

UNIVERSITY OF KWAZULU-NATAL

FACTORS THAT INFLUENCE ENVIRONMENTAL PERFORMANCE IN THE
WASTE MANAGEMENT INDUSTRY IN KWA-ZULU NATAL

By

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Abstract

Due to a rapid increase in population and industrial advancements, there has been an increased generation of waste in South Africa. The waste management sector in South Africa plays a vital role in the South African economy, the sector has been valued at 15.3 billion rand, and contributes to 0.51% of the country's GDP. In the last decade, there have been numerous reports of environmental degradation, pollution and non-compliances by the activities of waste management companies. Waste has now become one of the most significant environmental issues that requires attention. The aim of the study was to investigate the factors that positively influence environmental performance in the waste management industry in Kwa-Zulu Natal (KZN). The investigation dwelled into organizational culture, environmental management and the pro-environmental behavior of employees, and how these factors influence environmental performance. A sample of 80 respondents were sampled from four companies in the waste management sector, which consisted of landfill management, waste transportation, environmental consulting and waste recycling. Respondents were made up from each facet of the business, sales, technical, transport, environmental and health and safety amongst others. Respondents were issued with a self-administered questionnaire. The data obtained from the questionnaire was analyzed by the statistical software package SPSS. The results revealed that the three factors namely organizational culture, environmental management and pro-environmental behavior had a statistically significant influence on environmental performance. Based on the results of the study it is recommended that management show continued commitment to environmental responsibilities, green performance appraisals should be taken seriously and conducted regularly, training and environmental awareness should be regularly conducted for staff to expand their knowledge, further to this, rewards and recognition should be given to staff in order to motivate and encourage employees to conduct their activities in an environmentally safe and responsible manner. The study will assist and enlighten top management in the waste management sector of the factors that influence environmental performance in their respective organizations. In turn, various practices and procedures can be put in place to ensure that the business activities are conducted in accordance with best environmental methodologies to enhance environmental performance.

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List of Abbreviations

- APPA -Atmospheric pollution prevention act
- DEA -Department of Environmental Affairs
- EMAS -Eco-management & Audit Scheme
- EMS -Environmental management system
- ISO -International organization for standardization
- KZN -Kwa-Zulu Natal
- NEMA -National Environmental Management Act
- OCBE -Organizational citizenship behaviour for the environment
- OHSА -Occupational Health and Safety
- PEB -Pro-environmental behaviour
- SANS -South African national standard
- SHEQ -Safety, health, environmental and quality
- SPSS -Statistical package for social sciences
- TQM -Total quality management
- TQMS -Total quality management system
- UKZN -University of Kwa-Zulu Nata

CHAPTER ONE

INTROUDUCTION

1.1 Introduction

Due to rapid innovation in technology, the global economy, and urbanization, man has established the fourth industrial revolution, which has increased the standard of living. This has led to an increase in industrial processing, which has accelerated the generation of waste. Waste management has rapidly become one of the global environmental issues (Song, Li and Zeng, 2015:1).

The waste management sector plays a vital role in the South African economy as waste is generated from all industries, which needs to be disposed of in a legal and accountable manner (Singh, Brueckner, and Padhy, 2015:16). Much emphasis has been placed on the waste sector lately with the National Department of Environmental Affairs (DEA), declaring a “War on Waste”. The DEA have been striving to implement measures to ensure that waste is recycled, re-used, reduced and beneficiated. Targets and deadlines have been placed on waste generators and waste management companies to comply with national legislation in order to ensure the protection of the environment and the health and safety of the public (Csutora, 2012; Young, Davis, Mcneil, Malhotra, Russell, Unsworth, and Clegg, 2015:670).

Empirical research suggests that sound waste management practices in South Africa are not under control by those who are actively involved in waste management. Although the intention is there to act responsibly, there are various barriers to good waste behaviour. Also, whilst there is intent to perform proper waste management practices, there has been weak translation into good behaviour (Godfrey, Scott and, Trois, 2013:295; Adler, Claassen, Godfrey and Turton, 2007:36).

Good waste management practices are described as waste activities which are performed in compliance to applicable legislation and, which are performed in an environmentally safe and responsible manner. These activities aim to promote the

waste hierarchy, which is to reduce, reuse, recycle and waste beneficiation (Godfrey et al., 2013). Godfrey et al. (2013) suggest that it is quite difficult to pinpoint the primary social and political structures that influence the shape of good waste management practices and further research should look at the influence on behaviour.

Environmental performance demonstrates a methodology to ascertain the effectiveness of the environmental initiatives an organization puts in place to mitigate pollution and protect the environment. Environmental performance can be measured by a variety of indicators dependent on the organization and the type of business, such as: waste reduction, waste beneficiation, diversion of waste from landfill, recycling, energy conservation, green procurement, implementation of an environmental management system and compliance with legislation (Paille, Chen, Boiral and Jin, 2014:455).

