The results of the Harman test showed that no single factor accounted for more than 40% of the varianceis not present. The next sub-section will discuss the sampling techniques.

5.7.7.5 Sampling techniques

Sampling techniques can be classified as either probability or non-probability sampling (Pace, 2021). The choice between these two sampling techniques for the current research study was mainly based on the practicality of the given sampling techniques. The absence of a reliable population listing or sampling frame automatically discredited the use of probability sampling. A sample frame needs to be current and updated, it also needs to be complete and correct (Casteel & Bridier, 2021; Raifman, DeVost, Digitale, Chen & Morris, 2022). In this instance, it was very challenging and almost impractical to acquire the actual population to enable the utilisation of the probability sampling technique.

Probability sampling is often preferred over non-probability sampling due to the representativeness of the sample to its population (Pace, 2021). However, non-probability sampling is often the only option when the population cannot be reasonably ascertained (Rahman, 2023). Also, the objective of a research and conclusions to be drawn determine if a researcher needs to utilise probability sampling (Pandey & Pandey, 2021). Therefore, due to the innate nature of the current research study and the researcher's inability to acquire a list for the total population, non-probability sampling proved to be the practical choice. Non-probability sampling is useful when

the researcher is more interested in establishing the relationships between concepts or 143 variables and is not interested in establishing the exact size of an effect on the entire population (Rahman, 2023).

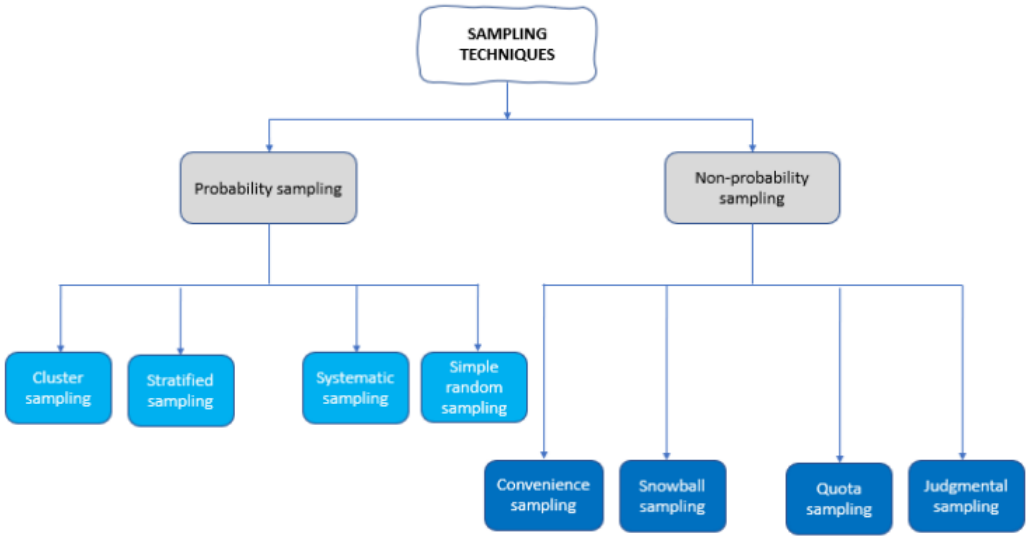

Figure 5.5: Classification of sampling techniques

Source: *Adapted from Malhotra (2010)*

Inferring from Figure 5.5, probability sampling is where each element of the population has a known non-zero probability of selection and the probability of selection is known for each selected element (Sharma, 2023). Examples of probability sampling methods include cluster sampling, systematic sampling, simple random sampling, and stratified random sampling (van Haute, 2021). According to Shui, Hair, Bush, and Ortinau (2009), the probability of selection in a sample can be expressed in Formula 5.1 as shown below:

$$Probability\ of\ selection = {}^{sample\ size}/_{population\ size} \quad (5.1)$$

A non-probability sampling technique involves a deliberate selection of items in a sample, with each unit not having an equal chance of being selected (Obilor, 2023). Non-probability sampling includes quota sampling, snowball (referral) sampling, judgement sampling, and convenience sampling (Makwana, Engineer, Dabhi &

Chudasama, 2023). Table 5.4 provides a detailed description of each sampling sub-group.

Table 5.4: Sub-groups of non-probability and probability sampling techniques

NON-PROBABILITY SAMPLING TECHNIQUES	**DESCRIPTION**
Quota sampling	Designed to ensure that the proportion of the sample elements with a certain characteristic is approximately like that in the population of interest
Judgement sampling	Involves selecting certain participants for participation in the study, presumably because they represent the population of interest and/or meet the study's specific needs
Snowballing sampling	Involves first locating participants who have the necessary qualifications to be included in the sample and then using these participants as informants to identify others with the desired qualifications to belong to the target population
Convenience sampling	Participant participation is voluntary or leaves the selection of sampling units primarily to the interviewer
PROBABILITY SAMPLING TECHNIQUES	**DESCRIPTION**
Systematic sampling	Random selection of a digit (n) and then selection of sample element at every (n) interval depending on population size and the required sample size
Cluster sampling	The population is divided into sub-groups of mutual characteristics and a simple random sample is chosen from sub-groups. Often associated with area sampling
Stratified random sampling	The population is divided into sub-groups of mutual characteristics and a simple random sample is chosen from each sub-group
Simple random sampling	Each element of the population has an equal and known chance of being selected as part of the sample

Source: *Adapted from* Pace (2021) and Sarker and AL-Muaalemi (2022)

Non-probability sampling techniques tend to be less time-consuming, more cost-effective and easier to conduct compared to the more cumbersome probability sampling method (Pace, 2021). In this research, the sample was arrived at by utilising the convenience sampling strategy. Scholtz (2021) states that in the business management field, convenience sampling is more prevalent and has been prominently utilised compared to the use of probability sampling. Non-probability sampling has the benefits of ease, cost and time savings, particularly in the case of convenience sampling (Pace, 2021). The convenience and purposive sampling techniques were therefore selected for the purposes of this study. Convenience sampling is fast, cost-effective, and convenient for the researcher as it allows for easy recruitment of participants from a readily available pool, such as nearby locations or specific communities (Obilor, 2023). Convenience sampling is often used in exploratory research or when the researcher has limited time or resources (Winton & Sabol, 2022). The researchernidentified three, four and five-star hotels from the website of the TGCSA. However, because there is no population list or sampling frame of middle level managers of hotels the researcher used convenience sampling to identify the survey participants.

5.7.7.6 Data analysis

When the process of data collection is completed, the next stage is to conduct data analysis in order to test the hypotheses (Taherdoost, 2021). However, data analysis is not a distinct stage in the research process. The process dovetails with the previous considerations made before final analysis is conducted (Traxler, Schrack, Greiling, Feldbauer & Lautner, 2023). Data analysis involves a series of procedures aimed at examining the collected data in a fair manner. Bingham (2023) remarks that data analysis pertains to the identification of meaningful patterns within the data. Thus, data analysis involves the conversion of meaningless information into something that can easily be managed and understood. To analyse the data for this study, various statistical tests and procedures were conducted on the data.

Data collection and analysis were carried out by the researcher, and descriptive and inferential statistics were applied to the data. Below are the data analysis techniques that were employed, beginning with the data preparation phase. Data analysis entails three primary steps, conducted in the following order (Bell, Bryman & Harley, 2022):

a) Data preparation, which involves translating, editing, coding and organising data in preparation for analysis
b) Descriptive statistics, which refers to the describing of data, and
c) Inferential statistics, which pertains to the testing of hypotheses and models.

Data preparation

When data is obtained from the data collection stage, it is seldom in the form that lends itself perfectly for analysis. Raw data is often susceptible to participant errors and non-participant errors (Ambler, Herskowitz & Maredia, 2021). Data preparation precedes the attesting of the hypotheses stage (Kline, 2023). As such, through data preparation, advanced procedures are conducted on the data in order to produce faster and more accurate data analysis results. To address the issue of participant errors and non-participant errors, the researcher utilised validated constructs to help reduce participant errors by ensuring the accuracy and reliability of data collected. The researcher implemented monitoring and quality control measures to address participant errors during data collection. Regularly reviewing the data collection procedures, monitoring participants' responses for consistency and accuracy, and conducting quality checks, helped the researcher identify and correct errors in real-time. The researcher also addressed any discrepancies or inconsistencies with participants to ensure data integrity. To reduce non-participant errors, the researcher implemented strategies to encourage participation and minimise attrition. Sending reminders, follow-up emails, or making phone calls to participants who had not responded helped improve the response rate and reduced non-response bias.

Missing values

Missing values refers to the absence or lack of data for a specific variable in a dataset (Enders, 2021). Dealing with missing values is a common challenge in data analysis and research studies, as they can affect the study findings' accuracy, validity, and reliability (Alam, Ayub, Arora & Khan, 2023). Before addressing missing values, it was crucial to understand the reasons behind their occurrence. The researcher investigated whether missing values were due to participants' non-response, data collection errors, or systematic patterns in the data. Identifying the root causes of missing values helped determine the appropriate strategies for handling them.

Data editing

Data editing entails critically and thoroughly scrutinising the completed questionnaires to ascertain whether or not they meet the compliance criteria for the required data (Belliveau & Yakovenko, 2022). According to Pudjiati, Lustyantie, Iskandar and Fitria (2022), the primary rationale for data editing is to enhance the quality standard of the data. It entails inspection and where possible, making corrections to the questionnaire or observation form. Famili and Cleary (2022) reiterate that editing is a procedure that entails scrutiny and adjusting data for omissions, consistency, and legibility, so as to make the data readable for the computer.

Completed questionnaires were checked for errors and omissions and corrected where possible. Emphasis was on conducting data editing as soon as the researcher received a questionnaire from the participant (van Quaquebeke et al., 2022). This enabled the researcher to seek clarity from the participant in instances where the responses provided were ambiguous. This procedure enhanced the number of questionnaires utilised in the final stages of the data analysis (Naeem et al., 2023). Clinical editing ensures that the job of coding is easier (Deterding & Waters, 2021). The next section explains the process of data coding.

Data coding

Coding is the task of attaching numerical values or categorisation of signs, as well as the assignment of markings to the segments of data by the utilisation of symbols, category names or numbers. Codes are intended to denote the meaning in the gathered data and simplify data analysis (Cottica, Davidov, Góralska, Kubik, Melançon, Mole, Pinaud & Szymański, 2023). Attaching the numerical notations ensures a faster transfer of data from the questionnaires or interview forms to a computer format (Zeleke, Naziyok, Fritz, Christianson & Röhrig, 2021). According to Bingham (2023), designing a coding manual or something for that typology, is an essential first stage to the coding phase. The coding manual contains relevant information pertaining to the variables in the questionnaire and is an indispensable tool that could enable other researchers to analyse data without requiring further information (Bell, Bryman & Harley, 2022).

Data is either pre-coded or post coded. The answers to the questionnaires in the research study at hand were pre-coded because a structured questionnaire was

utilised (Jain, 2021). The coding process for structured questionnaires is prominently deemed to be anticipatory in nature (Knott, Rao, Summers & Teeger, 2022). For the purposes of this study, numbers were used. The responses allocated to the questionnaire constructs related to green empowering leadership, organisational citizenship behaviours for the environment, green learning orientation, green organisational culture, EPO, green work engagement and environmental concern. When conducting coding, the researcher needs to apply thoughtfulness of the statistical procedures, especially where relationships and associations are tested. Thus, each question was properly analysed before codes were assigned. Mohajan and Mohajan (2022) argue that there is a need for the effective disintegration of data for testing hypotheses and showing relationships, as well as data for comparisons.

In order to ensure that effective and efficient data entry was taking place, the coding process needed to ensure that it was completely exhaustive. Thus, coding categories had to be assigned for all the response options (Berthet, Gaweda, Kantola, Miller, Ahrens & Elomäki, 2023). The assigned coding categories needed to be mutually exclusive (independent) and not overlap in any way (Berthet et al., 2023). The responses for questions that measured the research variables, namely, green empowering leadership, organisational citizenship behaviours for the environment, green learning orientation, green organisational culture, EPO, green work engagement and environmental concern, had codes assigned during the instrument design stage (De Ruiter & Bers, 2022). The next section discusses the data entry stage.

Data entry

Data entry is also known as data transcribing. According to Berthet et al. (2023), data entry encompasses the transformation process of data acquired from the questionnaires into electronic format. This process can be attained through various ways, for instance, directly punching into statistical software packages such as Smart-PLS and optical scanning (Sakaria, Maat & Mohd Matore, 2023). Optical scanning is a faster method of entering data, but accuracy is not as high as when using a manual entry. This is because the human eye can more easily detect errors and mistakes that scanners may miss (Berthet et al., 2023). The data for this research study was manually entered, using Microsoft Excel Spreadsheets, a very common tool used in data entry.

To improve the level of data accuracy, the researcher spot-checked the questionnaires randomly in order to make adjustments where necessary. The entered data was checked to see if it was within the acceptable limits. For instance, the limit of the responses indicates that the responses can only be between 1 and 5. Thus, any responses falling outside this range were incorrect, either while the researcher entered the data or when the participant filled in the questionnaire. The final check for errors that might have occurred during data entry involved checking that data was entered completely and correctly, so that the errors could be corrected before conducting the final data analysis (Berthet et al., 2023). Subsequent to this vigorous process of data preparation and entry, the data was then analysed.

5.7.6.5.1 Descriptive statistics

Descriptive statistics are also known as summary statistics, which pertain to the preliminary statistical analyses that were conducted on the data. Descriptive statistics help to describe or summarise data in a meaningful way (Jones, 2022). Descriptive statistics use measures of central tendency, such as mean and mode, to describe the central position of the frequency distribution of the data collected for the research study. Measures of spread in descriptive statistics aid in viewing how spread out the data is (Mishra, 2023). For instance, variance and standard deviation can be used. Graphs/figures are also utilised in descriptive research to provide a summary and basic overview of a sample in order to make the data become easily visible and interpretable (Murphy, 2021). Descriptive statistics cannot be utilised for conclusions to be drawn beyond the analysed data or to reach conclusions about the hypotheses of the study. Therefore, inferential analysis was conducted to test the hypotheses and reach the conclusions of the study. The next section discusses the inferential analysis procedures conducted in this study.

5.7.6.5.2 Structural Equation Modelling

The second-generation multivariate data analysis technique known as structural equation modelling (SEM) is widely used in market research because it allows for the verification of additive and linear causal models that are theoretically justified (Bollen, Fisher, Giordano, Lilly, Luo & Ye, 2022). SEM allows marketers to visually examine the relationships between interesting variables to prioritise resources and better serve their customers (Suandi, Herri, Yulihasri & Syafrizal, 2023). The fact that unobservable, hard-to-measure latent variables can be used in SEM makes it ideal for

addressing business research problems (Koschate-Fischer & Schwille, 2021). A structural equation model has two submodels: the outer model describes the relationships between the latent variables and their observable indicators, while the inner model specifies the relationships between the independent and dependent latent variables (Hair, Hult, Ringle, Sarstedt, Danks, Ray, Hair, Hult, Ringle, Sarstedt & Danks, 2021). In SEM, a variable can be exogenous or endogenous. Exogenous variables have path arrows pointing away from them and none leading to them. An endogenous variable, on the other hand, has at least one path leading to it and represents the effects of one or more other variable(s) (Hair et al., 2021). The following are different approaches to SEM.

5.7.7.7 Different approaches to SEM

There are several different approaches to SEM. The first approach is the widely used covariance-based SEM (CB-SEM), using software packages such as AMOS, EQS, LISREL and MPlus (Memon, Ramayah, Cheah, Ting, Chuah & Cham, 2021). The second approach is the partial least squares approach (PLS), which focuses on the analysis of variance and can be performed with PLS-Graph, VisualPLS, Smart-PLS and WarpPLS (Venturini, Mehmetoglu & Latan, 2023). It can also be used with the PLS module in the statistical software package. Ringle, Sarstedt, Mitchell and Gudergan (2020) suggest that the third approach is a component-based SEM, known as the generalised structured component analysis (GSCA); it is implemented by Visual GSCA, or a web-based application called GeSCA. Another method of performing SEM is called non-linear universal structural relational modelling (NEUSREL), which uses NEUSREL's Causal Analytics software (Supandi, 2020). These approaches are further discussed below.

5.7.6.6.1 CB-SEM

CB-SEM has been used in the social sciences for several years and is still the preferred data analysis method to test or reject theories through hypothesis testing, especially when the sample size is large, the data is normally distributed and, most importantly, the model is correctly specified (Usakli & Rasoolimanesh, 2023). That is, in the process of transforming a theory into a structural equation model, the appropriate variables are selected and linked together (Kline, 2023; Little, 2024). However, many practitioners and researchers note that in reality, it is often difficult to find a dataset that meets all these requirements (Russo & Stol, 2021). Additionally, the

research objective can be exploratory, where the researcher knows little about the relationships that exist between the variables, in this case, hotel owners and managers, and thus, can consider PLS.

5.7.6.6.2 PLS-SEM

PLS is a soft predictive model for SEM that makes no assumptions about the distribution of data (Cheah, Nitzl, Roldan, Cepeda-Carrion & Gudergan, 2021). Therefore, PLS-SEM becomes a good substitute for CB-SEM in the following circumstances: small sample size; limited theory is accessible for applications; high priority is placed on prediction accuracy; and there is uncertainty regarding an accurate model specification. Note that PLS-SEM is not suitable for all types of statistical analyses (Memon et al., 2021). Researchers also need to be aware of some weaknesses of PLS-SEM, including high quality structural path coefficients required when the sample size is small (Seyfi, Rasoolimanesh & Vafaei-Zadeh, 2024; Zeng et al., 2021).

If the problem of multicollinearity is not handled well when arrows only have one head at a time, it fails to model undirected correlation (Turner, Bahg, Galdo & Liu, 2023). A potential lack of complete consistency in latent variable assessments can result in a biased component estimate (Dhaene & Rosseel, 2024), loads and path coefficients and there can be large mean square errors in the estimate of path coefficient loads (Wei, Huang, Zhang, Pan & Pan, 2022). Despite these drawbacks, PLS is useful for structural equation modelling in practical research projects, especially when there are few participants and the data distribution is skewed, as when interviewing female executives or multinational CEOs, for example (Yim, Kim & Park, 2022). Many industries, including behavioural sciences, marketing, administration, management information systems and corporate planning, have adopted PLS-SEM (Aremu, Shahzad & Hassan, 2021). The SEM method was deemed suitable because it allowed for a detailed and robust analysis of the relationships between green empowering leadership and OCBE. It accommodates the complexity of moderated mediation models, handles measurement errors, and works well with non-normal data and smaller sample sizes. Similar studies in various fields have successfully utilised SEM (PLS-SEM), supporting its appropriateness and reliability for this type of research (Abdou et al., 2023; Ali & Hassan, 2023; Elshaer et al., 2022; Suliman et al., 2023).

5.7.6.6.3 GSCA and Other Approach

When general measures are required for model fitting, or when non-linear latent variables must be accepted, GSCA can be a better alternative for running structural equation models than PLS (Manosuthi, Lee & Han, 2021). However, because GSCA and NEUSREL are relatively new approaches in SEM, the amount of literature for review is limited. Researchers may find it difficult to find enough examples to understand how these new SEM approaches can be used in different business research scenarios (Dash & Paul, 2021; Guenther, Guenther, Ringle, Zaefarian & Cartwright, 2023). The researcher adopted PLS-SEM in this research project due to its reduced sample size requirements, easier testing of moderating and mediating relationships and built-in ability to deal with formative indicators.

5.7.8 Partial least square (PLS)

PLS contains a two-step procedure, which involves the evaluation of the outer measurement model and the inner structural model (Hair et al., 2021). This procedure is further discussed below.