Empirical evidence suggests that organizational culture plays a vital role in influencing behaviours and attitudes amongst employees, financial performance, organizational effectiveness, and structure (Hogan and Coote, 2014:1; Hamdoun and Zouaoui, 2017; Sanyal and Pal, 2017). Culture has been described as a mixture of norms, beliefs, shared objectives and an explanation of a type of behaviour that guides employees. Organizational performance relies significantly on a healthy organizational culture (Awadh and Alyahya, 2013:171).

Environmental management plays a significant role in sustaining a culture towards creating good environmental performance, profitability and a competitive advantage (Hamdoun and Zouaoui, 2017:77). The authors define environmental management as "technical and organizational activities aimed at reducing environmental impact caused by an organizations business operation" (Hamdoun and Zouaoui, 2017:77). Environmental management consists of programs, policies and procedures to enhance and improve environmental performance in the form of recycling, waste management, reduction of waste, eco-design, prevention of pollution and promoting good environmental attitude and behaviour (Hamdoun and Zouaoui, 2017).

Pro-environmental behaviour in an organization has become crucial as a tool in reducing environmental impacts in the workplace. Moreover, an employee's willingness to participate and support environmental practices has been identified as a vital step in supporting environmental management goals (Paille et al., 2014:452).

1.2 Motivation for the study

The waste management sector in South Africa plays a vital role in the South African economy, and the waste management sector has been valued at 15.3 billion rand and contributes to 0.51% of the country's GDP (DEA, 2017). Role players in the waste management sector have a duty to ensure the protection of the environment and the health and safety of the South African public. However, in recent times, the waste management sector has been plagued with a significant number of transgressions to national legislation, natural resources, and the health & safety of the public by various industries.

The mismanagement of waste has led to the compromise of natural resources such as air, water and land, this has transpired through the mobilization of chemicals and airborne particulates from the incorrect handling and disposal of hazardous waste (Adler, Claassen, Godfrey and, Turton, 2007:36). Waste management efficacy is not at the desired levels in South Africa as compared to international standards, most of the waste generated in South Africa is disposed of to landfill sites. Karani and Jewasikewitz (2007) state that only 10% of landfills in South Africa are operated within accordance to national legislation.

Therefore, it is imperative to enlighten top management in the waste management sector of the factors that influence environmental performance in their respective organizations. In turn, various practices and procedures can be put in place to ensure that the business activities are conducted in accordance with best environmental methodologies to enhance environmental performance and to ensure the sustained protection of the environment (Hamdoun and Zouaoui, 2017). The communities in the vicinity of waste management activities will benefit from the increased environmental performance as they will not be exposed to the toxic fumes emanating from the waste and landfills. Clients and legislative bodies will be at ease

with the fact that their waste is being handled and disposed in an industry which specifically focuses on environmental sustainability.

1.3 Focus of the study

The study will focus on four companies in the waste management sector, namely recycling, landfill management, waste transportation and environmental consulting. Personnel from all divisions of the business have been asked to participate in the study, including management and workforce employees. The study will focus on the private waste management sector and not on the governmental waste sector. Critical information will be ascertained from the survey, such as the current culture adopted in waste industries, determination as to whether the companies partake in environmental management activities, do the employees have characteristics and traits of pro-environmental behaviour and to assess if these factors have influenced the company's environmental performance.

1.4 Problem statement

The illegal handling, disposal and transboundary movement of waste is an ongoing phenomenon which has negative impacts on the health and safety of communities and the environment (Song et al., 2015; Guerrero, Maas, and, Hogland, 2013). The waste management sector is a critical component of the South African economy and is essential to the public of South Africa. Waste management organizations in the private sector are constantly being neglectful towards legal compliance and the protection and sustainability of the environment. The issue is the continued manifestation of events which has led to environmental and health degradation by waste management companies.

Key questions include: does a culture prone to the protection of the environment exist in waste management companies, do these companies have environmental management programs in place, and do the staff possess the attitude and behaviour associated with environmental values? Therefore, it is imperative to conduct research on the various factors that would initiate and improve overall environmental performance.

There have been various instances where organizations have been found guilty of polluting the environment and have regularly received noncompliance notices from

the DEA for not meeting the requirements of legislation. Examples of such are as follows:

- **Illegal dumping of medical waste:**

In 2010, a waste management firm was charged with the illegally dumping of medical waste on virgin soil and the company was issued with a compliance notice for the rehabilitation of the polluted ground (Cox, 2010).

- **Imported waste from Japan, illegally disposed in South Africa**

Imported waste from Japan has been illegally dumped in South Africa. An investigation was underway to the alleged reports of toxic waste such as acids, bitumen and organic material being disposed in non-designated sites which has caused serious damage to the environment and the health of the public and wildlife (Mungadze, 2014).

- **Illegal dump a hazard**

An illegal asbestos dumpsite has caused serious health impacts on the communities in the vicinity of the site. Numerous research studies have shown a link between lung cancer and various other diseases associated with occupational exposure to asbestos fibres. Companies offload the asbestos in this area as they do not wish to pay the fees associated with disposal in a licensed facility (Pieterse, 2015).

- **Toxic cocktail suspected in stink pollutions**

Noxious odours have been emanating from a landfill site in Kwa-Zulu Natal (KZN). Allegations have been made that the fumes from the site are causing detrimental health impacts to the communities. Members of the communities have complained of headaches, respiratory problems and continuous coughing because of the odours (Ntuli, 2016).

- **Landfill bosses criminally charged over smelly KZN dump**

Senior members of a waste management firm have been criminally charged due to the environmental and health impact of odour emanating from a landfill site in KZN,

the personnel of the company have been charged with contravening the environmental air quality legislation (Wicks, 2017).

Environmental legislation in South Africa is as per the following: The Constitution of South Africa Act 108 of 1996, National Environmental Management Act 107 of 1998 (NEMA), National Water Act 36 of 1998, Prevention of Environmental Pollution Ordinance 21 of 1998, Atmospheric Pollution Prevention Act 45 of 1965 (APPA), National Environmental Management Air Quality Act 39 of 2004, Waste Classification & Management Regulations of 2013, National Norms & Standards for the assessment of waste for landfill disposal of 2013, National Norms & Standards for Disposal of Waste to Landfill 2013 and the Occupational Health & Safety Act 85 of 1993 (OHSA).

The objective of the study will be to investigate the factors that positively influence environmental performance in the waste management industry in Kwa-Zulu Natal.

1.5 Research hypothesis

The hypotheses of the study are as follows:

1. H1-Organizational culture has a positive influence on an organization's environmental performance.
2. H2-Environmental management has a positive influence on an organisation's environmental performance.
3. H3-Pro-environmental behaviour of employees have a positive influence on an organisation's environmental performance.

1.5.1 Null Hypothesis

1. H0-Organisational culture, environmental management and the pro-environmental behaviour of employees have no positive influence on an organisation's environmental performance.

1.6 Objectives of the study

The objectives of the study are as follows:

Primary Objective:

1. To investigate the factors that positively influence environmental performance in the waste management industry in KZN.

Secondary objectives:

2. To ascertain if an organizational culture leads to greater environmental performance in waste management companies.
3. To determine if environmental management leads to greater environmental performance in waste management companies.
4. To identify if the pro-environmental behaviour of employees leads to greater environmental performance in waste management companies.

1.7 Methodology

The research is in the form of a quantitative study and the research instrument used was a self-administered questionnaire. The sampling technique consisted of probability sampling and the data was collected and analyzed using the statistical package for social science (SPSS) software, in addition, inferential and descriptive statistics were utilized.

1.8 Chapter outline

The research study was based on the guidelines as per the University of Kwa-Zulu-Natal's (UKZN) dissertation guideline (UKZN, 2016), the chapters were constructed with an objective to follow a concise and clear pattern and to provide the reader with a clear understanding of how the goals were reached. The study is presented in six chapters as follows:

- Chapter One: Chapter one entails the introduction to the study, which sets the scene for the following chapters. Further to this, the focus of the study, research problem, objectives, questions/hypothesis and a summary of the methodology utilized is presented.
- Chapter Two: Chapter two consists of the literature review, which focused on organizational culture, the importance of leadership in an organizational culture, environmental management, International organization for standardization (ISO) 14001 environmental management system, quality management system (QMS) and pro-environmental behavior of employees. The aim of the literature review

was to determine how the aforementioned factors influence environmental performance. A conceptual framework was developed from the literature.

- Chapter Three: Chapter three entails the research methods which were adopted in the study which included, the aim of the study, the research paradigm, the study setting, how the population was obtained, the sample of the study, the methodology chosen for the sampling, the instrument used, collection and the analysis of data. Additionally, the reliability and validity of the study was justified, and biasness and ethical considerations of the study were validated.
- Chapter Four: Chapter four entails the presentation of the results of the study, which have been analyzed through the utilization of descriptive and inferential statistics and presented in the form of figures and tables.
- Chapter Five: Chapter five included the discussion of the study and the generalization of the findings of the study as compared to the literature review and the objectives of the study.
- Chapter Six: Chapter six focused on the conclusion of the study, as well as the limitations and recommendations for further research.