5.7.8.1 Evaluation of the outer structural model

The external measurement model attempts to determine the validity, internal consistency and reliability of both observable and unobserved variables assessed by a questionnaire (Russo & Stol, 2021). Validity ratings are based on convergent and discriminant validity, while consistency ratings are based on independently observed and created reliability tests. By analysing the standardised external influences on the observed variable, the reliability of a single observed variable can be used to compare an observed person's variance to an invisible variable (Hair et al., 2021). External stress scores of 0.7 or higher are considered highly acceptable for observed variables, while scores of less than 0.7 are discouraged (Cheung, Cooper-Thomas, Lau & Wang, 2023; Memon et al., 2021). For each latent construct, the average variance extracted (AVE) should be calculated to check the convergent validity of the variable. The latent constructs in the model should account for the lowest 50% of the variance of the observed variables. This suggests that the AVE should be higher than 0.5 for all structures (Dos Santos & Cirillo, 2023; Shrestha, 2021).

5.7.7.1.1 Discriminant validity

The manifest variable in each construct varies from other constructs in the route model when its cross-load value in the latent variable is higher than that in all other constructs (Shao, Elahi Shirvan & Alamer, 2022). Cross-loadings and the Fornell and Larcker criterion are used to evaluate discriminant validity (Rasoolimanesh, 2022). A construct should not have the same variance as any other constructs above its AVE value, according to the proposed standard (Dos Santos & Cirillo, 2023). According to Fornell and Larcker (1981), the square root of AVE for each latent variable should be larger than their correlations (Purwanto, 2021).

5.7.8.2 Evaluation of inner structural model

After confirming that the measurement models were valid and reliable, the next step was to measure the results of the internal structural model. Assessment of the structural model comprises the common method bias (CMB), R2, Q2 and path coefficients (Vishnoi, Mathur, Bagga, Singhal, Rawal, Sharma & Yadav, 2024). Since the information was self-reported, the possibility of CMB was investigated. The variance inflation factors (VIFs) derived from a comprehensive collinearity test can be used to detect CMB. Collinearity in the pathology is indicated by VIFs larger than 3.3. This is a warning flag that a model could be CMB-contaminated (Rejivas, Praveen & Ajitha, 2023). However, a CMB-free model can be assumed if the VIFs are equal to or lower than 3.3. (Kyriazos & Poga, 2023).

5.7.8.2.1 Measuring the value of R2

The structural model's coefficient of determination, which assesses the total impact size and variation explained in the endogenous construct, serves as a predictability indicator (Legate, Hair Jr, Chretien & Risher, 2023). An R2 value of 0.75 is regarded as substantial, an R2 value of 0.50 is moderate and an R2 value of 0.26 is poor (Chicco, Warrens & Jurman, 2021).

5.7.8.2.2 Estimation of path coefficients (b) and t-statistics

The path coefficients in the PLS and the standardised path coefficients in the regression analysis are similar (Hair Jr, Hult, Ringle, Sarstedt, Danks, Ray, Hair, Hult, Ringle, Sarstedt & Danks, 2021). The b-value tested the significance of the hypothesis. The b denotes the expected variation in the dependent construct for a unit variation in the independent construct(s) (Nasidi, Ahmad, Dahiru & Garba, 2021). The b-values of

each pathway in the hypothetical model are calculated, the larger the b-value, the greater the substantial effect on the endogenous latent constructs (Khairi, Susanti & Sukono, 2021). However, the b-value must be checked for significance by the t-statistic test (Wani, Hamid, Wani & Farooq, 2022). The bootstrapping method was used to assess the significance of the hypothesis and whether it is accepted or not. The bootstrapping method was used to generate the significance levels of the standardised coefficients (Al Luhayb, Coolen-Maturi & Coolen, 2024). The acceptable t-scores for a two-tailed test are 1.65 for a 10% significance level, 1.96 for a 5% significance level and 2.58 for a 1% significance level. In order to be able to test whether the researcher accepts or rejects the standard, beta values ß were calculated. The larger the standard beta value, the larger the effect of the endogenous latent variable (Almansoori, Rahman, Memon & Nasaruddin, 2021; Khairi et al., 2021).

5.7.8.2.3 Measuring the effect size (ƒ2)

The impact size (f2) displays the strength of each exogenous latent construct's influence on the endogenous latent construct (Anjani, 2021). The effect size displays if one construct significantly influences another and how the R2 value changes when a construct is removed from the route model (Anjani, 2021). According to Hair et al. (2021), the values of 0.02, 0.15 and 0.35 indicate the minor, medium and large impacts, respectively of an external latent variable on an endogenous latent variable, respectively. Effect size values less than 0.02 suggest no effect (Yahaya-Nasidi, 2021).

5.7.8.2.4 predictive relevance of the model (Q2)

Cross-validated redundancy was used to quantify the quality of the PLS path model, which was computed utilising blindfolded approaches, using Q2 statistics (Shanmugapriya, Mehta & Saxena, 2022). The endogenous latent constructs should be predicted by the conceptual model, according to the Q2 criteria (Arham, Norizan, Norizan, Arham & Ibrahim, 2021). For a certain endogenous latent construct in the SEM, the measured Q2 values must be larger than zero (Purwanto, 2021).

5.7.8.2.5 The goodness of Fit Test

Goodness of fit (GOF) is defined as a global fit measure; it is the geometric mean of both the extracted mean variance and the mean R-squared of the endogenous variables (Mehmetoglu & Venturini, 2021). The goodness of fit test (GOF) is used to determine whether the empirical data is adequately captured by the model (Shanmugapriya et al., 2022). The GOF has values from 0 to 1. Purwanto (2021) states that the GOF value of 0.10 (small), 0.25 (medium) and 0.36 (large) shows the global validation of the model. The GOF is calculated by averaging the AVEs and multiplying by the R2 value and then obtaining the square root value (Hair Jr, 2021).

5.7.8.2.6 Estimated Model Fit

The estimated and saturated model assesses the correlation between all constructs. The estimated model is a model based on an overall impact scheme and takes into account the model structure (Purwanto, 2021). It is therefore a more restricted version of the Fit scale (Hair Jr, 2021). Model fit is measured by using the standardised mean square residual (SRMR), which shows the average of the standardised residuals between the observed and hypothetical matrices (Shanmugapriya et al., 2022). Scores for SRMR range from zero to 1.0, with well-fitting models receiving scores less than 0.05 (Purwanto, 2021). A lower SRMR indicates a better fit.

5.8 PRE-TESTING THE QUESTIONNAIRE

In order to pre-test the measuring instrument, a pilot study was conducted. This is a small-scale preliminary study that is conducted to evaluate the feasibility, adverse effects, cost, time, statistical variability and limitations of the research study (Beets, von Klinggraeff, Weaver, Armstrong & Burkart, 2021). This is carried out in order to predict an appropriate data collection procedure and improve on the study design prior to the conduct of a full-scale research project. A pilot study can provide valuable insight into the questionnaire design (for example, wording, format and structure) and ultimately lead to the adjustments of such problems. Pilot studies can aid in avoiding time and monetary resources being wasted on despatching an inadequately designed measuring instrument.

Pilot testing was conducted to ensure that the sequence of the questions was correct and that the participants had a clear understanding of all the questions and that the instructions were adequate and clear. A pilot study, as defined by Taherdoost (2021),

is a limited experiment created to perform a study with a select set of participants in advance of the larger research. A pilot study's main objective, is to gauge how long the intended research will take (Shakir & Rahman, 2022). This avoids problems that may occur while conducting a large-scale study (Mohaddesi & Harteveld, 2020). Pilot projects enable the researcher to test and assess the efficacy of various data gathering and processing techniques (Busetto, Wick & Gumbinger, 2020). It provides answers to methodological queries and directs the extension of the research plan to make sure the appropriate methodologies are used (Pandey & Pandey, 2021). It also ensures that the feasibility of the research process is assessed (Koch & Brich, 2020). It helps the researcher eliminate problems, so that changes can be made before conducting research on a large-scale study (Booth, Sutton, Clowes & Martyn-St James, 2021).

The questionnaire was pre-tested with 50 middle level hotel managers selected from six three-, four- and five-star hotels. The managers and the hotels selected did not participate in the actual survey. The questionnaire was self-administered and sent out by the researcher. To motivate the selection of the pilot testing cohort, a pilot study sample needs to meet the criteria of 10% of the projected sample total; however, it is not as simple nor straightforward to apply such a criterion due to many other considerable factors (Koch & Brich, 2020; Pandey & Pandey, 2021). Therefore, the researcher selected 50 participants for the pilot study to be adequate. A pilot study helps to improve the wording and content of a questionnaire. The researcher pre-tested the questionnaire because, as pointed out by Hashim, Mohamad, Abdul Halim Lim and Che Ahmat (2022), and Pandey and Pandey (2021):

a) Pre-testing gives the researcher the chance to thoroughly analyse the proposed statistical and analytical processes and assess how applicable they are to the data. The researcher may then be able to adjust the data gathering procedures as needed, leading to a more effective analysis of the data from the primary study.
b) By enabling the researcher to adapt some aspects of the study to get around problems the pilot study reveals, this method can significantly lower the amount of unexpected problems.
c) Pre-testing significantly reduces time and cost. Often, the pilot test yields sufficient information for the researcher to decide whether or not to move forward with the major study. Because some participants were reluctant to

share the information with the researcher, the findings of the pilot study led to the removal of participants' names (demographic information) and names of workplaces (business information) from the questionnaire. In addition, some questions were rewoeded to ensure clarity.

5.9 RELIABILITY AND VALIDITY OF THE INSTRUMENT

When utilising inferential statistics, it is imperative to assess the reliability and validity of the measuring instrument. The measuring instrument for the study was evaluated on the reliability and validity of the results from the collected data. The section below explains how the reliability and validity of the measuring instrument were achieved.

5.9.1 Reliability

Reliability seeks to establish the ability of a measuring instrument to produce the same results when used repeatedly (Hair Jr et al., 2021). According to Noble, Scheinost and Constable (2021), though in general, reliability implies dependable and trustworthy, in research, the concept pertains to repeatability and the extent to which a measure yields consistent results. Thus, reliability determines the extent to which a measurement is free of unstable or random errors (Mokkink, Eekhout, Boers, van der Vleuten & de Vet, 2023). Reliability refers to the degree to which a study measurement provides consistent and accurate results (Hair et al., 2021). The reliability of the analysis is important as it ensures the consistency of the measurement tool (Ahmed & Ishtiaq, 2021). Wilson (2023) defines reliability as the degree to which measurements reappear when researchers apply those measurements to different cases. Reliability in PLS-SEM is verified by conducting the outer model evaluation (Aburumman, Omar, Al Shbail & Aldoghan, 2022). According to Purwanto (2021), the external measurement model aims to calculate the composite reliability, internal consistency and validity of the observed variables (measured by the questionnaire) along with the unobserved variables. Reliability in PLS-SEM is examined by checking indicator reliability and internal consistency reliability (Aburumman et al., 2022; Haji-Othman & Yusuff, 2022).

Hair et al. (2021) postulate that indicator reliability is verified by examining indicator loadings and that loadings above 0.708 are recommended as they suggest that the construct explains more than 50% of the indicator variance and thus provides acceptable item reliability. Internal consistency reliability, on the other hand, is verified

by using composite reliability or Cronbach's alpha (Shrestha, 2021). According to Hair et al. (2021), higher values generally indicate higher levels of reliability. Composite reliability scores between 0.60 and 0.70 are considered acceptable in exploratory research and scores between 0.70 and 0.90 ranges from fair to good. Scores of 0.95 and higher are problematic as they indicate item redundancy, which thus reduces construct validity (Hair et al., 2021; Purwanto, 2021). The Cronbach's alpha is another measure of reliability and values of 0.7 and above are expected. The researcher used the internal consistency Cronbach's alpha and the composite reliability that will be obtained from PLS-SEM.

5.9.2 Validity

The validity of a measuring instrument is concerned with its ability to measure that which it is purported to measure. Validity refers to the extent to which differences in observed scale scores reflect true differences between objects on the characteristics being measured, rather than containing systematic or random errors (Mohd Dzin & Lay, 2021; Scurich, Faigman & Albright, 2023). For the purpose of this study, the validity criteria considered are face/ content validity and construct validity.

5.9.2.1 Content validity

Content validity is the degree to which the instrument investigates its intended construct (Almanasreh, Moles & Chen, 2022; Obilor & Miwari, 2022). It is the extent to which the measuring instrument is viewed as covering the concept it claims to measure (Obilor & Miwari, 2022). In order to ensure content validity, the researcher embarked on an extensive literature review relevant to the study topic. Also, feedback on the measuring instrument was obtained from a panel of experts who are familiar with the research constructs (Research supervisor, department lecturers and statisticians). Finally, the measuring instrument was pre-tested in a pilot study to allow for changes in the question wording, phrasing or structuring to be made, should the pre-test have indicated such problems.

5.9.2.2 Face validity

Face validity ascertains that the measure appears to be assessing the intended construct being investigated (El-Den, Schneider, Mirzaei & Carter, 2020). Face validity is a type of content validity that assesses whether a test or measurement instrument appears, on the surface, to measure what it is intended to measure (Obilor & Miwari,

2022). It is a subjective assessment and involves the judgement of experts or laypersons on whether the items in a test are relevant and appropriate for the intended construct (Bazhan, Shafiei Sabet & Borumandnia, 2023). Ensuring face validity is important because it affects how participants perceive the test and their willingness to engage with it (Neagu, 2022). A pilot study was conducted to test the feasibility, time, cost, risk, and potential adverse effects of the study. The researcher evaluated participants' feedback on whether the items were relevant and easy to understand. The researcher identified any items that were confusing, misleading, or seemed unrelated to the intended constructs and then made the necessary revisions to the survey items based on the feedback from the pilot study. This included rewording items, adding new items, or removing problematic ones.

5.9.2.3 Construct validity

Construct validity refers to the degree to which a construct is compatible with the theoretical and empirical meaning attached to the construct being investigated (Alavi, Biros & Cleary, 2023). In order to enhance construct validity in this study, the researcher ensured that the objectives were clearly defined and operationalised. Feedback was also obtained from experts and academics in the strategic management field, with emphasis on the aspects of green empowering leadership, organisational citizenship behaviours for the environment, green learning orientation, green organisational culture, EPO, green work engagement and environmental concern. The problems that emerged during the pre-testing phase were considered and implemented on the final questionnaire that was sent out to the participants. The researcher confirmed that the measurement tool used accurately measured the theoretical constructs being investigated. Since green empowering leadership is a new construct, the researcher conducted a pilot test with a small sample of participants to assess the clarity, relevance, and comprehensiveness of the measures. The researcher gathered feedback from participants to identify any potential ambiguities, inconsistencies, or limitations in the measurement tool, this was to ensure that the measurement tool achieved content validity by consulting with subject matter experts in the fields of leadership, sustainability, and environmental management. Experts reviewed the measurement tool to confirm that they adequately captured the key dimensions of green empowering leadership and provided valuable insights into the

construct. Construct validity is divided into two types, namely: convergent and discriminant validity (Rasoolimanesh, 2022).

Convergent validity is ascertained in incidences when there is a high correlation between scores from two instruments that are not the same (Hair et al., 2021). Convergent validity is established when high levels of correlation are seen between two sources that are not the same, but that are responding to the same measure (Cheung et al., 2023). Hair et al. (2021) state that convergent validity exists when concepts that are intended to be associated are indeed associated, thus highly reliable scales posit high convergent validity. Rönkkö and Cho (2022) argue that convergent validity explains the extent to which multiple measures of multiple methods are utilised to ascertain a similar construct result in identical or comparable outcomes.

The validity in PLS-SEM was examined by noting the convergent and discriminant validity of the constructs. The metric used to assess the convergent validity of a construct is the average extracted variance (AVE) for all items in each construct (Fornell and Larcker, 1981). Acceptable AVE was 0.50 or higher, indicating that the construct explained at least 50% of the variance of its items (Hair Jr et al., 2021). In the conventional metric provided by Fornell and Larcker (1981), each construct's AVE should be compared to the squared inter-construct correlation (as a measure of shared variance) of that construct and all other reflectively assessed constructs in the structural model (Nunfam, Afrifa-Yamoah, Adusei-Asante, van Etten, Frimpong, Mensah & Oosthuizen, 2021).

5.9.2.4 Criterion validity

Criterion validity refers to the extent to which a measure is related to an outcome (the criterion) (Carrozzino, Christensen & Cosci, 2021). It evaluates how well one variable or set of measurements predicts an outcome based on information from other variables or measurements (Hair, Howard & Nitzl, 2020). In other words, criterion validity examines whether the research instrument is measuring what it is supposed to measure (Krieglstein, Beege, Rey, Ginns, Krell & Schneider, 2022). This type of validity is essential in ensuring that the research findings are accurate and reliable (Haq, Rasheed, Rashid & Akhter, 2023). It involves comparing scores obtained from a measurement instrument to scores on an established criterion measure. Criterion validity must be assessed to ensure that a measure accurately reflects the construct

it intends to measure. It is often used to validate new measures against existing standards or criteria (Streiner, Norman & Cairney, 2024). To ensure criterion validity through a pilot study, the researcher chose an established, validated measure that accurately represented the criterion of interest. This measure had to have a strong theoretical and empirical foundation (OCBE, GOC, GLO, EPO, GWE and EC). Since GEL is a completely new construct, the researcher used well-established leadership scales that were theoretically related to green empowering leadership, such as transformational leadership or environmental leadership scales. This involved developing a theoretically grounded scale, using established measures for comparison, conducting thorough data analysis, and refining the scale based on empirical evidence and feedback. This rigorous approach helped confirm that the new scale accurately measured GEL and predicted relevant outcomes, enhancing its credibility and its utility for future research and practice.

5.9.2.5 Statistical validity

Statistical validity refers to the extent to which the statistical analysis conducted on the data accurately represents the true relationship or effect being studied (Mertler, Vannatta & LaVenia, 2021). It is essential for ensuring that research findings are reliable, trustworthy, and applicable to the broader population or phenomena being investigated. The sample should be large enough to provide sufficient statistical power to detect meaningful effects or relationships (Lakens, 2022). Biases in sampling, such as non-response bias, selection bias, or convenience sampling, can compromise the statistical validity of the results (Vomberg & Klarmann, 2021). Before embarking on data collection and analysis, the researcher established conceptual clarity around the constructs. This involved defining the key components or dimensions of the construct, specifying how it differs from related constructs and developing clear operational definitions and measurement scales. To ensure that the findings of a study were generalisable to the broader population, the researcher carefully considered the representativeness of the sample. The sample was selected in a manner that minimised biases, ensured diversity, and adequately reflected the characteristics of the population of interest. The larger sample size enhanced the statistical power and generalisability of the findings. To enhance the internal validity of a study, the researcher carefully considered the potential confounding variables that may influence the relationships being examined. The researcher enhanced the credibility, reliability,

and generalisability of the findings in the field of green leadership and sustainability. The researcher used structural equation modelling software (Smart-PLS) to estimate the model and only accepted causal relationships with a p-value of 0.05 or less. This meant that there was a less than 5% chance that any observed relationship was due to random variation, ensuring robust and credible findings.

5.10 REPORTING THE RESEARCH RESULTS

After the analysis of the data, the last and the major phase is the preparation of a research report (Naeem et al., 2023). A summary of the major findings of the research study is contained in section 7.5 of this report. The report concludes with the limitations and recommendations derived from the research. The purpose of conducting any research is to obtain information that can aid in efficient decision-making. The research findings are detailed in Chapter 7.

5.11 ETHICAL CONSIDERATIONS

Researchers are required to be conversant with ethical issues when their intended research involves human beings (Bell et al., 2022). In this regard, the University of Limpopo, through the TREC committee, requires ethical clearance to be obtained for all studies that involve human subjects prior to carrying out the fieldwork. Thus, prior to gathering the data in the field, the researcher applied for and obtained ethical clearance from the University of Limpopo Ethics Committee (See Annexure 4). Herein, several ethical procedures were considered to ensure the study was ethically compliant. First, the researcher ensured that there no potential harm would be caused to any participant in the study that resulted from the procedures conducted or the nature of the study.

The measuring instrument provided participants with an information leaflet containing information on the purpose of the research and the significance of the study. The participants were also informed that the researcher was a Doctoral student with the University of Limpopo and was conducting research exclusively for the fulfilment of academic purposes. In addition, the information leaflet included the expected duration of questionnaire completion, an assurance of confidentiality, as well as the voluntary participation of the participants to the survey. Lastly, before carrying out the survey, informed consent was obtained from the participants through their signing of the

consent form, which was part of the questionnaire. Ethical considerations are concisely outlined below.