1.9 Conclusion

Chapter one provides an introduction to the study and outlined the problem statement whereby the waste management industry has been plagued with numerous accounts of environmental transgressions from various industries which form part of the waste management sector. The objective of the study is to determine if factors such as an organizational culture, environmental management and pro-environmental behavior of employees positively influence environmental performance, thereby reducing or mitigating any adverse impact to environment by the business. Top management in waste management firms amongst other stakeholders will benefit from the study, as various campaigns and initiatives can be implemented to enhance environmental performance. Chapter two focuses on the literature review for the study.

CHAPTER 2

REVIEW OF LITERATURE

AN INVESTIGATION INTO FACTORS THAT INFLUENCE ENVIRONMENTAL PERFORMANCE

2.1 Introduction

In the last decade, there has been much emphasis on organizational culture, environmental management and pro-environmental behaviour towards environmental performance as organizations are now beginning to allocate significant resources towards environmental compliance and are more committed to environmental performance. What was once seen as a cost sector, is now viewed as a beneficial opportunity and a competitive advantage (Hamdoun and Zouaoui, 2017; Hajmohammed, Vachon, Klassen, and Gavronski, 2013; Sanyal and Pal, 2017; Paille et al., 2014; Young et al., 2015; Wiengarten and Pagell, 2012; Severo, Guimaraes, Dorion, and Nodari, 2015; Dubey, Gunasekaran, and Ali, 2015).

The literature review aimed to investigate and identify the current literature on these three aspects. The review will focus mainly on how an industry's organizational culture, environmental management and the pro-environmental behaviour of employees impacts on environmental performance, as well as determining the factors of an organizational culture and environmental management practises which promote pro-environmental behaviour which contributes to environmental performance. Current literature has been investigated to ascertain if there was a central theme or relationship between the four aspects: organizational culture, environmental management, pro-environmental behaviour and environmental performance, from which a conceptual framework will be established.

2.2 Organisational culture

Hamdoun and Zouaoui (2017:77) define organizational culture as "as a set of values, beliefs, assumptions and symbols that define the way in which a firm conducts its business, organizational culture is based on standards and practises learned in the workplace which are valid within the organization". Similarly, Sanyal

and Pal (2017:60) define organizational culture as " the system of assumptions, values, convictions and beliefs accepted and commonly interpreted by the members of the organization". These definitions are believed to be adopted by the personnel who are employed in the firm who in turn pass on the belief and values to the newcomers in the organization.

Environmental performance demonstrates a methodology to ascertain the effectiveness of the environmental initiatives an organization puts in place to mitigate and protect the environment. Environmental performance can be measured by a variety of indicators dependent on the organization and the type of business such as, waste reduction, waste beneficiation, diversion of waste from landfill, recycling initiatives, energy conservation, green procurement, implementation of an environmental management system and compliance with legislation (Paillé et al., 2014).

Sanyal and Pal (2017:61) define pro-environmental behaviour as "a kind of behaviour that consciously seeks to minimise the negative impact of one's action on the natural and built environment". Since employees spend at least 8 hours a day at work, it is envisioned that pro-environmental behaviour will contribute significantly to reducing and mitigating the risk of pollution and detrimental environmental activities.

The purpose of an organizational culture is to ensure collaboration amongst teams, ensure coherency amongst staff, engage and stimulate employee creativity and innovation, instil values and beliefs, create excitement and enhance and improve an organizations efficiency which in turn enhances employee attitude and behaviour. These traits will provide the norms of behaviour that employees will follow, which will in turn, translate to pro-environmental behaviour amongst employees (Sanyal and Pal, 2017; Hogan and Coote, 2014). A cohesive organizational culture is substantially dependant on the number of people collaborating with each other with the aim of accomplishing goals in their environment (Valmohammadi and Roshanzamir, 2015).

Denison and Mishara (1995) as cited in Hamdoun and Zouaoui (2017), describe four traits of organizational culture, namely: involvement, consistency, adaptability and mission. Involvement creates a sense of ownership and a sense of responsibility, consistency entails control systems that encourage engagement and teamwork, adaptability includes values and beliefs that support the reaction to changes in the external environment and mission comprises of economic and non-economic aims and goals.

Similarly, Awadh and Alyahya (2013) describe dimensions of an organizational culture which include: power distance which is the degree of employee and management engagement and interaction, individualism which is the difference between the organisations interest and self-interest of employees, uncertainty avoidance which deals with the uncertainty and ambiguity based upon tolerance and assists in ensuring the mitigation of unwillingness and masculinity which is avoidance of caring and promotion rather than level of success based on challenges and ambition (Awadh and Alyahya, 2013)(Awadh and Alyahya, 2013)(Awadh and Alyahya, 2013)(Awadh and Alyahya, 2013).

There have been numerous studies in literature which depict a positive relationship between organizational culture and pro-environmental behaviour (Awadh and Alyahya, 2013; Hamdoun and Zouaoui, 2017; Hogan and Coote, 2014). One such study was undertaken by Sanyal and Pal (2017), which was conducted in West Bengal amongst 100 employees, spanning different sectors in an organization. The samples were taken from both the private and public sector between managers and non-managerial employees. The study concludes that there is a definite association amongst an organizational culture, environmental awareness and pro-environmental behaviour. The authors put forth suggestions from the questionnaires submitted as to what should be done by the organization in order to facilitate a robust organizational culture which is conducive to environmental awareness and pro-environmental behaviour. Attention was focused on: management plays a vital role in incorporating shared values and beliefs through workshops and training programs designed for employees, environmental training forms an integral part of developing environmental awareness, and pro-environmental behaviour, organizations, should

share a pool of environmental values and employees should continuously be engaged regarding environmental issues in the workplace.

In the research conducted by Hamdoun and Zouaoui (2017) on 108 Tunisian companies, the authors conclude that environmental initiatives strengthen a robust organizational culture geared towards pro-environmental behaviour. The authors go on to state that a pro-environmental corporate culture is created by the human aspects of environmental management, such as employee engagement, value change, involvement, and awareness. Environmental proactivity uses an organizational culture of employees to achieve environmental outcomes. However, the authors fail to identify the drivers of environmental proactivity, and there is no mention of the role played by the organization to sustain this proactivity.

Hamdoun and Zouaoui (2017) state that in order to facilitate and sustain an environmental culture and commitment there needs to be collaboration between departments of an organization, where all employees need to work together and participate in environmental practises to achieve a shared goal which is part of the organizational culture as working in teams encourages friendly competition and the sharing of tacit knowledge (Valmohammadi and Roshanzamir, 2015; Hanna, RockyNewman and Johnson, 2000). In a study by Zsóka (2007), the author states that the function of environmental values in sustaining a business environmental behaviour with specific focus on environmental values is of paramount importance. Research further suggests that organizational culture depicts both actual and declared values of the business and impacts on employees most convincingly (Sanyal and Pal, 2017).

Zsóka (2007), makes mention of a model, which is called the ABC model and refers to attitude, behaviour and structural settings of behavioural conditions. The theory suggests that the attitude-behaviour relationship will be at its highest when the external and internal factors around it are supportive, which will encourage personnel with negative attitudes towards the environment to act in a more responsible manner. A highly restrictive setting will discourage individuals from performing activities in an environmentally responsible manner. This model is entirely relative to organizational culture, whereas the theory of the model could be

used to explain the theory of the impact of organizational culture, which assimilates the C in the model in terms of the conditional setting pertaining to the environmental management in the company.

To sustain pro-environmental behaviour in the workplace, environmental values need to be in the heart of the organizational culture, and even though the organization has numerous environmental activities, the organization needs to continually revisit the environmental culture (Zsóka, 2007). A similar argument is made by Csutora (2012), who states that having environmental policies and activities does not necessarily guarantee pro-environmental behaviour.

Several industries (manufacturing, petroleum, textile and mining, amongst others) have environmental policies and programs in place. However, these are not adequate in order for organizations to completely react to environmental challenges. Merely changing environmental infrastructure and system changes can only reduce environmental impacts to a limited extent. There has to be a significant cultural and environmental change transformation and behavioural change research can assist organizations in reducing critical environmental issues and improving environmental performance (Sanyal and Pal, 2017; Young et al., 2015; Jabbour, Santos, Fonseca, and Nagano, 2013; Robertson and Barling, 2013).

2.2.1 Importance of leadership in an organizational culture

Organizational leaders have the position, power and the status; therefore, they are seen as role models by their subordinates, by ensuring that they continuously display characteristics of pro-environmental behaviour, this will, in turn, send a signal to the employees that such behaviour is the norm and is valued in the organization, which will lead to the motivation and encouragement of employees to engage in the same behaviour themselves. Environmental activities rely on a large extent on the motivation, commitment and leadership of top management who are in a role to implement policies and procedures (Robertson and Barling; Graves, Sarkis, and Zhu, 2013; Boiral, Baron, and Gunnlaugson, 2014). Environmental leadership has been described as "the ability to influence individuals and mobilize organizations to realize a vision of long-term ecological sustainability" (Boiral et al., 2014:3).