5.11.1 Confidentiality and anonymity of participation

Confidentiality and anonymity are crucial ethical considerations that must be carefully addressed when conducting research involving human participants (Shaw, 2023). Ensuring the confidentiality and anonymity of participants helps protect their privacy and well-being, and data security, as well as upholding the ethical principles of beneficence, non-maleficence, and respect for autonomy (Ajemba & Arene, 2022). Confidentiality involves safeguarding the personal information and data shared by participants during the research process (Hall & Studdert, 2021). Confidentiality involves safeguarding the personal information and data shared by participants during the research process (Akuffo, 2023). The researcher was transparent with participants about how their data was to be used, stored, and shared. The researcher made sure that the participants remained anonymous. This meant that the names, addresses and contact details of the participants were not disclosed. Anonymity goes a step further than confidentiality by ensuring that participants' identities remain completely unknown and unidentifiable throughout the research process (Shaw, 2023). In anonymous research, participants provide responses or data without revealing any personal information that could link them back to their responses (Nicol, Briggs, Moncur, Htait, Carey, Azzopardi & Schafer, 2022). This ensured that participants were able to freely share their thoughts, opinions, and experiences without fear of retribution or exposure. To maintain anonymity, the researcher collected data in a way that did not require participants to provide any identifying information, he used anonymous surveys or questionnaires, avoided collecting addresses or other identifying details, and refrained from recording any information that could potentially identify the participants. The researcher was mindful of protecting the anonymity of participants when reporting or publishing the research findings, by using aggregated data or de-identifying individual responses.

5.11.2 Voluntary participation

Voluntary participation refers to when a human research subject exercises their right to free choice, and they are said to be participating voluntarily (Josephson & Smale, 2021). This right is protected by national law, international law and scientific community rules of conduct (Fitriani, Rasyidin, Irawan & Zalmansyah, 2023). Voluntary

participation is closely linked to the concept of informed consent, where participants are provided with all relevant information about the study, including its purpose, procedures, risks, benefits, and their rights as participants (Pietrzykowski & Smilowska, 2021). Informed consent ensures that participants understand what is expected of them and that they can make a fully informed decision about whether to participate (Millum & Bromwich, 2021). The researcher upheld the principle of voluntary participation throughout the research process. By respecting individuals' autonomy and ensuring informed consent, the researcher demonstrated commitment to ethical research practices, which contributed to the credibility and integrity of their study. The participation of the participants was voluntary. They could opt-in or opt-out of the study without any negative repercussions.

5.11.3 Respect and dignity

Respect and dignity are fundamental ethical principles that guide the participation of individuals in research studies and other activities involving human subjects (Khan, Hussain & Alam, 2021). Respecting the autonomy, rights, and dignity of participants is essential for upholding ethical standards and ensuring the well-being of individuals involved (Mathews, 2022). Respecting the autonomy of participants involves recognising their right to make informed decisions about their participation in research (Nassar & Kamal, 2021). Informed consent is a critical aspect of respecting autonomy, where participants are fully informed about the study purpose, procedures, risks, benefits, and their rights as research subjects (Koplin, Gyngell, Savulescu & Vears, 2022). Participants should have the freedom to voluntarily consent or decline participation without coercion or pressure. Respecting the dignity of participants involves recognising and appreciating their diversity, including factors such as age, gender, ethnicity, culture, and beliefs (Hariyadi & Rodiyah, 2023). The researcher ensured that all research protocols were inclusive and sensitive to the unique needs and backgrounds of participants, promoting a respectful and dignified environment for all individuals involved. The researcher communicated with participants in a clear, respectful, and culturally sensitive manner, ensuring that they understood their roles, rights, and responsibilities. By providing participants with a voice and actively listening to their perspectives fostered a sense of respect and dignity in the research relationship. The researcher ensured respect and dignity toward the participants. The participants were treated the same and received the same questionnaire.

5.11.4 Informed consent

Informed consent refers to the act of participants giving their full consent before participating in the study (Rawlings, Brandt, Ferreres, Asbun & Shadduck, 2021). Informed consent ensures that individuals are fully informed about the purpose, procedures, risks, benefits, and potential outcomes of the research study before deciding whether or not to participate (Bianchi, 2022). It also emphasises the voluntary nature of participation, allowing individuals to make an educated decision based on their understanding of the research. It recognises and respects the rights of individuals to make autonomous decisions about their participation in research, while also safeguarding their well-being and ensuring that they are not subjected to harm or undue risks (Josephson & Smale, 2021). The process of obtaining informed consent involves providing participants with clear and understandable information about the study, including its purpose, procedures, risks, benefits, confidentiality measures, and the right to withdraw at any time without penalty (Mathews, 2022). The researcher addressed any questions or concerns raised by participants, ensured that they had sufficient time to consider their decision, and obtained their voluntary agreement to participate through a signed consent form. The researcher ensured that participants were fully informed and had the opportunity to make a voluntary decision about their involvement in the research. Participants participated voluntarily and understood what it meant to take part in the research and they gave their consent to do so. All the respondents signed both consent and permission letters.

5.11.5 Risk and harm to participants

When conducting research, it is essential to consider the potential risks and harm that participants might encounter. Ethical research practices require minimising these risks and ensuring participants' safety and well-being throughout the study (Tolich, Tumilty, Choe, Hohmann-Marriott & Fahey, 2020). The cover page of the questionnaire clearly stated the study's benefits to participants. The research findings will be used to generate recommendations to help hotels and staff enhance their environmental sustainability. The researcher ensured that the study participants did not suffer any social, physical, legal, economic, or psychological harm. To avoid psychological injury, the questionnaire's cover page included information that allowed the researcher to brief the participants on the nature of the research, the information needed, confidentiality, voluntary participation, and anonymity. The study did not address any

emotionally charged issues. As a result, the participants did not risk any emotionally charged reactions. Therefore, no participant was expected to face any risks for participating in the survey.

5.11.6 Vulnerable individuals and freedom of participation

The survey did not include any individuals that are vulnerable. All participants were hotel employees who were able to submit the appropriate information and who were older than 18 years. The decision to participate in the survey was entirely optional. They were not under any undue influence or compulsion, such as threats of damage or payment for completing the survey.

5.11.7 Data storage

Ensuring ethical data preservation is an essential part of conducting research, especially when dealing with sensitive material such as employees' behaviours and leadership practices. Ethical data storage entails preserving participants' privacy, assuring data integrity, and remaining transparent about data management policies (Tenopir, Rice, Allard, Baird, Borycz, Christian, Grant, Olendorf & Sandusky, 2020). The researcher carefully planned and implemented data storage practices, from collection through to analysis, to uphold the ethical standards and maintain the participants' trust. Data obtained from the participants and the analysis of data will be stored by the researcher on the computer (or university approved platform when operational) for the next five years.

5.11.8 Discrimination

Discrimination in research refers to the unfair or prejudicial treatment of participants based on characteristics such as race, gender, age, socio-economic status, disability, or any other factor (Bell et al., 2022). To ensure that all participants were treated fairly, ethical research techniques entail actively preventing and addressing all forms of discrimination. The researcher ensured that no discrimination or undue exclusion of participants in the study occurred based on religious beliefs, racial orientation, political affiliation, gender, economic status or social class. The participants were given the same questionnaire regardless of their position or status.

5.11.9 Permission

Obtaining permission to conduct research is a fundamental ethical requirement that ensures respect for the autonomy, rights, and well-being of participants and other stakeholders involved (Bell et al., 2022). This process involves obtaining informed

consent from participants, permissions from relevant authorities, and, when applicable, community consent. The owners or managers of the selected hotels were given a letter requesting their employees to participate in the study. When permission was granted, the questionnaires were distributed among the employees. A permission letter to collect data was given to each participant.

5.12 SUMMARY OF THE CHAPTER

This chapter provided an intricate discussion of the research methodology followed in this study. A justification of the selected survey area and research method was given. The target population of the study was established. The sampling type and technique selected for the research study was highlighted. Self-administered questionnaires were chosen for the data collection. The procedure followed for the pre-testing of the measuring instrument and the purposes thereof was emphasised. Subsequently, the data analysis procedure was highlighted. The steps followed for data preparation, the descriptive and inferential statistics were ascertained. Of importance, also, the methods used by the researcher to ensure reliability and validity of the questionnaire were provided. The chapter closed off with a discussion of the ethical issues considered in the study. The next chapter of the study focuses on the data analysis, which will delve deeper into the results obtained from the Smart-PLS analysis. The researcher will present and interpret the findings, discuss the implications of the results, and draw conclusions based on the data analysis. The chapter will highlight the key insights derived from the analysis, discuss the significance of the findings in relation to the research objectives, and provide recommendations for practical applications and future research directions.

CHAPTER 6

DATA ANALYSIS AND PRESENTATION OF THE RESULTS

6.1 INTRODUCTION

The previous chapter provided a detailed research methodology that was utilised to test the theoretical model, and to attest the postulated research hypotheses in this study. The current chapter focuses on presenting the data analysis results and testing the hypotheses. The chapter begins with an introduction, followed by a section on data preparation. Subsequent to this, the sample characteristics are discussed preceded by a discussion on the response rate. To achieve this objective, the chapter will employ advanced statistical techniques, specifically Structural Equation Modelling (SEM) using the Partial Least Squares (PLS) approach, which is well-suited for analysing complex relationships in theoretical models with latent variables. The chapter then presents the structural equation modelling (SEM) procedures of the measurement model and the structural models that were applied on the data. The findings of this study are expected to provide valuable insights for organisational leaders and practitioners seeking to promote sustainability initiatives and cultivate a culture of environmental responsibility within their organisations. The chapter presents the results that pertain to the testing of the hypotheses, which is followed by the summary of the chapter. Lastly, this chapter presents a critical step toward uncovering the mechanisms through which green empowering leadership influences OCBE, highlighting the potential for leadership to shape sustainable behaviours and contribute to a more environmentally conscious organisational culture.

6.2 PRELIMINARY ANALYSES

Initially, the data preparation procedure was conducted to ensure that data was ready for the analysis stage. The first stage in this section involves screening for missing data and outliers. As part of the screening procedure, the entered data was assessed to ascertain the normality of distribution through kurtosis and skewness measurements, which are prerequisites for structural equation modelling. Lastly, the response rate in the sampling phase is discussed in this section. The following section discusses the screening procedures that were conducted on the data.

6.2.1 Data screening

The first stage in the data analysis phase involved data screening. Data was screened for missing values, outliers and normality assessment. Data screening is an essential phase that is aimed at ensuring that data has been properly entered and ascertaining whether or not the distributions of variables to be utilised in the analysis satisfy normality requirements (Kline, 2023). Normality assessments are discussed under in section 6.4, together with other descriptive statistics. The usability, reliability and validity of data for evaluating causal theory depend, to a large extent, on data screening (Vu, 2021).

6.2.1.1 Missing data analysis and remedy

Researchers strive for accuracy and completeness in data analysis; however, in reality, it is not uncommon to encounter missing values in datasets. These missing values can be caused by various factors, such as human error (Kosova et al, 2024). Missing values transpire when the participant fails to respond to certain questions in the questionnaire. Thus, participants may accidentally fail to respond to survey questions or they may be unwilling to respond, which results in missing data (Bell et al, 2022). Therefore, decisions and procedures should be conducted pertaining to missing data before hypothesis testing and further analyses are conducted. Missing data must be dealt with, particularly in the context of structural equation modelling. According to Hair Jr et al. (2021), when data is missing, it may be impossible to run PLS and SEM because it needs adequate data points for these techniques to be able to compute the required estimates. In addition, missing values introduce bias issues (Gupta & Gupta, 2022). This study deployed a removal method when dealing with missing values in questionnaires. This is because the method is effective and easy to use, as well as being resource conscious (Heymans & Twisk, 2022). In this study, 32 uncompleted questionnaires were removed due to their extreme number of unanswered questions in those returned questionnaires. This is because the removal method is time and resource conscious.

6.2.1.2 Outliers and extreme values

Mishra and Alok (2022) report that outliers pertain to cases with scores that are considerably dissimilar from the rest of the scores within a specific set of data. In other words, an outlier is regarded as a value that is not within the expected population of values (Bell et al, 2022). Two types of outliers exist in literature, namely, univariate

and multivariate. A univariate outlier pertains to an extreme value on one variable, while a multivariate outlier contains extreme values of at least two variables (Leavy, 2022; Mishra & Alok, 2022). Outlier values are undesirable in the data because they result in distortion in the representation of the sample and thereby they misconstrue the analysis and the statistical analyses. Bell et al. (2022) comment that outliers can be very high or very low and have the potential of distorting the normality of data. Therefore, the data was assessed for any outliers in the SPSS software, but the researcher did not find any outliers in the participants' responses as the answers or options of answers were fixed (pre-coded) in the questionnaire.

6.3 RESPONSE RATE

A technique to determine whether two random samples are derived from the same distribution is the Kolmogorov–Smirnov test. When the distributions of the two samples match, the test is valid. The Kolmororov-Sminorf test was performed in this study to determine whether the data were normal, and it revealed that they were. The statistical results of the study are shown by the response rate, based on how participants responded.

Table 6.1: Response rate

Participants	Sent out	Returned	Unreturned	Removed	Final sample
Hospitality firms	1100	557	543	32	525
Percentage (%)	**100**	**51**	**49**	**6**	**94**

The survey's response rate is displayed in Table 6.1. Only 557 of the 1100 questionnaires that were distributed were returned. This means that 51% responded and 543 questionnaires were not returned, reflecting a non-return of 49%. In addition, 32 questionnaires were removed from the final sample since they were incomplete. The researcher was left with 525 questionnaires for the analysis.

6.4 KOLMOGOROV–SMIRNOV TEST

Normality tests are performed to determine whether a data set is well modelled by a normal distribution and to estimate the probability that a random variable underlying the data set is normally distributed (Knief & Forstmeier, 2021). When the null

hypothesis is strongly refuted by a small p-value (usually 0.05), the null hypothesis is accepted. One does not reject the null hypothesis when a high p-value (> 0.05) shows that there is little evidence to support it.

Table 6.2: Normality analysis

Name of constructs	Kolmogorov–Smirnov	Statistic
NAME	**Statistic**	**Sig.5%**
GEL	0.135	0.000
OCBE	0.135	0.000
GOC	0.165	0.000
GLO	0.192	0.000
GWE	0.116	0.000
EPO	0.126	0.000
EC	0.113	0.000

Table 6.2 indicates that GEL, OCBE, GOC, GLO, GWE, EPO and EC were tested for normality. The normality analysis for GOC by Kolmogorov-Smirnova is 0.165 and sig @ 0.000, GLO is 192 and sig @ 0.000, GWE is 116 sig @ 0.000, EPO is 0.126 sig @ 0.000, OCBE IS 0.136 and sig @ 0.000, EC IS 0.113 and sig @ 0.000 and GEL is 0.135 and sig @ 0.000. The results reveal that these constructs are fit to be tested by the Smart-PLS software since the normality rate is supported.

6.5 SAMPLE CHARACTERISTICS

Section A in the questionnaire (See Annexure 1) focused on gathering information pertaining to the description of the sample elements. The information enables the classification of the participants and the businesses that were surveyed. This information is vital for further studies and for unravelling important information through qualitative studies, such as grounded theory or phenomenological studies that seek in-depth information. In this section, the data contained include the gender, age and education levels of the participants. The section also contains information pertaining to the characteristics of the hotels that were surveyed, namely, their duration of business operations, the number of employees, the position of the participant in the business, the location of the business and the industry sector the business belongs to.

Table 6.3 below illustrates that 56.4% of the individuals (296 out of 525) surveyed are male participants, while 43.6% of the participants (229 out of 525) are females. As such, the majority of the participants in the study are males. The age distribution in the study is presented next.

Table 6.3 Participants' gender

Gender		**Frequency**	**%**	**Valid %**	**Cumulative %**
Valid	Male	296	56.4	56.4	56.4
	Female	229	43.6	43.6	100
	Total	**525**	**100**	**100**	

The distribution and frequencies in the survey participants according to age categories as indicated in Table 6.4 shows that the majority of the participants belonged to the 31-40 years age group with 34.1%, thus, 179 out 525 people. This second most prevalent age category in the survey are those between 21-30 years old who constitute 26.1%. The third age category in the survey are those between 41-50 years old who constituted 19.6% (103 out 525). The fourth age category in the survey are those between 51-60 years old who constituted 18.1% (95 out 525). The fifth age category in the survey are those above 60 years old who constitute only 1.5% (8 out 525). Finally, the smallest percentage, in terms of age in the sample, is for those in the age category of 20 years and below. This group constitutes only 0.6% (3 out of 525) in the sample. The participants' education levels are discussed next.

Table 6.4 Age of participants

Age		**Frequency**	**%**	**Valid %**	**Cumulative %**
Valid	Below 20	3	0.6	0.6	0.6
	21-30	137	26.1	26.1	26.7
	31-40	179	34.1	34.1	60.8
	41-50	103	19.6	19.6	80.4
	51-60	95	18.1	18.1	98.5
	Above 60	8	1.5	1.5	100
	Total	**525**	**100**	**100**	

As shown in Table 6.5 below, the majority of the participants belong to the diploma/degree group with 58.7%, or 308 out 525 people. The second most prevalent education category in the survey hold a matric who constitute 33% (172 out of 525) of the sample. The third category in the survey hold an Honours degree and constitute 6.8% (36 out of 525) of the sample. Fourth, a low representation in the sample in terms of education refers to participants who have no formal education who constitute 1.3% (7 out of 525) of the sample. Finally, the least represented in the sample in terms of education are those participants who have a Masters education and constitute 0.2% (2 out of 525) of the sample. The demographics of middle-aged managers, especially those aged 41 to 50, have a big impact on how the hospitality sector functions. The success of the organisation is influenced by their background, style of leadership, and aptitude for juggling conventional and cutting-edge methods. Previous studies underscore the positive impact of middle-aged managers on various organisational outcomes, including leadership effectiveness, employee engagement, and operational efficiency (Adil, Hamid & Waqas, 2020; Liu, L. Tai, Cheng, Wei, Lee & Chen, 2022; Zhao, Wang, Mattila, Leong, Cui, Sun, Yang & Chen, 2023).

Table 6.5 Education of participants

Education		**Frequency**	**%**	**Valid %**	**Cumulative %**
Valid	Below Matric	7	1.3	1.3	1.3
	Matric	172	33	33	34.3
	Diploma/degree	308	58.7	58.7	93
	Honours	36	6.8	6.8	99.8
	Masters	2	0,2	0.2	100
	Total	**525**	**100**	**100**	

The next discussion focuses on the number of years the employees have worked in the hotels surveyed. As shown in Table 6.6 below, the majority (204 out of 525), thus 38.9% of the hotel employees surveyed in this study, have been employed for 6 to 10 years. On the other hand, hotel employees who have been employed for 11 to 15 years constitute 27% (142 out of 525) of the sampled participants. The segment of hotel employees who have been employed for two to five years comprises 20.2% (106

out of 525). The second lowest number of hotel employees refers to those who have been employed for above 16 years (10.3% or 54 out of 525), whereas the lowest category comprised hotel employees who have been employed for one year or less (3.6% or 16 out of 525). This information is illustrated in Table 6.6 below. In the hospitality sector, the credentials of middle managers and especially those holding a diploma/degree are crucial. Improved operational efficiency, customer satisfaction, and staff retention are all facilitated by their enhanced knowledge, leadership abilities, and capacity to use creative approaches. Previous studies found that there is a positive impact of higher educational qualifications on organisational outcomes, highlighting the importance of staff investing in education and training for middle management (De-la-Calle-Durán & Rodríguez-Sánchez, 2021; Nazarian, Velayati, Foroudi, Edirisinghe & Atkinson, 2021; Webb & Criscione-Naylor, 2023).

Table 6.6 Years employed in the hotel

Years employed		**Frequency**	**%**	**Valid %**	**Cumulative %**
Valid	0-1	19	3.6	3.6	3.6
	2-5	106	20.2	20.2	23.8
	6-10	204	38.9	38.9	62.7
	11-15	142	27	27	89.7
	Above 16	54	10.3	10.3	100
	Total	**525**	**100**	**100**	

The following information pertains to the department in the hotel. Table 6.7 below shows the different departments, where the participants/employees work. From the table below it shows that most of the participants are part of general management, which comprises 29.7% (156 out of 525), while the lowest level of employment includes the reservations and marketing department, which comprises 2.9% (15 out of 525).