The function of an environmental leader has been described as the facilitator of the development of environmental initiatives to facilitate change and implement programs towards environmental sustainability. Such programs usually consist of training, strategies for pollution prevention and environmental management for the mitigation of adverse impacts of the business (Boiral et al., 2014). Leadership plays a significant role in establishing a pro-environmental culture (Robertson and Barling, 2013). Transformational leadership has gained popularity as the leadership style that has the most influence in expressing consciousness of collective interest, which assists an organization in achieving their shared ambitions and goals. Transformational leadership is synonymous with characteristics such as: influential, motivation, empathy, compassion, values, belief, emotions, shared knowledge, innovation and encouragement amongst employees. The characteristics of transformational leadership makes the leadership style suitable for stimulating environmentally responsible behaviour (Garcia, Barrionuevo, and Gutierrez, 2012; Graves et al., 2013; Noruzy, Dalfard, Azhdari, Nazari-Shirkouchi, and Rezazadeh, 2013; Hogan and Coote, 2014).

Managers who exhibit transformational environmental traits are expected to effectively communicate a cohesive and coherent vision and mission about environmental initiatives for their specific area of responsibility. Environmental transformational leaders may provide a platform for discussion regarding commitment to environmental problems and the way forward to mitigate such issues. Furthermore, they may create motivation amongst staff and motivation for creative and diverse thinking about the impact to the environment by the activities of the business (Graves et al., 2013).

Wilderom, Van den Berg and Wiersma (2012) suggest that a charismatic style of leadership has shown to have the most substantial influence on organizational performance, as a charismatic leadership style displays characteristics of strength and appealing visions and missions. The author presents organizational work traits to elucidate the veracity of culture. The traits were empowerment which is the extent to which employees have power to the work function, and the charismatic leadership style allows for effective empowerment in the organization and encourages employees to take greater responsibility in their work. Tsai (2006) suggests that

empowerment practices have a positive impact on organizational performance. External orientation refers to how the company reacts to the external environment, and a charismatic leader through the influence on market orientation has an impact on the companies' external orientation. Wei and Morgan (2004) and Yarbrough, Morgan and Vorhies (2011) conclude that and external orientation has a positive impact on organizational performance. Interdepartmental orientation refers to the integration of departments within an organization, and charismatic leaders encourage interdepartmental collaboration. Positive performance effects of interdepartmental integration have been reported by Ellinger, Daugherty, and Keller (2000), Kahn (2005), and Lascu, Manrai, and Kleczek (2006) as cited in Wilderom et al. (2012).

Self-determination theory is a broad type of theory which focuses on human growth and development that centres around an active growth oriented individual and the type of motivation an individual possesses is a vital determinant of behaviour. According to Graves et al. (2013), there are several types of motivational factors, grouped into two categories, autonomous motivation and controlled motivation, to examine the motivational factors of pro-environmental behaviour and employees in an organization, the author focuses on autonomous motivation and the external factor of controlled motivation.

Autonomous motivation relates to individuals are encouraged by tasks that are in accordance with one's self. The motivational factors that fall under this category are identified motivation, which entails, engaging in an activity that is similar to one's beliefs and values and intrinsic motivation. Intrinsic motivation involves pursuing tasks in which they enjoy or find pleasure in doing, hence those employees that perform environmental tasks do so because they value environmental sustainability or they enjoy it. In order for employees to effectively contribute to an organization's environmental vision, employees should be able to freely work towards sustainable programs without the influence from the organization. This type of autonomy is a requirement to amend and correct the inadequacies of business processes (Graves et al., 2013; Paille et al., 2014).

Controlled motivation entails actions which stem from the result of believing that the task has to be done or one should act. Under this category, falls external motivation, whereby individuals engage in a task because of external forces or they feel forced to do so. On the other hand, introjected motivation is whereby the task is performed by individuals to maintain one's stature or ego, hence employees who are externally motivated to perform pro environmentally behaviour do so because the organization has asked them to do so, or it is part of their job function of an environmental management system (Graves et al., 2013).

Literature suggests that leaders who encourage autonomy encourage autonomous innovation (Baard, Pdeci, Edward, and Ryan, 2004; Gagne and Deci, 2005; Otis, Grouzet, and Pelletier, 2005). Similarly Noruzy et al. (2013), suggest that transformational leadership has an autonomy style of leadership which has been described as influencing organizational learning which in turn enhances knowledge management and organizational learning. Knowledge management influences organizational innovation which enhances organization performance. Transformational leaders have the ability to create teams and lead the team with purpose and direction (Noruzy et al., 2013). According to Graves et al. (2013), pro-environmental behaviour traits are influenced by their leaders or manager's transformational leadership style which motivates employees independently and externally.

Guerrero et al. (2013) confirm that research into the type of factors that contribute to the waste management transgressions are predominately in the form of the lack of leadership from management and the lack of knowledge. The lack of leadership interested in environmental issues leads to the halt of good environmental practices. In a study by Robertson and Barling (2013), a test model that correlates transformational leadership to pro-environmental passion and behaviours of employees was developed. The research consisted of a sample size of 231, consisting of managers and employees between the ages of 37 to 40, in America and Canada. However, the samples only included males, and for a more holistic approach, females should have been included in the sample. The authors also failed to include the sectors of the organization that were included in the sample. The research concluded that when transformational leaders are focused on encouraging

pro-environmental initiatives, it can positively affect pro-environmental behaviour and passion amongst the employees, as they achieve this by sharing their values, creating innovative environmental ideas and establishing a relationship with the employees. The conclusion of the study by Robertson and Barling (2013) is in line with the environmental values as stipulated by Zsóka (2007), where environmental values form the foundation of pro-environmental behaviour, and if leaders share these values, this will contribute to an overall organizational culture of greening organizations.

A study undertaken by Ramus (2002) concluded that an organizational culture which consists of environmental policies and supervision, play a vital role in the probability that employees will partake in environmental initiatives. The authors relay the results obtained from an employee survey which could assist managers of organizations who strive for sustainable development (Ramus, 2002). The purpose of the paper was to provide insight for managers on the environmental policies and behaviours which exist and could assist in pro-environmental behaviour. In particular, the author discusses the concept of employee creativity to produce innovative solutions for environmental sustainability, however, makes mention of the fact that environmental management is not on the priority list of managers.

2.3 Environmental Management

2.3.1 Role of environmental management

Environmental Management plays a significant role in sustaining a culture towards creating an excellent rate of environmental performance, profitability and a competitive advantage. Hamdoun and Zouaoui (2017:78) define Environmental Management as “technical and organizational activities aimed at reducing environmental impact caused by an organizations business operations”. Environmental management consists of programs, policies and procedures to enhance and improve environmental performance in the form of recycling, waste management, eco-design, prevention of pollution and promoting sound environmental attitude and behaviour (Hamdoun and Zouaoui, 2017).

Hamdoun and Zouaoui (2017) further state that previous research about environmental management, competitive advantage, organizational culture and

environmental performance have been limited in providing concrete evidence between the relationship between the factors mentioned above, and there have been numerous studies which have revealed conflicting results. However, research dictates otherwise in terms of the relationship between environmental management and a competitive advantage, there has been research which confirms the correlation between environmental management and a competitive advantage. Examples of such research is that conducted by Lopez-Gamero, Molina-Azdrin, and Clavier-Cortes (2010) where the authors concluded that environmental management contributes to a competitive advantage in terms of cost. The empirical study was conducted on 124 Taiwanese's firms, which showed that environmental management improves a competitive advantage. Another study by Molina-Azorin, Tari, Pereira-Moliner, Lopez-Gamero, and Pertusa-Ortega (2015) on Spanish hotels also showed that environmental management has a positive impact on a competitive advantage as well as cost and environmental performance.

2.3.2 ISO 14001

An environmental management system (EMS) is a global tool utilized for the mitigation of environmental impacts of the activities of a business and continuous improvement concerning environmental performance of an organization and the mitigation of environmental degradation (Testa, Rizzi, Daddi, Gusmerotti, Frey, and Iraldo, 2014; Nguyen and Hens, 2015). There are two leading standards which set requirements for an EMS, namely the ISO 14001 and Eco-management & Audit Scheme (EMAS) (Testa et al., 2014). South Africa adopts the requirements of the ISO 14001, in the form of South African National Standard (SANS) 14001, and therefore, this research will only focus on the ISO 14001 standard.

ISO 14001 forms part of a set of standards aimed at environmental management systems called the ISO 14000 family. An organization can achieve an ISO 14001 certification for each site that it operates on, by accredited independent bodies (Gavronski, Paiva, Teixeira and De Andrade, 2013). The EMS consists of a framework to ensure the protection of the environment, responding to client demands and to changing and challenging environmental conditions. An EMS provides top management with an approach to continuously improve sustainable development by policies, procedures and work instructions in order to assist the

organization in ensuring compliance with applicable legislation, efficiency improvement, a competitive advantage and by protecting the environment by preventing and mitigating adverse risk impacts associated with the activities of the business, as well as enhancing environmental performance and communicating vital environmental information to employees and stakeholders (SABS, 2015; Nguyen and Hens, 2015; Prajogo, Tang, and Lai, 2012; Garvranski et al., 2013).

There has been a significant amount of research which suggests that there is a definite correlation between an EMS and environmental performance. Melnyk, Bititci, Platts, Tobias and Andersen (2014); Nishitani, Kanero, Fujii and Komatsu (2012); Russo and Tencati (2009); Franchetti (2011) and Gasbarro, Rizzi and Frey (2013) provide case studies on the positive relationship of an ISO 14001 EMS and environmental performance. However there has also been research where there has been no impact on environmental performance, and in some cases the organization had performed worse once the ISO 14001 was established. Also, a number of research findings have been non-conclusive (Testa et al., 2014; Nguyen and Hens, 2015; He, Liu and CAO, 2015; Comoglio and Botta, 2012; Prajogo et al., 2012; Singh et al., 2015; Gavronski et al., 2013).