Table 6.7 Department where participants work

Department		Frequency	%	Valid %	Cumulative %
Valid	Reservations and marketing	15	2,9	2.9	2.9
	Human resource	94	17.9	17.9	20.8
	Finance	106	20.2	20.2	41
	General management	156	29.7	29.7	70.7
	Front office	59	11.2	11.2	81.9
	Food and beverage	34	6.5	6.5	88.4
	Housekeeping	26	4.9	4.9	93.3
	Maintenance	22	4.2	4.2	97.5
	Other	13	2.5	2.5	100
	Total	**525**	**100**	**100**	

The following information pertains to the participants' job position in the hotel. Table 6.8 below shows the job positions the participants/employees hold in those departments. The table below shows that most of the participants belong to general management, which comprises 29.7% (156 out of 525), while the lowest job level participants hold are in reservations and the marketing department (2.9% or 15 out of 525).

Table 6.8 Participants' job position

Position		Frequency	%	Valid %	Cumulative %
Valid	Marketing Manager	15	2,9	2.9	2.9
	Human Resource Manager	94	17.9	17.9	20.8
	Financial Manager	106	20.2	20.2	41
	Management	156	29.7	29.7	70.7
	Front Office Manager	59	11.2	11.2	81.9
	Food & Beverage Manager	34	6.5	6.5	88.4
	Housekeeping Manager	26	4.9	4.9	93.3
	Maintenance Manager	22	4.2	4.2	97.5
	Other	13	2.5	2.5	100
	Total	**525**	**100**	**100**	

The following information pertains to the grading of the hotel. Table 6.9 below shows the grading of hotels that were selected for the study, with the most frequent representation being four-star hotels, which comprise 46.7% (202 out of 525). This is followed by five-star hotels, which comprise 45% (195 out of 525), and the least represented are three-star hotels, which comprise 8.3% (36 out of 525).

Table 6.9 Grading of the hotel

Grading		Frequency	%	Valid %	Cumulative %
Valid	Three-star	36	8,3	8,3	8,3
	Four-star	202	46,7	46.7	55
	Five-star	195	45	45	100
	Total	**525**	**100**	**100**	

After having discussed the sample characteristics, the next section discusses the descriptive statistics.

6.6 DESCRIPTIVE STATISTICS

Descriptive statistics assist in outlining, showing and summarising the data in a simple, but meaningful manner. The descriptive statistics are based on the 5-point Likert scale that was utilised in this study. The level of confidence is based on the mean, standard deviation and Cronbach's alpha. The mean and standard deviation of the GEL measurements, as well as Cronbach's alpha will all be covered in detail in this section's descriptive statistics.

The average scale mean and standard deviation of the GEL, as well as the mean and standard deviation of each item, are found in descriptive statistics on GEL in Table 6.10. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 1.0 and the scale mean of 3.8 indicate that participants are in agreement with the questions (0.932 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.10: Descriptive statistics of GEL

Construct	Item code	Number of items	Mean	Standard deviation	Scale mean	Scale standard deviation	Cronbach's alpha
(GEL)					*3.8*	*1.0*	*0.932*
	GEL 1	5	4.0	0.9			
	GEL 2	5	4.2	1.0			
	GEL 3	5	4.0	0.9			
	GEL 4	5	3.8	1.0			
	GEL 5	5	4.0	1.0			
	GEL 6	5	3.7	0.9			
	GEL 7	5	4.0	0.8			
	GEL 8	5	3.8	0.9			
	GEL 9	5	3.7	1.1			
	GEL 10	5	3.5	1.0			
	GEL 11	5	3.6	0.8			
	GEL 12	5	3.9	0.9			
	GEL 15	5	3.8	1.0			
	GEL 17	5	3.9	1.0			
	GEL 22	5	3.7	1.1			

*Note: Green empowering leadership (GEL)

The average scale mean and standard deviation of the OCBE construct, as well as the mean and standard deviation of each item, are found in descriptive statistics on OCBE in Table 6.11. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 1.0 and the scale mean of 4.0 indicate that participants are in agreement with the questions (0.824 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.11: Descriptive statistics of OCBE

Construct	Item code	Number of items	Mean	Standard deviation	Scale mean	Scale standard deviation	Cronbach's alpha
(OCBE)					*4.0*	*1.0*	*0.824*
	OCBE1	5	4.0	0.9			
	OCBE2	5	4.2	1.0			
	OCBE4	5	4.0	0.9			
	OCBE5	5	3.8	1.0			
	OCBE8	5	4.0	1.0			
	OCBE9	5	3.7	0.9			

*Note: Organisational citizenship behaviours for the environment (OCBE)

The average scale mean and standard deviation of the GOC construct, as well as the mean and standard deviation of each item, are found in descriptive statistics on GOC in Table 6.12. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 0.8 and the scale mean of 4.2 indicate that participants are in agreement with the questions (0.845 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.12: Descriptive statistics of GOC

Green organisation culture (GOC)					Scale mean	Scale standard deviation	Cronbach's alpha
					4.2	*0.8*	*0.845*
	GOC1	4	4.1	0.9			
	GOC2	4	4.3	0.8			
	GOC3	4	4.1	0.7			
	GOC4	4	4.4	0.7			

*Note: Green organisation culture (GOC)

The average scale mean and standard deviation of the GLO construct, as well as the mean and standard deviation of each item, are found in descriptive statistics on GLO in Table 6.13. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 0.8 and the scale mean of 4.1 indicate that participants are in agreement with the questions (0.867 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.13: Descriptive statistics of GLO

Green learning orientation (GLO)					Scale mean	Scale standard deviation	Cronbach's alpha
					4.1	*0.8*	*0.867*
	GLO1	4	4.8	0.8			
	GLO2	4	3.6	0.7			
	GLO3	4	4.1	0.9			
	GLO4	4	4.0	0.7			

*Note: Green learning orientation (GLO)

The average scale mean and standard deviation of the GWE construct, as well as the mean and standard deviation of each item, are found in descriptive statistics on GWE in Table 6.14. The fact that the mean values for all three items are greater than 3,

indicating that participants appear to have agreed with the questions, is instructive. The average standard deviation of 0.9 and the scale mean of 4.1 indicate that participants are in agreement with the questions (0.901 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.14: Descriptive statistics of GWE

Green work engagement (GWE)					Scale mean	Scale standard deviation	Cronbach's alpha
					4.1	*0.9*	*0.901*
	GWE1	4	3.9	0.7			
	GWE2	4	4.3	0.9			
	GWE4	4	4.5	1.2			
	GWE5	4	3.8	1.0			

*Note: Green work engagement (GWE)

The average scale mean and standard deviation of the EPO construct, as well as the mean and standard deviation of each item, are found in descriptive statistics on EPO in Table 6.15. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 0.8 and the scale mean of 4.3 indicate that participants are in agreement with the questions (0.956 is the Cronbach's alpha). Good consistency is indicated by this.

Table 6.15: Descriptive statistics of EPO

Employee psychological ownership (EPO)					Scale mean	Scale standard deviation	Cronbach's alpha
					4.3	*0.8*	*0.956*
	EPO1	3	4.0	0.8			
	EPO2	3	4.8	0.8			
	EPO3	3	4.5	0.9			

*Note: Employees' psychological ownership (EPO)

The table below shows the mean and standard deviation for each item, as well as the average scale mean and standard deviation for the EC, which are revealed by descriptive statistics on EC, as shown in Table 6.16. The fact that the mean values for all three items are greater than 3, indicating that participants appear to agree with the questions, is instructive. The average standard deviation of 0.9 and the scale mean of 4.2, respectively, indicate that participants agree with the questions and 0.799 is the Cronbach's alpha. This specifies good consistency. The above discussion is based on the descriptive statistics.

Table 6.16: Descriptive statistics of EC

Environmental concern (EC)					Scale mean	Scale standard deviation	Cronbach's alpha
					4.2	*0.9*	*0.799*
	EC1	3	4.8	1.0			
	EC2	3	4.1	0.8			
	EC3	3	3.8	0.9			

*Note: Environmental concern (EC).

The next discussion will be based on the properties of Smart-PLS-SEM version 4.0.

6.7 PARTIAL LEAST SQUARE STRUCTURAL EQUATION MODELLING (PLS-SEM)

6.7.1 Reflective measurement model

A reflective model occurs when the indicators of a construct are considered to be caused by that construct. Sarstedt et al. (2022) state that when indicators are highly correlated and interchangeable, they are reflective, and their reliability and validity should be thoroughly investigated. Examination of the indicator loadings internal consistency, reliability, convergent validity, and discriminant validity is one of the steps and the criteria for evaluating the reflection measurement. These factors are discussed below:

Table 6.17: Reflective measurement

Construct	Item code	Outer loadings	Outer weights	CA	CR	AVE
Green empowering leadership (GEL)				*0.932*	*0.891*	*0.506*
	GEL 1	0.765	0.197			
	GEL 2	0.837	0.182			
	GEL 3	0.855	0.187			
	GEL 4	0.871	0.175			
	GEL 5	0.864	0.193			
	GEL 6	0.989	0.168			
	GEL 7	0.819	0.195			
	GEL 8	0.843	0.172			
	GEL 9	0.833	0.173			
	GEL 10	0.935	0.188			
	GEL 11	0.816	0.176			
	GEL 12	0.741	0.186			
	GEL 15	0.887	0.175			
	GEL 17	0.740	0.179			
	GEL 22	0.759	0.184			
(OCBE)				**CA**	**CR**	**AVE**
				0.824	*0.946*	*0.786*
	OCBE1	0.887	0.283			
	OCBE2	0.932	0.264			
	OCBE4	0.893	0.284			
	OCBE5	0.903	0.282			
	OCBE8	0.899	0.285			
	OCBE9	0.799	0.279			
Green organisation culture (GOC)				**CA**	**CR**	**AVE**
				0.845	*0.825*	*0.545*

	GOC1 GOC2 GOC3 GOC4	0.830 0.803 0.750 0.751	0.218 0.220 0.217 0.215			
Green learning orientation (GLO)				**CA**	**CR**	**AVE**
				0.867	*0.870*	*0.628*
	GLO1 GLO2 GLO3 GLO4	0.898 0.723 0.780 0.758	0.178 0.188 0.179 0.186			
Construct	Item code	Outer loadings	Outer weights	**CA**	**CR**	**AVE**
Green work engagement (GWE)				*0.901*	*0.801*	*0.515*
	GWE1 GWE2 GWE4 GWE5	0.873 0.737 0.871 0.764	0.197 0.182 0.175 0.193			
Employees' psychological ownership (EPO)				**CA**	**CR**	**AVE**
				0.956	*0.931*	*0.818*
	EPO1 EPO2 EPO3	0.887 0.932 0.893	0.283 0.264 0.284			
Environmental concern (EC)				**CA**	**CR**	**AVE**
				0.799	*0.852*	*0.657*
	EC1 EC2 EC3	0.830 0.803 0.798	0.218 0.220 0.198			

*Note: Green empowering leadership (GEL), organisational citizenship behaviour for the environment (OCBE), green organisation culture (GOC), green learning orientation

(GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

6.7.2 Indicator loadings

Examining the indicator loadings is the first stage in the assessment of a reflective measurement model (Hair et al., 2021). The authors claim that loadings above 0.708 are recommended as they suggest that the construct explains more than 50% of the indicator variance and thus, provides acceptable item reliability. Table 6.17 above shows that all item loadings of all constructs are greater than 0.535. This means that all construct loadings should be retained as they explain more than 50% of the variance of the indicators and thus provide item reliability.

6.7.3 Internal consistency reliability

Utilising Jöreskog's (1971) composite reliability, the second step involves evaluating internal consistency reliability. Internal consistency is often assessed using correlations between different items on the same test, or the same subscale on a larger test. According to Cheung et al. (2023), it determines whether a set of items designed to measure the same general construct produces comparable results. In most cases, higher values indicate a higher level of reliability. Reliability scores of between 0.60 and 0.70 are considered acceptable in exploratory research, but scores between 0.70 and 0.90 are considered fair or good. Scores of 0.95 and above present a challenge as they indicate item redundancy and reduce construct validity. Another reliability metric is Cronbach's alpha, which should be at least 0.7. The composite reliability values in Table 6.17 above are greater than 0.70 but less than 0.95, indicating good construct reliability. At over 0.7, Cronbach's alpha values show satisfactory construct reliability.

6.7.4 Convergent validity

The convergent validity of each construct measure is discussed in the third step of evaluating the reflective measurement model. The degree to which a construct converges to explain the variance of its elements is called convergent validity. The mean extracted variance (AVE) for all items on each construct is the matrix used to assess the convergent validity of a construct. If the acceptable AVE is 0.50 or more, the construct represents at least 50% of the variance of its elements (Shrestha, 2021).

Looking at Table 6.17 above, all of the constructs in this research project achieved an AVE greater than 0.50, indicating reasonable convergent validity.

6.7.5 Discriminant validity

Discriminant validity is a critical aspect of construct validity, ensuring that a given construct is truly distinct from other constructs in the study. Two widely used methods to assess discriminant validity in structural equation modelling (SEM) are the Fornell-Larcker criterion and the heterotrait-monotrait ratio (HTMT) (Hair et al., 2021; Rasoolimanesh, 2022). Both methods provide different perspectives and criteria for evaluating whether constructs are distinct from each other.

6.7.5.1 Fornell-Larcker criterion

The degree to which a construct differs empirically from other constructs in the structural model is evaluated by using discriminant validity as the fourth step in reflective measurement scale assessment. The heterotrait-monotrait ratio (HTMT) was the conventional metric and Fornell and Larcker (1981) advised comparing the average variance of each construct to the squared inter-construct correlation (as a measure of shared variation) of that construct and all other structurally assessed constructs. None of model constructs should have a shared variance that is greater than their AVEs.

Table 6.3: Fornell-Larcker criterion

CONSTRUCT	OCBE	EC	GEL	GOC	GLO	GWE	EPO
OCBE	*0.887*						
EC	0.655	*0.810*					
GEL	0.368	0.571	*0.711*				
GOC	0.446	0.517	0.614	*0.738*			
GOL	0.497	0.641	0.579	0.681	*0.792*		
GWE	0.378	0.413	0.468	0.650	0.698	*0.717*	
EPO	0.478	0.482	0.510	0.525	0.578	0.670	*0.904*

*Note: Green empowering leadership (GEL), organisational citizenship behaviour for the environment (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

The square root of the average variance extracted (AVE) is represented by the diagonals in bold and italics in Table 6.18 and the correlations are represented by the other entries. Additionally, as indicated in Table 6.18, the square root of AVE is bigger than the correlations among the latent variables. The two criteria being met suggest enough discriminant validity. These tests all show that the measuring model is effective. Another method to calculate the discriminant validity is heterotrait-monotrait ratio (HTMT) and the following table shows the results of the HTMT.

6.7.5.2 HTMT (heterotrait-monotrait ratio)

Table 6.19: HTMT (heterotrait-monotrait ratio)

CONSTRUCTS	OCBE	EC	GEL	GOC	GLO	EPO	GWE
OCBE							
EC	*0.872*						
GEL	0.851	*0.873*					
GOC	0.867	0.868	*0.875*				
GLO	0.850	0.853	0.859	*0.898*			
EPO	0.851	0.856	0.858	0.877	*0.889*		
GWE	0.860	0.864	0.872	0.875	0.876	*0.879*	

*Note: Green empowering leadership (GEL), organisational citizenship behaviour for the environment (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (G WE), employee psychological ownership (EPO) and environmental concern (EC).

The analysis of heterogeneity-monotrait measurements (HTMT) must meet the requirements of HTMT, where the value must be greater than HTMT .85, i.e., 0.85 or HTMT .90, 0.90 (Roemer, Schuberth & Henseler, 2021). As a statistical test, it can test the null hypothesis (Ho:HTMT<1) versus (HA:HTMT≥1) with HTMT at a 95% confidence interval with a value of 1 (i.e YES), which has no discriminatory power (Kasim, 2023). Based on the Table 6.19, from the value of HTMT, the construction was tested to meet the analysis criteria.

6.8 STRUCTURAL MODEL

6.8.1 Common method bias (CMB) and endogeneity

To ensure CMB, the researcher used the SPSS and Smart-PLS software and the following results transpire. First, endogeneity might impact this study. To explore this, the researcher performed a correlation analysis between residuals and predictors, following the method of Khan (2023) and Ali et al. (2023). The analysis shows minimal or no correlation between the key variables, indicating that internal endogeneity does not affect the model. In order to mitigate potential CMB concerns, the researcher

incorporated procedural remedies recommended by Podsakoff et al. (2003). First, the researcher utilised a time-legged data collection method. The conceptual framework or the questionnaire was divided into two parts, i.e. first wave (T1) and second wave (T2) to reduce immediate recall and consistency biases. During the first wave, the researcher collected data from employees. Before starting with the data collection the researcher sent out detailed instructions and consent forms to the participants. The researcher distributed the initial survey to the participants, measuring independent variables, mediators, moderator and demographic information. The researcher also maintained communication with the participants to remind them to complete the questionnaire within the prescribed timeframe. The researcher securely stored collected data, ensuring confidentiality and data integrity. During the second wave (T2) the researcher collected the data from the participants and those who had participated in the first wave (T1) were excluded during the second wave (T2). Excluding first-wave participants from the second wave of data collection in the study was a deliberate strategy to minimise biases such as recall and consistency biases, thus reducing CMV (Kock, Berbekova & Assaf, 2021). This approach allowed for fresh perspectives in each wave, potentially enhancing the overall robustness and validity of the research findings.

Second, the researcher provided participants with the assurance of response anonymity and confidentiality, aiming to minimise social desirability responses. Third, the researcher explicitly communicated to the participants that the survey questions had no right or wrong answers and he emphasised the confidentiality of their responses. To evaluate the measurement context effect, the researcher conducted Harman's single-factor test, which revealed the presence of multiple distinct factors. The following table depicts the Harman's single-factor test results.

Table 6.20: Variance inflation factor (VIF) test results

Construct	VIFs
GEL	1.45
OCBE	1.59
GOC	1.40
GLO	1.11
GWE	1.23
EPO	1.89
OC	1.56

*Note: Green empowering leadership (GEL), organisational citizenship behaviour for the environment (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

Notably, the first factor explains merely 30.42% of the variance, suggesting that CMB was unlikely to pose a significant issue in this survey (Albloushi et al., 2023; Khan et al., 2022, 2023b; Ullah et al., 2021). The researcher also checked for multicollinearity concerns by examining the variance inflation factor (VIF) values. As presented in Table 6.20, all VIF values are found to be below the threshold value of 3.3, indicating the absence of multicollinearity issues in this study. The measurements' internal consistency (see Table 6.17) was examined using internal consistency reliability by applying composite reliabilities (CRs); all CR values are above the commonly accepted threshold of 0.70 (Alkatheeri et al., 2023; Hair et al., 2010). Convergent validity, measured with average variance extracted (AVE), was tested to examine the construct validity. The AVE values of the sample are higher than the commonly accepted threshold of 0.50 (Hair et al., 2010; Khan et al., 2022; Yu et al., 2021). Based on the results of both AVE and CR values, it can be concluded that there are no concerns regarding CMB in the study

6.8.2 R-Square (R^2)

R-squared is a statistical measure that represents the proportion of variance for a dependent variable (Chicco et al., 2021). While correlation explains the strength of the relationship between an independent and dependent variable, R^2 explains the amount of variance in the second variable. The R^2 shows the proportion of variation in the

dependent variable(s) that is explained by one or more predictor variable/s. According to Hair Jr et al. (2021), R^2 of 0.75, 0.50, and 0.25 can be considered significant, moderate and weak. The table below shows that in this study, the R^2 values reveal that there are significant and moderate R^2 values.

Table 6.21: R-squared statistical measure results

Construct	R^2	Comment
GEL	0.654	Moderate
GOC	0.763	Significant
GLO	0.607	Moderate
GWE	0.564	Moderate
EPO	0.702	Moderate
OCBE	0.812	Significant
EC	0.698	Moderate
Average of **R^2 =** 0.686		

*Note: Green empowering leadership (GEL), organisational citizenship behaviour for the environment (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

6.8.3 Path coefficients and t-statistics

When testing whether the hypothesis is accepted or not, the bootstrapping method was used to generate the significance levels of the standardised coefficients (Hair Jr et al., 2021). The acceptable t-statistics for a two-tailed test are 1.65 for a 10% significance level, 1.96 for a 5% significance level and 2.58 for a 1% significance level. The greater the standard Beta value, the bigger the effect of the endogenous latent variable. The table below shows the effect of the path coefficient and t-statistics.

Table 6.22: Path coefficient and t-statistics

Hypothesis	Standard Beta	T-statistics	P-value	Decision
GEL→OCBE	0.31	7.263	0.001	Accepted
GEL→ GOC	0.69	12.114	0.000	Accepted
GEL→GLO	0.23	2.920	0.002	Accepted
GOC→OCBE	0.15	4.267	0.000	Accepted
GLO→OCBE	0.27	4.157	0.001	Accepted
GEL→EPO	0.31	7.231	0.000	Accepted
GEL→GWE	0.16	3.046	0.000	Accepted
GWE→OCBE	0.33	6.569	0.002	Accepted
EPO→OCBE	0.22	7.120	0.003	Accepted

Sig @ 5%: *Note: Green empowering leadership (GEL), (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

The above Table 6.22 shows the t-statistics and path coefficient of the relationship between GEL and OCBE, GEL and GOC, GEL and GLO, GEL and GWE, GEL and EPO, GWE and OCBE, EPO and OCBE, GOC and OCBE, GLO and OCBE.

H1: Hypothesis 1 proposes that GEL and OCBE are significantly positively related. The results (SB = 0.31; t = 7.263; p<0.05) show that there is a significant positive relationship between GEL and OCBE. Hypothesis 1 is accepted.

H2: Hypothesis 2 proposes that GEL and GOC are significantly positively related. The results (SB = 0.69; t = 12,114 p<0.05) show that there is a significant positive relationship between GEL and GOC. Hypothesis 2 is accepted.

H3: Hypothesis 3 proposes that GEL and GLO are significantly positively related. The results (SB = 0.23; t = 2.920; p<0.05) show that there is a significant positive relationship between GEL and GLO.

H4: Hypothesis 4 proposes that GOC and OCBE are significantly positively related. The results (SB = 0.15; t = 4.267; p<0.05) show that there is a significant positive relationship between GOC and OCBE.

H5: Hypothesis 5 proposes that GLO and OCBE are significantly positively related. The results (SB = 0.27; t = 4.157; p<0.05) show that there is a significant positive relationship between GLO and OCBE.

H6: Hypothesis 6 proposes that GEL and EPO are significantly positively related. The results (SB = 0.31; t = 7.231; p<0.05) show that there is a significant positive relationship between GEL and GWE.

H7: Hypothesis 7 proposes that GEL and GWE are significantly positively related. The results (SB = 0.16; t = 5.765, p<0.05) show that there is a significant positive relationship between GEL and EPO.

H8: Hypothesis 8 proposes that GWE and OCBE are significantly positively related. The results (SB = 0.33; t = 6.569, p<0.05) show that there is a significant positive relationship between GWE and OCBE.

Lastly, **H9:** Hypothesis 9 proposes that EPO and OCBE are significantly positively related. The results (SB = 0.22; t = 7.120, p<0.05) show that there is a significant positive relationship between EPO and GWE.

Table 6.23: Path coefficient and t-statistics

Hypothesis	Standard Beta	t-statistics	p-value	Decision
GOC→GEL→OCBE	0.63	8.744	0.002	Accepted
GLO→GEL→OCBE	0.78	12.597	0.000	Accepted
EPO→GEL→OCBE	0.69	9.78	0.000	Accepted
GWE→GEL→OCBE	0.74	8.782	0.001	Accepted

Sig @ 5%: *Note: Green empowering leadership (GEL), (OCBE), green organisation culture (GOC), green learning orientation (GLO), green work engagement (GWE), employee psychological ownership (EPO) and environmental concern (EC).

The above Table 6.23 shows the t-statistics and path coefficient of the mediating relationship between GEL, GOC and OCBE.

H10: Hypothesis 10 proposes that GOC mediates the relationship between GEL and OCBE. The results are (SB = 0.63; t = 8.744 and p<0.05). The table shows the t-

statistics and path coefficient of the mediating relationship between GEL, GLO and OCBE.

H11: Hypothesis 11 proposes that GLO mediates the relationship between GEL and OCBE and the results (SB = 0.78; t = 12.597 and p<0.05). The study proposed that **H: 12**: EPO mediates the relationship between GEL and OCBE and the results (SB = 0.69; t = 8782 and p<0.05). Finally, **H:13**: GWE mediates the relationship between GEL and OCBE and the results (SB = 0.74; t = 8.782 and p<0.05).

Table 6.24: Path coefficient and t-statistics

Hypothesis	Standard Beta	t-statistics	p-value	Decision
EC*GWE→OCBE	0.541	7.152	0.001	Accepted

The above Table 6.24 shows the t-statistics and path coefficient of the moderating relationship between EC, GWE and OCBE.

H14: Hypothesis 14 proposes that EC moderates the relationship between GWE and OCBE and the results show that EC positively mediates the relationship. The results (SB = -0.541; t = 7.152, p>0.05) show that EC affects the relationship between GWE and OCBE. The next discussion will be based on the goodness of fit test.

6.8.4 Goodness of fit test (GOF)

GOF is defined as the global fit measure; it is the geometric mean of both average variances extracted and the average R-square (R^2) of the endogenous variables (Hair et al., 2021). The test of goodness (GOF) is used to determine whether the empirical data is adequately captured by the model. The GOF has values from 0 to 1. Hair et al. (2020) postulate that the GOF values of 0.10 (small), 0.25 (medium) and 0.36 (large) provide global validation of the model demonstrate. The GOF is calculated by averaging the AVEs and multiplying this by the R value and then obtaining the square root value. Therefore, average of AVEs is 0.636 and average of R^2 = 0.686, the GOf value is 00.66. It can be concluded that the empirical data fits the model satisfactorily and has significant predictive power.

6.8.5 Predictive relevance of the model (Q^2)

The predictive relevance of the model is a recommended supplementary assessment test (Liengaard, Sharma, Hult, Jensen, Sarstedt, Hair & Ringle, 2021). This study used Q2 to evaluate the predictive model. The model is predictive when the Q2 value is greater than zero (Sharma, Shmueli, Sarstedt, Danks & Ray, 2021). The Q2 values of this model is 0.467, which is greater than 0 and therefore suggests that the model has reasonable predictive power.

6.8.6 The effect size (f^2)

The effect size (f^2) shows the magnitude of the effect of each exogenous latent construct on the endogenous latent construct (Purwanto, 2021). The effect size shows whether one construct has a substantial impact on another construct and how deleting a construct from the path model changes the value of the R (Sarstedt, Ringle & Hair, 2021). In the guidelines for evaluating f^2, Hair et al. (2021) point out that these values of 0.02, 0.15 and 0.35 represent small, medium and large effects of an exogenous latent variable on an endogenous latent variable, respectively. In addition, effect size values less than 0.02 indicate no effect is present. The effect size values of this model are GEL = 0.309; OCBE = 0.248; GOC = 0.299, GLO = 0265, GWE = 0.374, EPO = 0.245, and EC = 0.288. These values show a moderate effect on the endogenous variables.

6.8.7 Estimated model fit

The estimated and saturated model assesses the correlation between all constructs. The estimated model is a model based on an overall effects scheme and takes into account the model structure (Hair Jr et al., 2021). It is therefore a more restricted version of the measure of fit. Model fit is measured by using the standardised root mean square residual (SRMR), which shows the average of the standardised residuals between the observed and hypothesised matrices (Pavlov, Maydeu-Olivares & Shi, 2021). The SRMR values vary from zero to one, with values smaller than 0.05 obtained by well-fitting models. Better fit is indicated by a lower SRMR. The study's SRMR value, which is 0.033, indicates that the model fits the data well.

6.9 MEDIATION ANALYSIS

Mediation is a test conducted to discover if a mediator construct can significantly carry the ability of an independent variable to a dependent variable (Laghaie & Otter, 2023). Similarly, a mediation test determines the indirect effect of the independent variable on the dependent variable through a mediator variable (Liengaard et al., 2021). The mediation test used in this research was based on the PSL approach and it was measured by means of bootstrapping 5000 re-sampling analysis with formulated hypotheses. Table 6.24 below illustrates the results of mediation.

Table 6.24: Mediation results

Direct effect from			**Indirect effect (mediation)**		**Total effect**				
Relationship	βeta	**p-value**	Beta	**p-value**	βeta	**SD**	**t-value**	**VAF**	**P-value**
GOC*GEL*OCBE	0.31	0.000	0.42	0.000	0.73	0.078	2.744	57%	0.000
GLO*GEL*OCBE	0.31	0.001	0.25	0.000	0.56	0.042	3.471	45%	0.001
EPO*GEL*OCBE	0.31	0.000	0.27	0.001	0.58	0.237	1.247	47%	0.001
GWE*GEL*OCBE	0.31	0.003	0.26	0.002	0.57	0.065	2.243	46%	0.000

First, the mediation analysis was performed to assess the mediating role of GOC on the linkage between GEL and OCBE. The results shown in Table 6.24 reveal that the direct effect is significant (Beta = 0.31 and $p<0.05$). The indirect effect becomes significant (Beta = 0.42 and $p<0.05$). The total effect of GEL on OCBE through GEL is found to be significant (Beta: 0.338; $t = 2.744$; $p<0.05$ and VAF = 57%) and this opines partial mediation. Second, the mediation analysis was performed to assess the mediating role of GOC on the linkage between GEL and OCBE. The above results reveal that the direct effect is significant (Beta = 0.31 and $p<0.05$). The indirect effect becomes significant (Beta = 0.56 and $p<0.05$). The total effect of GEL on OCBE through GLO is found to be significant (Beta = 0.56; $t = 3.471$; $p<0.05$ and VAF = 46%) and this shows partial mediation. Third, the mediation analysis was performed to assess the mediating role of EPO on the linkage between GEL and OCBE. The above results reveal that the direct effect is significant (Beta = 0.31 and $p<0.05$). The indirect effect becomes significant (Beta = 0.27 and $p<0.05$). The total effect of EPO on OCBE

through GLO is significant (Beta = 0.58; t = 1.247; p<0.05 and VAF = 47%) and this reveals partial mediation. Finally, the mediation analysis was performed to assess the mediating role of GWE on the linkage between GEL and OCBE. The above results reveal that the direct effect is significant (Beta = 0.31 and p<0.05). The indirect effect becomes significant (Beta = 0.26 and p<0.05). The total effect of GWE on OCBE through GLO is significant (Beta = 0.57; t = 2.243; p<0.05 and VAF = 46%) and this shows partial mediation. VAF = (indirect effect/total effect) and total effect = (direct effect + indirect effect). The next discussion will be based on moderation analysis.

6.10 MODERATION RESULTS

Moderation is a test conducted to discover if a moderator construct can significantly affect the relationship between the independent and dependent variable (Söderlund, 2023). Similarly, a moderation test determines the direct effect of the moderating variable on the relationship between the independent variable and the dependent variable through a moderating variable (Abu-Bader & Jones, 2021). The moderating test used in this research was based on the PSL approach. The test is measured by means of bootstrapping 5000 re-sampling analysis with formulated hypotheses. Table 6.25 below illustrates the results of mediation.

Table 6.25: Moderation analysis

Total effect (GEL→OCBE)		**Direct effects (EC*GWE→OCBE)**				
Coefficient	**P-value**	**Coefficient**	**SD**	**t-value**	**p-value**	**Confidence interval**
0.761	0.000	0.541	0.064	3.445	0.001	-0.373; -0.126

From the above Table 6.25, the moderation analysis was performed to assess the moderating role of **(EC)** on the linkage between **(GWE)** and **(OCBE)** of hotels. The above results reveal that the total effect of GWE on OCBE is significant (Beta = 0.761; t = 7.038; p<0.05). With the inclusion of the moderating variable (EC), the impact of GWE on OCBE becomes significant (Beta = 0.541; t = 3.445; p<0.05). The bias-corrected confidence interval is -0.373; -0.126, since there is no zero in between; this means that the direct effect is significant. The below diagram shows the simple slope analysis results.

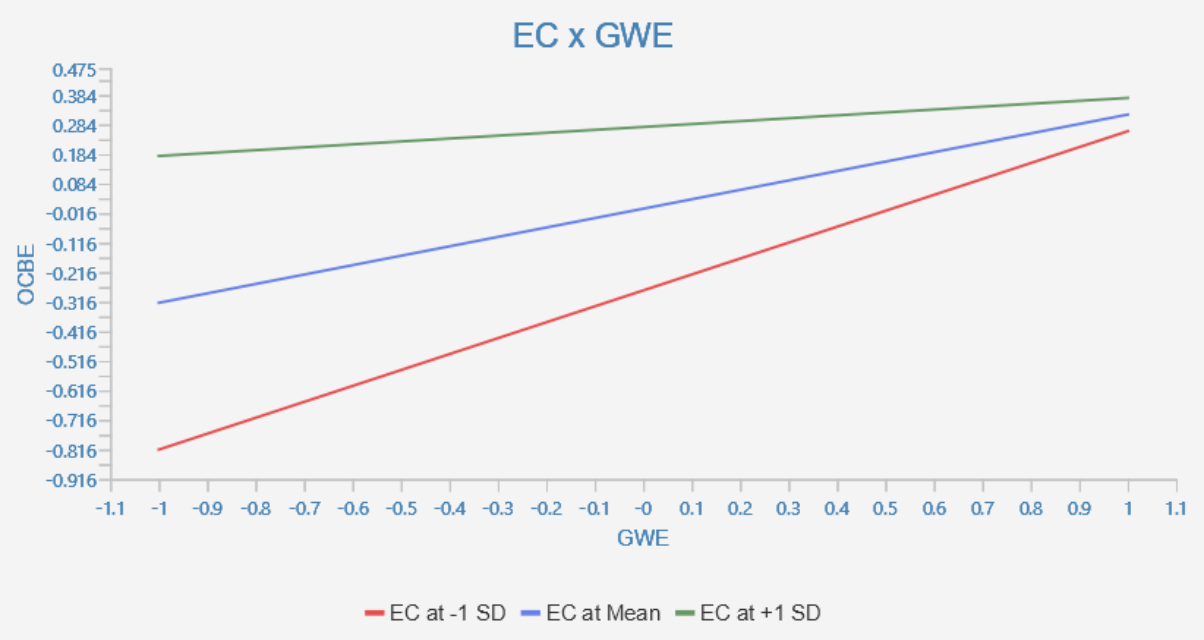

Figure 6.1: Moderation results

Figure 6.1 above reveals the following: The red line represents the standard deviation below the mean; the blue line represents the standard deviation at mean; and lastly, green represents the standard deviation above the mean. This shows that they are positive because it is sloping bottom to top, thus from left to right. This implies that the relationship between GWE and OCBE is dampened by EC. The diagram shows that the green line is with more EC and the red line is with less EC, so the positive effect has a steeper or positive slope when there is less EC. Moreover, this shows that EC moderates the relationship between GWE and OCBE at an average effect. The above discussion is based on the moderation, and will be based on the tables of the study's hypotheses.

6.11 Research Hypotheses

Table 6.4: Research hypotheses

	Hypothesis	Results
H1	There is a significant positive relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H2	There is a significant positive relationship between green empowering leadership (GEL) and green organisational culture (GOC).	Accepted
H3	There is a significant positive relationship between green empowering leadership (GEL) and green learning orientation (GLO).	Accepted
H4	There is a significant positive relationship between green organisational culture (GOC) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H5	There is a significant positive relationship between green learning orientation (GLO) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H6	There is a significant positive relationship between green empowering leadership (GEL) and employees' psychological ownership (EPO).	Accepted
H7	There is a significant positive relationship between green empowering leadership (GEL) and green work engagement (GWE).	Accepted
H8	There is a significant positive relationship between green work engagement (GWE) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H9	There is a significant positive relationship between employees' psychological ownership (EPO) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H10	Green organisational culture (GOC) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).	Accepted

H11	Green learning orientation (GLO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H12	Employees' psychological ownership (EPO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H13	Green work engagement (GWE) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).	Accepted
H14	Environmental concern moderates the relationship between green work engagement (GWE) and organisational citizenship behaviours for the environment (OCBE).	Accepted

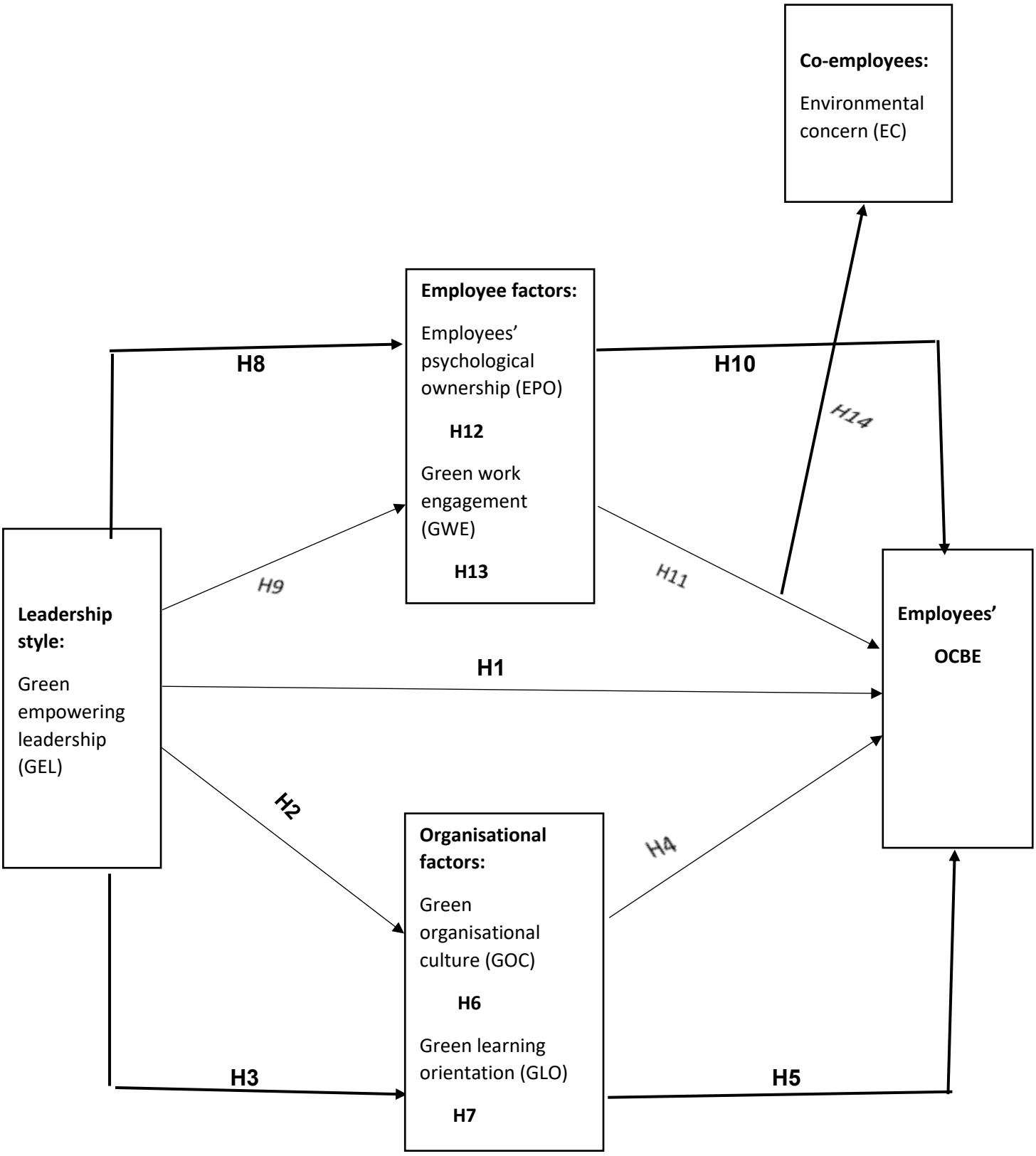

Figure 6.2: Final model

Source: Author's conceptualisation

6.12 CHAPTER SUMMARY

This chapter discussed data analysis, testing of the hypotheses and disclosed the results. First, the chapter revealed the effective response rate, which was 48% from the total number of questionnaire distributed. Second, the chapter revealed the results of normality from the Kolmogorov–Smirnov test and Shapiro Wilks tests. These tests ensure that a data set is well modelled by a normal distribution and compute how likely it is for a random variable underlying the data set to be normally distributed. Third, the chapter discussed the demographic information of the participants and made inferences based on the findings. The chapter revealed the descriptive statistics results of each construct of the study. The results show that all constructs have an acceptable means and standard deviation. The Cronbach's alpha coefficient was satisfactory.

The Smart-PLS version 4.0 was used to analyse the data. First, the reflective measures were analysed measuring reliability and validity. The findings indicated satisfactory reliability and validity of the study's constructs. A structural model was analysed using comm on method bias, R^2, path coefficients and t-statistics, the goodness of fit test, predictive relevance of the model, and the effect size and estimated model fit. All structural model analysis provided satisfactory results as was required by each test. Lastly, mediation and moderation analysis results were presented, which revealed a direct significant effect of the mediation variable on the relationship between GEL and OCBE. Finally, the chapter also revealed the direct effect of the moderating variable EC on the GEL-OBE nexus. The study further revealed that the relationship between GEL and OCBE is moderated by EC. The next chapter will focus on the summaries, conclusions, and recommendations of the study and future research suggestions.

CHAPTER 7

RESEARCH SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter unpacks the findings of this study, summaries, conclusions and recommendations. This chapter concludes the study on the relationship between GEL and OCBE of hotels in selected municipalities in Gauteng Province and examined the role of GLO, GOC, EPO, GWE and EC, based on hypotheses tested in the previous chapter. The chapter highlights the objectives, hypotheses and problem statement. This chapter provides the summary of the research results and the emerging recommendations, which are provided to assist hotel owners with information about the importance of entrepreneurial orientation, market orientation and the dynamism of the environment to aid business performance. This final chapter provides a comprehensive synthesis of the research findings, draws meaningful conclusions, and offers actionable recommendations based on the results obtained. This section will not only summarise the key discoveries made throughout the study, but also discuss their implications for theory, practice, and future research directions in the field of sustainable leadership and environmental responsibility within the hospitality industry. Additionally, the chapter will highlight the practical implications of these findings for managers, leaders, and policymakers seeking to enhance sustainability practices and eco-friendly behaviours in their respective organisations.

7.2 PROBLEM STATEMENT

The tourism and hospitality industry is a major economic sector in South Africa and most countries across the globe, making significant contributions to employment and economic growth (Rasool, Maqbool & Tarique, 2021). However, the hospitality industry also negatively affects the environment through over-consumption of natural resources, pollution, and solid and liquid waste (Abubaka et al., 2022; Juvan, Grün & Dolnicar, 2023). Despite the fact that these businesses contribute significantly to environmental degradation, they can also enhance environmental preservation through their activities (Acheampong & Opoku, 2023 Krause, Droste & Matzdorf, 2021). Over the recent years, immense pressure has been placed on businesses in all sectors to practise a sustainable and environmental orientation, taking cognisance of climate change and degradation caused by humans. The pressure has come from governments' environmental rules and regulations, international environmental

agreements, industry environmental management practices and consumer pro-environmental behaviour (Karatepe et al., 2022; Onjewu, Jafari-Sadeghi, Kock, Haddoud & Sakka, 2023).

In the hospitality sector, most hotels have provided environmentally oriented guidelines to their employees, which aim to develop and implement environmental initiatives throughout the various hotel companies (task-related PEB) (Asante, 2023). However, the effectiveness of an organisation's sustainability practices depends on the support and contribution by their employees, especially their discretionary or voluntary behaviour (OCBE) (Afshar Jahanshahi, Maghsoudi & Shafighi, 2021; Bhattacharya et al., 2023; Zafar, Ho, Cheah & Mohamed, 2022). Leadership can help to improve their employees' OCBE of the organisation. However, the new paradigm is the use of target-specific leadership styles to predict specific outcomes (García Martín, Duran-Heras & Reina Sánchez, 2023).

This study developed a new construct termed green empowering leadership (GEL). Theoretical and empirical studies have focused on green transformational leadership and environmentally specific servant leadership and OCBE (Liu & Yu, 2023, Elshaer et al., 2023; Rimsha et al., 2023). However, the role of GEL in promoting sustainability-oriented behaviour has received scant theoretical and empirical attention. In addition, to the best of the researcher's knowledge, the factors that can play an indirect relationship on or between GEL and OCBE are a major gap in the literature on green leadership styles and OCBE. According to Yadav, Chaudhary, Kumar and Saini (2023), including mediating and moderating variables can help to increase the amount of information available to test a theory. Therefore, it was important to identify mediating and moderating variables in the green leadership style−OECD nexus.

This study drew on employees' perception of organisational factors (green organisational culture and green learning orientation) and employee factors such as psychological ownership and GWE) as mediating factors in the relationship between GEL and OECD. To the best of the researcher's knowledge, the mediating effects of these four constructs in the relationship between GEL and OECD have not been explored. Co-employees can also influence employees' OECD through their social and work interactions (Zheng, Jiang, Cai, Xu & Gao, 2021).

Based on this line of reasoning, the study drew on co-employees' environmental concern as a variable that can influence employees' OECD. However, the moderating effect of co-employees' environmental concern in the relationship between GEW and OECD, to the best of the author's knowledge, remained unexplored. Based on these gaps in theoretical and empirical literature, the research problem of this study was to examine how green empowering leadership affects employees' OECD and what role the organisational factors, employees and co-employees play in the relationship.

7.3 OBJECTIVES OF THE STUDY

The study was based on the following objectives:

a) To establish the relationship between green empowering leadership (GEL) and employees' OCBE.
b) To examine the mediating effect of organisational factors (green organisational culture and green learning orientation in the relationship between GEL and OCBE).
c) To investigate the mediating effect of employees' factors (psychological ownership and GWE) in the relationship between GEL and OCBE.
d) To examine the moderating effect of co-employees' environmental concern in the relationship between GWE and OCBE.
e) To develop and test a mediated-moderated model that examines the role that leadership, the organisation, employees and co-employees play in OCBE.

7.4 HYPOTHESES

The following primary hypotheses and their associated assumptions were utilised to establish the conclusions in this study.

Direct relationship

H1: There is a significant positive relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

H2: There is a significant positive relationship between green empowering leadership (GEL) and green organisational culture (GOC).

H3: There is a significant positive relationship between green empowering leadership (GEL) and green learning orientation (GLO).

H4: There is a significant positive relationship between green organisational culture (GOC) and organisational citizenship behaviours for the environment (OCBE).

H5: There is a significant positive relationship between green learning orientation (GLO) and organisational citizenship behaviours for the environment (OCBE).

H6: There is a significant positive relationship between green empowering leadership (GEL) and employees' psychological ownership (EPO).

H7: There is a significant positive relationship between green empowering leadership (GEL) and employees' green work engagement (GWE).

H8: There is a significant positive relationship between employees' green work engagement (GWE) and organisational citizenship behaviours for the environment (OCBE).

H9: There is a significant positive relationship between employees' psychological ownership (EPO) and organisational citizenship behaviours for the environment (OCBE).

Indirect relationship

H10: Green organisational culture (GOC) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

H11: Green learning orientation (GLO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

H12: Employees' psychological ownership (EPO) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

H13: Green work engagement (GWE) mediates the relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE).

H14: Co-employees' environmental concern moderates the relationship between green work engagement (GWE) and employees' organisational citizenship behaviours for the environment (OCBE).

7.5 MAJOR RESEARCH FINDINGS

The discussion in this section focuses on explaining the results of testing pertaining to the relationships concerning the study, namely, GEL, OCBE, GOC, GLO, EPO, GWE and EC. The discussion follows the 14 hypotheses that were postulated in line with the three primary constructs.

7.5.1 Green empowering leadership (GEL) and OCBE

The proposed model in this study postulated that green empowering leadership had a strong and positive relationship with organisational citizenship behaviours for the environment on hotels using the context of Gauteng Province. As the first primary hypothesis (H1), the study hypothesised that there was a strong and positive relationship between green empowering leadership (GEL) and organisational citizenship behaviours for the environment (OCBE) in hotels, using the context of Gauteng Province. This study revealed that there is a significant relationship between GEL and OCBE and these findings are consistent with number of studies conducted previously. A study by Liu and Yu (2023) states that green transformational leadership has a significant positive impact on employees' OCBE in Chinese manufacturing enterprises. Leaders, as a key factor of enterprise environmental protection, play an important role in influencing employees' behaviour. However, the existing research on leaders and employees' OCBE cannot fully explain such a mechanism.

7.5.2 Green empowering leadership (GEL) and green organisational culture (GOC)

The impact of environmentally specific leadership on a green organisational culture has been studied extensively in recent years. Research has shown that leaders who prioritise environmental sustainability and incorporate it into their decision-making processes can significantly influence their organisation's commitment to green practices (Abbass et al., 2022; Fry & Egel, 2021). This study revealed that there is a significant relationship between GEL and GOL and these findings are consistent with a study conducted by Asante (2023), who suggests that leaders who demonstrate a strong commitment to environmental sustainability can positively influence employees'

environmental attitudes and behaviours. Similarly, in a study conducted by Hou et al. (2022), it is found that environmentally specific leadership practices are associated with higher levels of environmental performance in organisations. These findings support the notion that leadership plays a crucial role in shaping an organisation's green culture, emphasising the need for leaders to promote and prioritise environmental sustainability.

Research by Yang, Shao and Jiang (2023) states that leaders, who prioritise environmental sustainability and personally engage in environmentally conscious behaviours, have a positive impact on fostering a green organisational culture. Leaders, who communicate the importance of sustainability to employees and provide resources for its implementation, create an environment that supports green initiatives (Liu & Yu, 2023). These findings suggest that environmentally specific leadership plays a crucial role in shaping and sustaining an organisation's commitment to environmental sustainability. A study by Hou et al. (2023) states that smaller organisations tend to have built a stronger relationship between environmentally specific leadership and a green organisational culture, compared to larger organisations. In addition, the industry in which the organisation operates can influence the impact of environmentally specific leadership on a green organisational culture, as certain industries may face more stringent environmental regulations and therefore, have a greater need for environmentally focused leadership. External pressures, such as stakeholder demands and societal expectations, can also shape the impact of environmentally specific leadership on a green organisational culture (Zhou, Sawyer & Safi, 2021).

7.5.3 Green empowering leadership (GEL) and green learning orientation (GLO)

The area of environmentally specific leadership and its impact on a green learning orientation is of utmost importance. As the field of sustainable development continues to grow, it is crucial to gain a deeper understanding of the role that leadership plays in fostering environmentally friendly attitudes and behaviours within their organisations. This study revealed that there is a significant relationship between GEL and GLO and these findings are consistent with a study by Hou et al. (2023), who shows that environmentally specific leadership positively influences employees' environmental knowledge and awareness. As employees become more aware of the environmental

impact of their actions, they are more likely to adopt environmentally friendly behaviours and incorporate sustainability practices into their daily routines. Numerous studies have illustrated the positive impact of such leadership on promoting environmental awareness, encouraging sustainable practices, and fostering a sense of responsibility toward the environment (Boeske, 2023; Du & Yan, 2022; Zhou, Ning, He & Li, 2022). By embodying environmental values and promoting eco-friendly behaviours, environmentally specific leaders contribute to the development of a sustainable mindset among individuals and the organisation, leading to a more environmentally conscious society (Li, Xue, Li, Chen & Wang, 2020). Therefore, it is crucial for institutions and organisations to prioritise the development and implementation of environmentally specific leadership to drive positive change in terms of a green learning orientation.

7.5.4 Green organisational culture (GOC) and OCBE

This study revealed that there is a significant relationship between GOC and OCBE and these findings are consistent with a study by Li, Yu and Xing (2023) that reports a positive relationship between a green culture and employees' willingness to engage in OCBE. Studies by Iqbal, Shahzad and Chaudhary (2023) and Liu and Yu (2023) emphasise the role of a green culture in promoting pro-environmental behaviours among employees, thereby enhancing OCBE. A study conducted by Mouro and Duarte (2021) states that employees, who perceived their organisations to have a strong commitment to environmental sustainability, were more likely to engage in pro-environmental behaviours both at work and in their personal lives. Similarly, research by Duarte and Mouro (2022) demonstrates that employees, who were part of an organisation with a strong focus on environmental initiatives, were more motivated to adopt green behaviours and actively seek out opportunities to reduce their ecological footprint. This highlights the influential role that a green organisational culture can play in shaping individuals' environmental attitudes and behaviours (Mirahsani, Azizan, Shahriari, Rexhepi & Najmi, 2023). Research by Ahmad, Al Mamun, Masukujjaman, Makhbul and Ali (2023) reports that a green organisational culture positively impacts ethical behaviour among employees, leading to a greater adoption of pro-environmental practices. Therefore, cultivating a green organisational culture can play a crucial role in promoting environmentally responsible behaviour within the workplace (Mirahsani et al., 2023).

7.5.5 Green learning orientation (GLO) and OCBE

This study revealed that there is a significant relationship between GLO and OCBE and these findings are consistent with a study by Nureen, Liu, Irfan and Sroufe (2023), who examined the impact of implementing OCBE practices in a large manufacturing company. Those results revealed that employees who underwent OCBE training demonstrated enhanced environmental awareness, leading to a significant reduction in waste generation and energy consumption. Similarly, Mohammadi, Monavvarifard, Salehi, Movahedi, Karimi and Liobikienė (2023) examined the implementation of OCBE at a university campus, finding that students who received environmental education and participated in green projects showed improved sustainability behaviours and a deeper understanding of ecological issues. Another study by Wang et al. (2022) states that organisations that adopt a green learning orientation are more likely to engage in environmental sustainability practices. This is because a green learning orientation promotes knowledge acquisition and exploration of innovative practices that can help reduce environmental harm (Wang et al., 2022). Palmié, Rüegger, Holzer and Oghazi (2023) state that employees with a high GLO are more likely to develop skills related to environmental sustainability. They have a better understanding of the importance of sustainable practices and ways to implement them. These skills can help employees to participate in OCBE activities more effectively. GLO has a significant impact on OCBE, leading to positive environmental outcomes for organisations. By fostering a culture of GLO, organisations can create a workforce that is receptive to sustainable practices and that engages in OCBE activities. This engagement can help organisations achieve their environmental goals and contribute to a more sustainable future.

7.5.6 Green organisational culture mediates the relationship between green empowering leadership and OCBE

When the organisational culture encourages and supports environmental sustainability, employees are more likely to engage in OCBE, such as proactively seeking ways to reduce the organisation's ecological footprint. The study illustrates that GOC partially mediates the relationship between GEL and OCBE, with a VAF value of 57%. A study by Liu and Yu (2023) states that a green organisational climate can explain 45% of the relationship between green transformational leadership and employees' OCBE, which enables enterprises to recognise the importance of green

transformational leadership on employees' green behaviours. Therefore, whether employees can actively respond to environmental problems and generate OCBE not only depends on the awakening of personal environmental awareness and the systematic acquisition of environmental protection knowledge and skills, but also relies on positive green organisational climates and a good demonstration/role model effect.

Studies by Khan and Khan (2022) and Liu and Yu (2023) report that a good green atmosphere in an organisation can help employees clearly recognise the green values and development direction of the organisation. This then helps to increase their awareness of environmental protection, and encourage them to exert extra efforts during work or non-work situations, thus enhancing the willingness of OCBE. Therefore, enterprise managers must clearly indicate their positive attitude toward environmental issues, encourage all departments to adopt and improve their green policies and practices, and attach clear importance to the specific implementation of and support for green practices within the organisation. This study shows that timely affirmation and praise should also be given to the positive pro-environment behaviours expected by the organisation and executed by the employees. Doing so can foster a good internal environment for stimulating employees' proactive environmental behaviours. In conclusion, the study revealed that a green organisational culture serves as a bridge between green empowering leadership and employees' involvement in ecologically responsible behaviours (OCBE). It implies that leadership style and practices have an impact on the organisational culture, which in turn, influences employees' behaviour regarding environmental sustainability in the organisation. This mediation model explains how leadership practices can build an organisation's culture and how that culture, in turn, influences employees' behaviour, particularly in the context of environmentally responsible behaviours.

7.5.7 Green learning orientation mediates the relationship between green empowering leadership and OCBE

The study illustrates that GLO partially mediates the relationship between GEL and OCBE, with a VAF value of 45%. The results indicate that when leaders exhibit environmentally specific behaviours, it positively influences employees' green learning orientation, which, in turn, leads to higher levels of OCBE (Rimsha et al., 2023). This suggests that organisations seeking to promote sustainable practices should focus on developing environmentally specific leadership behaviours and fostering a green

learning culture within their workforce. Several empirical studies have provided evidence supporting the mediating role of green learning orientation. For instance, a study by Hou et al. (2023) atates that green learning orientation mediates the relationship between environmentally specific leadership and organisational citizenship behaviour toward the environment (OCBE). Similarly, a study by Elshaer et al. (2023) corroborates these findings, demonstrating that green learning orientation acts as a significant mediator between environmentally specific leadership and OCBE. Hou et al. (2023) state that environmentally specific leadership positively influences a green learning orientation, which, in turn, leads to the adoption of sustainable practices within organisations. These findings highlight the importance of fostering a green learning orientation within organisations, as it acts as a catalyst for the implementation of environmentally friendly practices and contributes to the organisations' overall sustainability efforts. By creating a supportive environment that encourages engagement in environmental sustainability initiatives, employees feel a sense of responsibility toward the organisation's aims and goals, and they develop a stronger sense of attachment. This sense of ownership can lead to increased employee engagement, commitment, well-being, and satisfaction, and contribute to a more positive organisational culture.

7.5.8 Green empowering leadership (GEL) and employee psychological ownership (EPO)

This study revealed that there is a significant relationship between GEL and EPO. These findings are consistent with a study by Raimundo and Proença (2023) that states that employees, who perceive their organisation as environmentally conscious, are more likely to develop a sense of psychological ownership. Similarly, another study by Ozbozkurt, Ince and Yesilkus (2022) highlights the positive influence of environmental practices on employees' psychological ownership. These findings underscore the significance of environmentally specific factors in shaping EPO in organisations. According to research conducted by Wang et al. (2022), employees, who perceive their organisation as environmentally responsible, are more likely to develop a sense of psychological ownership toward their work and their organisation. This is because an environmentally conscious organisation is seen as being socially responsible and caring, which enhances employees' identification with their organisation. One study investigating the impact of environmentally specific factors on

employees' psychological ownership reports that individuals are more likely to develop a sense of ownership when their work environment aligns with their personal values and beliefs (Abbas et al, 2022). This finding suggests that employees may feel a greater sense of responsibility and investment in their work when they perceive their organisation as environmentally friendly. As a result, they may become more motivated to contribute to the success of the organisation.

7.5.9 Green empowering leadership (GEL) and green work engagement (GWE)

This study revealed that there is a significant relationship between GEL and GWE. These findings are consistent with a study conducted by Suliman et al. (2023), examining the impact of environmentally specific leadership on green work engagement in the hospitality industry. The researchers studied the role of environmentally specific leadership behaviours, such as advocating for sustainable practices and providing resources for green initiatives. The study states that when leaders display these behaviours, it positively influences employees' green work engagement, leading to increased pro-environmental behaviours in the workplace. This highlights the importance of environmentally specific leadership in promoting sustainability within the hospitality industry.

Previous research has highlighted the importance of environmentally specific leadership in promoting green work engagement among employees (Tran, 2023). Leaders, who exhibit environmentally specific behaviours, such as encouraging sustainable practices and setting environmental goals, positively influence employees' engagement in environmentally friendly behaviours (Asante, 2023; Karatepe et al., 2022). Thus, environmentally specific leadership can play a pivotal role in fostering a sense of commitment and enthusiasm among employees toward green initiatives within the organisation (Hou et al., 2023). This research contributes to the growing body of literature on leadership and sustainability, emphasising the importance of leaders' role in promoting environmentally friendly behaviours in the workplace. These findings have significant implications for organisations seeking to enhance their environmental sustainability practices by adopting leadership strategies that inspire and engage employees (Hou et al., 2023; Karatepe et al., 2022).

7.5.10 Green work engagement (GWE) and OCBE

This study revealed that there is a significant relationship between GWE and OCBE. Tthese findings are consistent with a study conducted by Filimonau, Bai, Romanenko, Tarakanova and Ermolaev (2023), stating that employees, who are highly engaged in green work practices, are more likely to engage in OCBE. Similarly, Bhattacharya et al. (2023) report that employees, who are actively involved in sustainability initiatives at work, demonstrate higher levels of OCBE. These findings suggest that fostering green work engagement can lead to an increase in employees' pro-environmental behaviours toward their organisation. Studies have found positive associations between green work engagement and OCBE, such as voluntary participation in environmental initiatives and promoting sustainability (Amrutha & Geetha, 2021; Liu & Yu, 2023; Unsworth, Davis, Russell & Bretter, 2021). These findings highlight the significance of fostering employees' green work engagement to enhance their OCBE. A study by Liu and Yu (2023) reports that employees, who engage in environmentally responsible behaviours at work, exhibit higher levels of OCBE, such as voluntary participation in environmental initiatives and resource conservation efforts. Similarly, Zacher, Rudolph and Katz (2023) identify a significant positive relationship between green work engagement and employees' proactive environmental behaviours aimed at protecting and preserving the environment.

7.5.11 Employees' psychological ownership (EPO) and OCBE

This study revealed that there is a significant relationship between EPO and OCBE. These findings are consistent with a study conducted by Kao, Cho and Kao (2023) that suggests that when employees perceive themselves as owners of the organisation, they are more likely to engage in behaviours that go beyond their formal job requirements, such as helping colleagues and volunteering for extra tasks. This finding is reinforced by the study conducted by Zhang et al. (2023), which found a positive relationship between psychological ownership and OCBE. This implies that when employees have a sense of ownership, they are more motivated to contribute to the organisation and its overall success. Therefore, organisations should strive to foster a sense of ownership among their employees in order to enhance their OCBE. A study conducted by Ullah et al. (2021) reports that employees who experience higher levels of psychological ownership are more likely to engage in OCBE. This may be because employees with a sense of ownership view themselves as integral

contributors to the organisation and therefore, they are more inclined to go above and beyond their formal job requirements. Research by Iqbal et al. (2023) states that employees, who have a strong sense of ownership, are more likely to identify with their organisation, resulting in increased willingness to engage in OCBE.

7.5.12 Employees' psychological ownership mediates the relationship between green empowering leadership and OCBE

The study illustrates that employees' psychological ownership partially mediates the relationship between GEL and OCBE, with a VAF value of 47%. The results of the study agree with previous studies (Nurtjahjani, Batilmurik, Puspita & Fanggidae, 2022; Ullah et al., 2021), which argue that responsible leadership is essential for promoting sustainability-related behaviour among employees. Previous studies have tested the mediating role of psychological ownership between positive leadership and employees' extra-role behaviours (Feldermann & Hiebl, 2022; Nurtjahjani et al., 2022). Psychological ownership encourages employees to have a strong sense of responsibility for the organisation (Batool, Raziq, Obaid & Sumbal, 2022). For individuals, who are driven by this responsibility, reciprocal behaviour becomes a moral requirement; thus, individuals will take the initiative to defend, protect and improve the ownership's objectives. In the organisational context, the reciprocity behaviours of employees are embodied in investing time and energy in their work voluntarily for the collective welfare (Ngobeni, Saurombe & Joseph, 2022). Therefore, the results of this study infer that when employees perceive that they have psychological ownership in the organisation, they may proactively engage more in OCBE outside the organisational reward system to achieve corporate low-carbon goals. Finally, EPO serves as a bridge between green empowering leadership and employees' participation in ecologically responsible behaviours (OCBE). It implies that leadership practices influence employees' sense of ownership and responsibility, which, in turn, influences their activities connected to environmental sustainability inside the organisation.

7.5.13 Green work engagement mediates the relationship between green empowering leadership and OCBE

The study illustrates that green work engagement partially mediates the relationship between GEL and OCBE, with a VAF value of 46%. The findings of this study are supported by the findings of a study conducted by Darban, Karatepe and

Rezapouraghdam (2022), who state that green work engagement positively affects employees' OCBE. Research by Suliman et al. (2023) indicates that environmentally specific leadership significantly influences employees' green work engagement. Asghar, Zaidi, Ahmed, Khalid, Murshed, Mahmood and Abbas (2022) reveal that environmentally specific leadership positively influences employees' OCBE. These studies demonstrate the interconnectedness between green work engagement, environmentally specific leadership, and employees' OCBE, highlighting the importance of considering these variables in promoting environmental sustainability in organisations. Research has found a positive relationship between environmentally specific leadership and green work engagement, stating that if leaders promote and demonstrate environmentally responsible behaviours, this influences employees to engage in environmentally friendly actions (Farrukh, Ansari, Raza, Wu & Wang, 2022; Zhang et al., 2021). Therefore, it can be argued that green work engagement mediates the relationship between environmentally specific leadership and OCBE. Finally, green work engagement serves as a bridge between green empowering leadership and employees' involvement in environmentally responsible behaviours (OCBE). It indicates that leadership practices influence employees' level of engagement in green activities, which, in turn, influences their behaviours connected to environmental sustainability in the organisation. This mediation model explains how leadership practices can generate a high level of engagement among employees in the organisation's green initiatives, leading to increased participation in environmentally responsible behaviours that support the organisation's sustainability goals.

7.5.14 Environmental concern (EC) moderates the relationship between green work engagement (GWE) and OCBE

The study hypothesised a significant effect of EC on the relationship between GWE and OCBE, and the findings show an average weight on the slop plot. The findings of this study are in line with those of Omarova and Jo (2022), who state that employees with higher levels of EC are more likely to engage in pro-environmental behaviour in the workplace. Similarly, a study by Jameel, Ma, Liu, Hussain, Li and Asif (2023) states that individuals, who report high levels of GWE, are more likely to exhibit OCBE when they also have high levels of EC. These findings highlight the importance of considering environmental concern as a significant moderating factor in understanding the relationship between GWE and OCBE. The moderation effect of environmental

concern (EC) on the relationship between green work engagement (GWE) and organisational citizenship behaviour for the environment (OCBE) implies that the impact of GWE on OCBE is influenced by employees' level of environmental concern. EC can moderate the relationship between GWE and OCBE. High EC can intensify the relationship between GWE and OCBE, while low EC can weaken this relationship. Therefore, it is important for organisations to foster environmental concern among employees to enhance their OCBE.

7.6 Research Contributions

The primary contribution of this study to the field of business management is through considering the impact of green empowering leadership on organisational citizenship behaviours for the environment. The research also contributes through the introduction of mediators, namely, green learning orientation, green organisational culture, employees' psychological ownership and green work engagement, and a moderator, namely, environmental concern. The contributions made through this study can be regarded in three areas, namely, the theoretical aspect (GEL, OCBE, GOC, GLO, EPO, GWE and EC), the methodological aspect, and the managerial aspect.

7.6.1 Novelty and significant contribution

The study introduced a new construct 'green empowering leadership', which is a novel concept that combines the principles of green leadership and empowering leadership. This construct has not been explored in previous research, making it a significant contribution to the field. The study focused on the hospitality industry, which is a relatively underrepresented sector in environmental research. This industry is known for its high environmental impact, making it an important area of study to understand how green empowering leadership can influence employees' behaviour and organisational outcomes. The study advances the understanding of green empowering leadership by providing a comprehensive understanding of green empowering leadership and its relationship with OCBE. The study highlights the importance of employees' behaviour in achieving environmental sustainability, which is often overlooked in research. The study also enhances knowledge on the mediating (GOC, EPO, GWE and GLO) and moderating factors (EC) influencing the relationship between green empowering leadership and organisational citizenship behaviour by providing an insight into the mediating and moderating factors that influence the relationship between green empowering leadership and organisational citizenship

behaviour, which can inform future research and practice. The introduction of green empowering leadership as a new construct enriches leadership literature, while the moderated mediation model provides an overview for understanding the dynamics between leadership and environmental behaviour. The study has practical implications for enhancing sustainability in the hospitality industry and offers valuable insights for policymakers, organisations, and leaders aiming to foster a culture of environmental responsibility.

7.6.2 Theoretical contribution

The research adds to the growing body of knowledge in the field of environmental tourism and the hospitality industry. First, the researcher proposes GEL as a new construct in the tourism and hospitality sectors. The researcher suggests that conventional leadership approaches may achieve green employee outcomes in the OCBE context. GEL represents a unique approach that combines elements of environmental sustainability and employee empowerment with traditional leadership theories. Researchers can study how this leadership style intersects with existing theories, such as transformational leadership or servant leadership, to develop a more comprehensive understanding of effective leadership in the hospitality sector. The practice of green leadership contributes to the theoretical framework of sustainability in the hospitality industry. Scholars can explore how leadership behaviours and organisational culture influence the adoption and success of sustainability initiatives. This can lead to the development of new sustainability models and frameworks specific to the hospitality sector. The practice of green leadership contributes to the theoretical framework of sustainability in the hospitality industry. Scholars can explore how leadership behaviours and organisational culture influence the adoption and success of sustainability initiatives. This can lead to the development of new sustainability models and frameworks specific to the hospitality sector. Lastly, GEL emphasises employees' involvement in sustainability efforts. Employee empowerment in the context of sustainability can be studied to see how it affects organisations' outcomes, employees' engagement, and work satisfaction. This can contribute to the development of theories related to employee empowerment within the hospitality industry.

The researcher further contributes by proposing GOC, GLO, EPO and GWE to mediate the relationship between GEL and OCBE. The theoretical framework

integrates several important constructs, such as a green organisational culture, green learning orientation, work engagement, psychological ownership, green empowering leadership, and OCBE. This comprehensive approach allows for a deeper understanding of how these variables are interconnected in the hospitality context. The theoretical framework also suggests mediation effects, indicating that certain variables (green organisational culture, green learning orientation, green work engagement and psychological ownership), which subsequently affect green empowering leadership and OCBE. This provides insights into the underlying mechanisms and processes that drive sustainable behaviour in hospitality organisations. Lastly, the proposed model implies complex relationships between these constructs. By exploring how green organisational culture, green learning orientation, green work engagement and psychological ownership, and how these, in turn, impact GEL and OCBE, researchers can develop a nuanced understanding of the dynamics at play in sustainable leadership and behaviour in the hospitality sector.

The researcher further contributes to the theoretical knowledge by proposing EC to moderate the relationship between GWE and OCBE. The moderation model can contribute to theories related to sustainable leadership. Scholars can examine how leaders can leverage employees' environmental concern to enhance work engagement and encourage OCBE, contributing to the development of leadership theories specific to sustainability in the hospitality industry. Lastly, theoretical advancements can extend to the design and effectiveness of sustainability training programmes. Researchers can explore how training programmes can be tailored to employees with varying levels of environmental concern to maximise their impact on GWE and OCBE.

7.6.3 Methodological contribution

Studying the mediation and moderation of multiple variables in a single model requires advanced statistical techniques, such as structural equation modelling (SEM) or path analysis. The study contributes to the field by developing and refining methods for conducting complex mediation and moderation analyses, including strategies for handling multivariate relationships, and assessing indirect effects. Examining the complex relationships between green empowering leadership and its influencing factors (green work engagement, green organisational culture, green learning orientation, EPO and environmental concern) on OCBE, researchers can utilise a

multifaceted research design that incorporates multiple variables and constructs. This approach can provide a more comprehensive understanding of the underlying mechanisms involved in promoting pro-environmental behaviours within organisations. Utilising advanced statistical techniques, such as mediation and moderation analysis, can help researchers explore the underlying mechanisms and boundary conditions of the relationships between green empowering leadership, its influencing factors, and OCBE. By testing for mediating and moderating effects, researchers can uncover the processes through which these constructs interact and identify potential moderators that may influence these relationships. Overall, the methodological contribution of investigating the relationships between green empowering leadership, its influencing factors, and OCBE can enhance research methodologies in the fields of leadership, sustainability, and organisational behaviour.

7.6.4 Empirical contribution

The empirical contribution of investigating the relationship between green empowering leadership and its impact on organisational citizenship behaviour for the environment through the mechanisms of green work engagement, green organisational culture, green learning orientation, and EPO provides valuable insights for both researchers and practitioners. Conducting empirical research on green empowering leadership can validate the existence and effectiveness of this new leadership construct. By collecting data on leadership behaviours that empower employees to engage in pro-environmental activities, researchers can establish the empirical validity of this concept and highlight its importance in promoting sustainability within organisations. Empirical studies can quantify the effects of green empowering leadership on OCBE, and the mediating variables involved. By collecting quantitative data through surveys or assessments, researchers can analyse the strength and direction of these relationships, providing empirical support for the proposed theoretical model. Empirical research can also explore potential moderating factors that may influence the relationship between green empowering leadership, the mediating mechanisms, and OCBE. By including variables such as the organisations' size, industry sector, or employees' demographics in the analysis, researchers can uncover additional insights into the complex interplay of factors that affect employees' engagement in pro-environmental behaviours. Empirical findings on the relationship between green empowering leadership, the mediating mechanisms, and OCBE can have practical

implications for leadership development and sustainability initiatives within organisations. By identifying the key drivers of employees' engagement in environmental sustainability practices, organisations can tailor leadership training programmes and interventions to foster a culture of sustainability and promote employees' pro-environmental behaviours. Overall, conducting empirical research on the relationships outlined in this study can provide valuable empirical evidence of the impact of green empowering leadership on OCBE and the mechanisms through which this relationship operates. By collecting and analysing empirical data, researchers can contribute to the body of knowledge on sustainable leadership and provide practical recommendations for organisations looking to promote environmental responsibility among their employees.

7.6.5 Managerial contribution

The managerial contribution of exploring the relationship between green empowering leadership and its impact on OCBE through the mechanisms of green work engagement, green organisational culture, green learning orientation, and EPO can have significant practical implications for leaders and managers in promoting sustainability within their organisations. Understanding the concept of GEL and how it influences OCBE through various mechanisms can help managers develop their leadership skills to effectively promote sustainability initiatives in their organisations. By learning how to empower employees to engage in pro-environmental behaviours through green work engagement, a green organisational culture, and other mechanisms, managers can create a more environmentally conscious workforce. Exploring how a green organisational culture impacts OCBE can help managers cultivate a work environment that supports and reinforces employees' commitment to environmental sustainability. By fostering a culture that values and promotes green practices, managers can influence employees' behaviours and attitudes toward sustainability, which should lead to increased engagement in OCBE. Recognising the importance of employees' psychological ownership in influencing OCBE can empower managers to foster a sense of ownership and responsibility among employees toward environmental sustainability initiatives. By involving employees in decision-making processes, providing autonomy, and creating a supportive work environment, managers can enhance employees' sense of ownership and commitment to sustainability goals. Managers can utilise the insights gained from studying the

relationship between green empowering leadership, its mechanisms, and OCBE to develop performance management systems and incentives that reward and recognise employees for their contributions to environmental sustainability. By aligning performance metrics with sustainability goals and providing incentives for engaging in OCBE, managers can motivate employees to actively participate in green initiatives. By leveraging these insights, managers can create a culture of environmental responsibility, engage employees in pro-environmental behaviours, and drive organisational efforts toward achieving sustainability goals.

7.6.6 Policy contribution

Key findings from the study have the potential to influence international, national, and local policy. Sustainable Development Goals (SDGs) 13 (Climate Action), 12 (Responsible Consumption and Production), and 17 (Partnerships for the Goals) can all benefit from policy measures that are based on the study's conclusions. Policymakers can utilise the findings to create plans that encourage environmentally conscious tourism, reduce waste, and increase environmental awareness among employees in the hospitality industry. The International Labour Organization's (ILO) policies on social responsibility, labour standards, and sustainable development may also be influenced by the study's emphasis on green empowering leadership and organisational citizenship behaviour. The results can help authorities create standards and training programmes for hospitality industry employees that encourage environmentally responsible practices. The study can contribute to best practices shared through international organisations like the United Nations World Tourism Organization (UNWTO) and the International Hospitality Institute.

By encouraging sustainable practices in the hospitality sector, which are essential for both economic growth and environmental sustainability, the study promotes South Africa's National Development Plan. The study's findings can be used to improve the National Tourism Sector Strategy by highlighting the contribution of green leadership to the advancement of sustainable tourism practices. The sustainability plan of the South African Government, which attempts to encourage sustainable development and reduce greenhouse gas emissions, can benefit from the study's conclusions. The findings can aid in the development of policies by policymakers that support green empowering leadership and organisational citizenship behaviour in the hospitality sector, thereby fostering a more ecologically conscious and sustainable

economy. Lastly, the study emphasises that green empowering leadership and organisational citizenship behaviour can influence the Department of Labour's policies on occupational health and safety, workers' rights, and social responsibility. The findings can provide insights for policymakers to develop guidelines and regulations for workers in the hospitality industry to promote environmentally responsible practices.

The study's findings can help inform provincial policy measures in Gauteng, such as promoting sustainable tourism practices, minimising waste, and raising environmental awareness among hospitality staff. The findings can assist policymakers build measures to encourage green empowered leadership and organisational civic behaviour in the province's hospitality firms and encourage local hospitality enterprises to engage with the community on environmental issues, to develop a grassroots sustainability culture. Local governments might help create GEL training programmes for middle managers, ensuring that they are prepared to promote sustainable habits among staff. The findings can assist policymakers in developing ways to encourage green empowering leadership and organisational citizenship behaviour in hospitality enterprises under their jurisdiction. By aligning with the Sustainable Development Goals and South Africa's sustainability plans, the findings provide a framework for developing effective policies that promote sustainable practices in the hospitality industry. These policies can enhance environmental performance, foster a culture of sustainability, and contribute to broader socio-economic and environmental goals.

7.7 RECOMMENDATIONS

This section provides the recommendations toward the hospitality sector with the intention to improve their sustainable development practices.

7.7.1 Theoretical recommendations

Theoretical recommendations for exploring the relationship between green empowering leadership and its impact on OCBE through the mechanisms of green work engagement, green organisational culture, green learning orientation, and employees’ psychological ownership can provide valuable insights for future research and practical applications. Research can develop a comprehensive conceptual framework that outlines the relationships between green empowering leadership, green work engagement, a green organisational culture, green learning orientation,

employee psychological ownership, and OCBE. This framework can provide a clear theoretical underpinning for understanding how these constructs interact and influence employees' engagement in environmentally responsible behaviours. Future studies can employ advanced statistical techniques, such as mediation and moderation analysis, to explore the mediating roles of green work engagement, a green organisational culture, green learning orientation, employee psychological ownership and environmental concern in the relationship between green empowering leadership and OCBE. By examining these mechanisms, researchers can identify the intricate pathways through which leadership influences employees' pro-environmental behaviours. Longitudinal research designs can be utilised to examine the long-term effects of green empowering leadership on employees' OCBE and the underlying mechanisms over time. This approach can provide insights into the sustainability of leadership interventions and organisational practices aimed at fostering environmental citizenship behaviours. Comparative studies across different industries, organisational sizes, and cultural contexts can help validate the theoretical framework proposed for green empowering leadership and its effects on OCBE. By comparing the impacts of leadership on environmental behaviours in diverse settings, researchers can identify nuanced differences and similarities in the relationships between these constructs. Research can explore the multilevel effects of green empowering leadership on OCBE by considering individual, team, and organisational levels of analysis. Understanding how leadership practices influence environmental behaviours at different levels of the organisation can offer a more holistic perspective on the role of leadership in driving sustainability initiatives. Practical intervention studies can be conducted to test the effectiveness of implementing green empowering leadership practices and mechanisms, such as green work engagement, a green organisational culture, green learning orientation, and employees’ psychological ownership in promoting OCBE. By implementing targeted interventions and assessing their impact on employees' environmental behaviours, organisations can identify best practices for leadership development and sustainability initiatives. This holistic approach can contribute to the development of sustainable leadership practices and facilitate the integration of environmental sustainability principles into organisational behaviour theories and practices.

7.7.2 Policy recommendations

Policy recommendations based on the research on green empowering leadership and its impact on OCBE through mechanisms, such as green work engagement, a green organisational culture, green learning orientation, and employees' psychological ownership can play a crucial role in promoting sustainability within organisations. Organisations should invest in leadership development programmes that focus on promoting green empowering leadership behaviours. Training and development initiatives can help leaders understand the importance of environmental sustainability, learn how to empower and engage employees in green practices, and cultivate a culture that values environmental responsibility. Implementing incentive systems that reward and recognise employees for their engagement in pro-environmental behaviours can help reinforce the link between green empowering leadership and OCBE. By aligning employees' recognition and rewards with sustainability goals, organisations can encourage employees to actively participate in environmentally friendly initiatives. Organisations should strive to cultivate a green organisational culture that emphasises environmental values, sustainability practices, and shared responsibility for preserving the environment. Leaders can promote a culture that prioritises eco-friendly practices through communication, role modelling, and organisational policies that support sustainability. Providing employees with opportunities for green learning orientation can enhance their knowledge and skills related to environmental sustainability. Organisations can offer training programmes, workshops, and resources that educate employees about sustainable practices, green technologies, and the importance of environmental conservation. Fostering green work engagement among employees can be achieved through strategies that promote a sense of ownership and empowerment in environmental initiatives. Leaders can involve employees in decision-making processes related to sustainability, encourage open communication channels for sharing ideas and feedback, and create a supportive work environment that values contributions to environmental goals. Leaders should communicate openly and transparently about the organisation's sustainability goals, progress, and initiatives. Regular communication about environmental performance, achievements, and challenges can help build trust, foster employees' commitment to green practices, and create a shared sense of responsibility for environmental stewardship. Organisations can enhance their sustainability efforts by collaborating with external stakeholders, such as government

agencies, NGOs, suppliers, and customers. Building partnerships with external organisations can facilitate knowledge-sharing, resource-pooling, and collective action toward achieving common environmental goals. These policies can contribute to a more sustainable future for organisations, their employees, and the broader society.

7.8 LIMITATIONS OF THE STUDY

This study identified several caveats to be considered for future research.

The study adopted a non-probability purposive and convinience sampling methods and did not use probability sampling. Consequently, results should be interpreted with caution, as non-probability sampling limits the generalisability of the research findings.

First, while this study showed pertinent proof for the link between GEL and OCBE, the following discussion reveals the limitations of the study. The first limitation is that the study was conducted on selected metropolitan municipalities, namely the City of Johannesburg and the City of Tshwane in Gauteng Province. Other districts and provinces were excluded from participating in the study. This limits the researcher to draw broader conclusions about the effects of GLO, GOC, GWE, EC and EPO on OCBE in different domains. Results cannot be generalised to companies that fall within the same range as results may vary based on different municipalities, provinces and countries. Other studies may use different provinces or conduct a national or international study. Second, the sample of this study includes three-star, four-star and five-star hotels. It is therefore recommended to carry out research in the future into other business areas not mentioned. Third, the study's use of a cross-sectional research using a two-wave methodology prevents evaluation of the interrelationships between GLO, GOC, GWE, EC and EPO on OCBE's long-term effects. The effectiveness of GLO, GOC, GWE, EC and EPO on OCBE can be evaluated using a longitudinal research design because the benefits from these interventions are difficult to see in the short term. Even though a positive and significant association between the variables was discovered, methodological variation is still required to evaluate the relationship. Other researchers can deploy longitudinal research so that the results can be observed over time and better recommendations made. Fourth, since the researcher utilised convenience and purposive sampling in this study, there is a possibility for sample bias Sixth, future researchers can employ other methods of sampling to enhance the results. Also, qualitative and mixed empirical research would

provide an in-depth and extensive understanding of the relationship between GLO, GOC, GWE, EC and EPO on OCBE in the context of green hotels.

7.9 AREAS OF FURTHER STUDY

Conducting longitudinal studies should be considered to examine the long-term effects of green empowering leadership on OCBE and the mediating mechanisms, such as green work engagement, a green organisational culture, green learning orientation, employees' psychological ownership and environmental concern. Longitudinal research can provide insights into the sustainability of the effects of green empowering leadership on employees' environmental behaviours over time. Research should also investigate the impact of green empowering leadership on OCBE and its mechanisms in different cultural contexts. Cross-cultural studies can help to understand how leadership behaviours and environmental attitudes vary across cultures and how these variations influence employees' engagement in environmentally sustainable behaviours. Exploring the impact of green empowering leadership on OCBE at different levels of analysis, including individual, team, and organisational levels would add to theoretical and practical knowledge. Understanding how leadership behaviours influence environmental behaviours at multiple levels can provide a more comprehensive understanding of the mechanisms through which green empowering leadership affects OCBE. Moderating variables should be examined further that may influence the relationship between green empowering leadership and OCBE, such as organisational climate, employee demographics, or environmental values. Investigating these moderating variables can help to identify boundary conditions for the effectiveness of green empowering leadership in promoting environmentally responsible behaviours. Lastly, conducting intervention studies should be conducted to test the effectiveness of leadership development programmes aimed at fostering green empowering leadership and promoting OCBE. Implementing interventions in organisational settings can provide practical insights into the efficacy of specific leadership strategies in promoting environmental sustainability. Exploring these research avenues, scholars can advance the understanding of the role of leadership in driving environmental behaviours and contribute to the development of sustainable practices in organisations. Future studies should further explore how empowering leadership can be applied and studied in three- and four-star hotels. By focusing on three- and four-star hotels, researchers could provide valuable insights into how

leadership strategies can be tailored to the specific needs of different hotel classifications, leading to more effective management practices and improved business outcomes.

7.10 ACHIEVEMENT OF OBJECTIVES OF THE STUDY

Below is a summary of the achieved objectives of the study:

7.10.1 To establish the relationship between green empowering leadership (GEL) and employees OCBE

The researcher effectively achieved the objective of establishing the relationship between GEL and employees' OCBE in the hospitality industry, contributing to both theoretical knowledge and practical implications for sustainability management. GEL has been shown to have a positive impact on employees' OCBE in the hospitality industry. By promoting employees' engagement, job satisfaction, and loyalty, GEL can lead to improved organisational performance and sustainability. Hotels and resorts that adopt GEL practices can expect to see positive outcomes in terms of employee retention, customer satisfaction, and environmental sustainability. By supporting employees' well-being and empowering them to take ownership of their work, hotels can create a positive work environment that fosters loyalty, engagement, and OCBE.

7.10.2 To examine the mediating effect of organisational factors (green organisational culture and green learning orientation in the relationship between GEL and OCBE

The results suggest that hotels should invest in creating a green organisational culture and promoting green learning opportunities to foster employees' engagement and commitment. The study's findings also highlight the importance of measuring GEL and OCBE in the hospitality industry, providing a framework for organisations to evaluate their effectiveness in promoting sustainability and employees' engagement. Overall, the study's findings provide valuable insights into the relationship between GEL, OCBE, green organisational culture, and green learning orientation in the hospitality industry, with important implications for organisations seeking to improve employee engagement and commitment while promoting sustainability.

7.10.3 To investigate the mediating effect of employee factors (psychological ownership) and GWE) in the relationship between GEL and OCBE

The results suggest that hotels should invest in creating a sense of ownership among employees by providing them with opportunities to participate in decision-making processes and promoting green work practices. The study's findings also highlight the importance of measuring GEL, psychological ownership, and green work engagement in the hospitality industry, providing a framework for organisations to evaluate their effectiveness in promoting sustainability and employee engagement. Overall, the study's findings provide valuable insights into the relationship between GEL, OCBE, psychological ownership, and green work engagement in the hospitality industry, with important implications for organisations seeking to improve employee engagement and commitment while promoting sustainability.

7.10.4 To examine the moderating effect of co-employees' environmental concern in the relationship between GWE and OCBE

The results suggest that hotels should invest in creating a green work environment that promotes sustainability and environmental awareness among employees. The study's findings also highlight the importance of fostering a culture of environmental concern among employees, which can be achieved through training programmes, workshops, and social initiatives. The study's results provide valuable insights into the role of social influence in shaping employees' environmental behaviours and highlight the importance of considering social factors in environmental management practices. Overall, the study's findings provide valuable insights into the relationship between GWE, OCBE, and co-employees' environmental concern in the hospitality industry, with important implications for organisations seeking to improve employee engagement and commitment while promoting sustainability.

7.10. 5 To develop and test a mediated-moderated model that examines the role that leadership, organisation, employees and co-employees play in OCBE

The results suggest that hotels should invest in developing effective leadership styles that promote employee engagement and commitment. The study's findings also highlight the importance of considering the organisational context in which leadership operates. The study's findings provide a framework for organisations to evaluate their effectiveness in promoting employee engagement and commitment. Overall, the study's findings provide valuable insights into the role of leadership, organisation,

employees, and co-employees in predicting OCBE in the hospitality industry, with important implications for organisations seeking to improve employee engagement and commitment while promoting sustainability.

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Annexure 1: QUESTIONNAIRE

QUESTIONNAIRE

My name is Khutso Pitso Mankgele and I am a student with the University of Limpopo. I am conducting a study on the role played by leadership, organisational factors, employee and co-employees in organisational citizenship behaviours for the environment of hospitality firms. The hospitality industry negatively affects the environment through over consumption of natural resources, pollution and solid and liquid waste. However, despite the fact that the hospitality sector contributes significantly to environmental degradation, they can also enhance environmental preservation through their activities. Positive changes in employees' behaviour toward pro-environmental actions are highly necessary to manage environmental challenges and achieve sustainable tourism and hospitality. This questionnaire is for academic purposes only and confidentiality will be highly maintained. As a participant, you are not duty-bound to disclose your name. I am humbly requesting you to assist me by answering the following set of questions which will take only 25-30 minutes of your time.

Request: Please answer by marking (X) in the correct box.

SECTION A: Demographic profile

1. Gender of the participant

Male	Female

2. Age of the participant

Below 20	20-30	31-40	41-50	51-60	Above 60

3. Level of education of the participant

Below Matric	Matric	Diploma/degree	Honours	Masters	Doctoral

4. How many years have you been an employee of this business?

0-1	2-5	6-10	11-15	16+

5. Which department are in?

Reservations and Marketing	Human resource	Finance	General management	Front Office
Food and Beverage	Housekeeping	Maintenance	Other	

6. What is your position in the hotel?

Marketing manager	Financial manager	Human resource manager	Management	Front Office manager
Food & Beverage manager	Housekeeping manager	Maintenance manager	Other	

7. What is the grading of the hotel?

Three-star	Four-star	Five-star

SECTION B: Green empowering leadership

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Sets high green standards for performance by his/her own green behaviour					
Works as hard as he/she can on green practices					
Works as hard as employee on green practices					
Sets good green examples by the way he/she behaves					
Encourages employees to express green ideas/suggestions					
Listens to employees' green ideas and suggestions					
Uses employees' suggestions to make green decisions that affect us					
Gives al employees a chance to voice their green opinions					
Makes green decisions that are based only on his/her own ideas					

Helps employees see areas in which we need more green training					
Suggests ways to employee’s environmental performance					
Encourages employees to solve green problems together					
Encourages employees to exchange green information with one another					
Teaches employees how to solve green problems on their own					
Pays attention to employees’ group's green efforts					
Explains green company decisions					
Explains green company goals					
Explains how employees fit into the green company					
Explains the purpose of the company's green policies to employees					
Explains green rules and expectations to employees					

Explains green decisions and actions to employees					
Takes the time to discuss green concerns patiently with employees					
Shows interest in employees green success					

SECTION C: Organisational factors

Green organisational culture					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Environmental dimension is considered as one of organisational priorities					
Organisational vision/mission statements include environmental improvement					
Top management clarify information and values of environmental management throughout the organisation					
Top management actively support environmental practices					
Green learning orientation					

Top managers of our company encourage employees to create and share green knowledge					
Employees identify organizational goals and vision, and are willing to accept new green knowledge					
Employees think green learning ability is important to ensure our firm survival and competitive advantage					
An adequate amount of training in environmental issues is provided for employees					
There is adequate evaluation of employee's performance after environmental training					

SECTION D: Employee factors

Psychological ownership					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I accept the consequences of my decisions in the organisation.					

I take responsibility for my decisions in the organisation.					
I feel I have a strong bond with the organisation.					
I feel that this organisation is part of me.					
I feel personally responsible for the work I do in my organisation.					
Green work engagement					
I am enthusiastic about my environmental tasks at my job					
I feel happy when I am working intensely on environmental tasks					
With environmental tasks at my job, I feel bursting with energy					
My environmental- related tasks inspire me					
I am proud of the environmental work that I do					

SECTION E: Environmental concern

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

My co-employee is concerned about saving the environment for future generation					
My co-employee is concerned about the environmental challenges faced by the world					
I am influenced by my co-employees environmental concern					

SECTION F: Organisational citizenship behaviours for the environment

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In my work, I weigh the consequences of my actions before doing something that could affect the environment					
I voluntarily carry out environmental actions and initiatives in my daily work activities					
I make suggestions to my colleagues about ways to protect the environment					

more effectively, even when it is not my direct responsibility					
I actively participate in environmental events organised in and/or by my company					
I stay informed of my company environmental initiatives					
I undertake environmental actions that contribute positively to the image of my organization					
I spontaneously give my time to help my colleagues take the environment into account in everything they do at work					
I encourage my colleagues to adopt more environmentally conscious behaviour					
I encourage my colleagues to express their ideas and opinions on environmental issues					

END OF QUESTIONNAIRE

THANK YOU

Annexure 2: PERMISSION LETTER TO CONDUCT RESEARCH

The Manager/Owner…….

Request for permission to conduct a research study at your organisation.

I am Khutso Mankgele, a student in the Department of Business Management at the University of Limpopo. As part of my studies, I have to conduct a research titled **"GREEN EMPOWERING LEADERSHIP AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR TOWARD THE ENVIRONMENT OF EMPLOYEES OF HOSPITALITY FIRMS IN THE GAUTENG PROVINCE: A MODERATED MEDIATION MODEL"**

This research is of significance because it will contribute to the research on the role of green empowering leadership in promoting employees' voluntary PEB with the goal of reducing the negative environmental footprint of hospitality firms and ensuring sustainable tourism. Therefore, it is important to understand new environmental sustainability variables such as green empowering leadership, employee psychological ownership, green work engagement, green organismal culture and green learning orientation in the hospitality firms in South Africa. I hereby request permission to conduct a research using a questionnaire which will be distributed to you, a manager or the owner of the business. The questionnaire will have questions relating to my study, where you will be required to fill it with answers. The findings of this study will remain confidential and anonymous. The names, addresses and contact details of the participant and institution will not be mentioned in the research report. I will be willing to give you the summary of the findings of the research.

For any additional information you can contact me, Khutso Mankgele, cell no: (079)792-9551 and email: mankgelejunior@gemail.com for the confirmation of my research.

Your approval to conduct this study will be greatly appreciated.

Sincerely

Khutso Mankgele

DEPARTMENT OF BUSINESS MANAGEMENT

UNIVERITY OF LIMPOPO

Annexure 3: CONSENT FORM

CONSENT FORM FOR PARTICIPATION IN AN ACADEMIC RESEARCH STUDY

Research conducted by:

Khutso Mankgele

Cell no: 0797929551

Email: mankgelejunior@gmail.com

Dear participant

You are invited to participate in an academic study conducted by Khutso Mankgele a student in the Department of Business Management at the University of Limpopo.

Purpose of the study

The purpose of the study is to investigate the **"GREEN EMPOWERING LEADERSHIP AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR TOWARD THE ENVIRONMENT OF EMPLOYEES OF HOSPITALITY FIRMS IN THE GAUTENG PROVINCE: A MODERATED MEDIATION MODEL"**

This research is of significance because it will contribute to the research on the role of green empowering leadership in promoting employees' voluntary PEB with the goal of reducing the negative environmental footprint of hospitality firms and ensuring sustainable tourism. Therefore, it is important to understand new environmental sustainability variables such as green empowering leadership, employee psychological ownership, green work engagement, green organismal culture and green learning orientation in the hospitality firms in South Africa.

Please note the following:

- This study will include a distribution of a self-administered questionnaire, where you will be required to fill in answers in the given questionnaire.
- Your responses to this research will be anonymous. Your names and addresses will not appear in the research report and the answers you give will

be kept confidential. Your identity cannot be revealed because of the provided answers in your questionnaire.

- Your participation in this study is voluntarily. You may choose to take part in this study or withdraw from participation without any negative concerns. The results of this research will be used for academic purpose only and may be published in an article. A summary of the findings will be provided on request.

- Respect and dignity will be ensured when participating in this study, politeness, obedience and following the rules will ensure a good communication between the participant and the researcher. The information and comments given will be respected and used effectively.

- There will be no physical risks, economic risks or social risks involved when participating in this study.
- If you have questions or comments about this study, please contact my study supervisor, Professor Olawale Fatoki, tell no: (015) 268-2646 and email: olawale.fatoki@ul.ac.za.

Consent

I have read and understand the information provided above. I understand that my participation is voluntary and I give my consent to participate in this study.

Participant's signature _____ Date_____

I believe the participant is giving informed consent to participate in this study.

Researcher's signature_____ Date_____

Annexure 4: ETHICAL CLEARANCE LETTER

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: anastasia.ngobe@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: 26 July 2022

PROJECT NUMBER: TREC/288/2022: PG

PROJECT:

Title:	Green empowering leadership and organisational citizenship behaviour toward the environment of employees of hospitality firms in Gauteng, South Africa: Moderated Mediation Model.
Researcher:	KP Mankgele
Supervisor:	Prof OO Fatoki
Co-Supervisor/s:	N/A
School:	Economics and Management
Degree:	Doctor of Commerce in Business Management

PROF D MAPOSA
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

Note:
i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

Annexure 5: LANGUAGE EDITOR'S LETTER

Barbara Wood
Tel: +27 44 873 5145
cell: 082 9022 571
E-mail: woodlandsmedia@gmail.com
8 Suikerbossie Street
Bergsig, George 6529
Western Cape, South Africa

To whom it may concern

Editing Certificate

I, Barbara Wood, hereby confirm that I am a registered professional researcher and editor and have edited the following academic document:

GREEN EMPOWERING LEADERSHIP AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR TOWARD THE ENVIRONMENT OF EMPLOYEES OF HOSPITALITY FIRMS IN THE GAUTENG PROVINCE: A MODERATED MEDIATION MODEL

by

KHUTSO PITSO MANKGELE
(201215354)
Submitted in fulfilment of the requirements for the degree of
DOCTOR OF COMMERCE
in
BUSINESS MANAGEMENT
in the
FACULTY OF MANAGEMENT & LAW
(School of Economics and Management)
at the
UNIVERSITY OF LIMPOPO
SUPERVISOR: PROFESSOR O.O. FATOKI

12 June 2024

Signed:

Barbara Wood

Annexure 6: ORIGINALITY REPORT

GREEN EMPOWERING LEADERSHIP AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR TOWARD THE ENVIRONMENT OF EMPLOYEES OF HOSPITALITY FIRMS IN THE GAUTENG PROVINCE: A MODERATED MEDIATION MODEL

ORIGINALITY REPORT

7%	4%	4%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ulspace.ul.ac.za Internet Source	1%
2	hdl.handle.net Internet Source	1%
3	I H Agustina, H Fauzi, A M Ekasari. "Study of Spiritual Tourism Areas - Healing in Cirebon", KnE Social Sciences, 2023 Publication	1%
4	Qaisar Iqbal, Katarzyna Piwowar-Sulej. "Organizational citizenship behavior for the environment decoded: sustainable leaders, green organizational climate andperson-organization fit", Baltic Journal of Management, 2023 Publication	1%
5	open.metu.edu.tr Internet Source	<1%