Comoglio and Botta (2012) argues that an ISO 14001 system does not supply a methodology for continuous improvement or a minimum level of environmental performance indicators. However, Gavronski et al. (2013) suggests that the ISO 14001 does provide a methodology for continuous improvement in the form of a "plan to do check model", which allows managers to improve on the organizations environmental impacts continuously. Many studies of certified businesses both large and small have shown that the standard does indeed contribute to improving environmental performance significantly (Gonzalez-Benito and Gonzalez-Benito, 2005; Hui, Chan, and Pun, 2001; Potoski and Prakash, 2005; Zutshi and Sohal, 2004). More specifically, several case studies of ISO 14001 certified companies have shown that implementation of the standard has helped reduce environmental impacts, including the volume of waste generated, water and energy consumption, and atmospheric emissions (Chattopadhyay, 2001).

Nguyen and Hens (2015) suggest that there are various published studies which have commonly determined strategies in order to determine the effectiveness of an ISO 14001 system on environmental performance such as:

- a) Comparison between environmental performance between pre-and post-certification;
- b) Comparison of environmental performance of organisations who have a certified ISO 14001 system and those organisations who do not; and
- c) Combination of changes in environmental performance between pre-and post ISO 14001 certifications in certified organizations and between certified and non-certified organisations.

2.3.3 Green information systems

Green information systems have been defined as the positive impact of utilizing information systems to improve environmental sustainability of an organization (Gholami, Sulaiman, Ramayah and Molla, 2013). The limitations of green information systems include the fact that there has been limited research on green information systems which is further supported by the fact that organizations do not understand the value of green information systems and the cost associated with the system. Green information systems will not form part of the research as there is limited information pertaining to its role in environmental management and environmental performance.

2.3.4 Total Quality Management (TQM)

Total Quality Management (TQM) is a system which interlinks quality practices associated with organizational performance and this system has been adopted for a number of years. However, 75 percent of the management systems have failed (Valmohammadi and Roshanzamir, 2015), and the authors suggest that the most critical reason for the high amount of failure is due to the organizational culture whereby management find it difficult to cope with the requirements of such a system (Valmohammadi and Roshanzamir, 2015). A similar sentiment is shared by Testa et al. (2014) and He et al. (2015) whereby the author states that implementation of an ISO 14001 system is more for publicity amongst clients rather than the environmental challenges and commitment to the EMS is not shown by the

organisation in the long run. TQM and environmental issues have gained much popularity over the years (Dubey et al., 2015).

Much research has concluded that a good quality managed system could be a suitable pre-requisite for the fruitful execution of environmental management practises and programs, although, researchers have solely concentrated on the driving function of a quality management system. The literature has disregarded the possibility that environmental and quality practices could work well together in a positive manner, which will reinforce overall company sustainability performance (Wiegarten and Pagell, 2012; Prajogo et al.,2012).

2.3.5 Environmental management system and environmental performance

Wiengarten and Pagell (2012) support the research by Testa et al. (2014) and Valmohammadi and Roshanzamir (2015), whereby the author confirms a positive relationship between EMS and environmental performance. The researchers acknowledged that a formal EMS, such as the ISO 14001, significantly improves overall organizational performance, and through an EMS a firm reduces or mitigates the generation of waste and the risk associated with the activities of the business which ultimately has an impact on a firm's financial bottom line. Wiengarten and Pagell (2012) analysed the impact of environmental performance on the market value of organizations, the authors identified that declarations of company environmental initiatives, and especially environmental awards, recognitions and certifications, to the staff of the business have had a positive impact on environmental and organizational performance. Massoud, Tabcharani, Nakkash and Jamali (2012) suggests that ISO 14001 certified firms experience a significant reduction in pollution when compared to non-certified companies. Melnyk et al. (2014) undertook a study of Finnish small medium enterprises (SMEs) and examined the extent to which ISO certified firms considered various environmental options. The study revealed that the EMS certification had a significant and positive impact on waste management practices among certified firms. Certified firms were found to consider a broader range of environmental practices when compared with their non-certified counterparts. Wiengarten and Pagell (2012) have identified that organizations who have an externally certified EMS such as the ISO 14001, experience higher performance rates from environmental campaigns as compared

to companies who did not possess or partake in such a system. This is further supported by the research by Nguyen and Hens (2015).

2.4 Pro-Environmental behaviour

There has been a significant amount of research on the actions of employees with regards to the mitigation of environmental degradation from their behaviour. However very few studies have confirmed as to how does this relates to environmental performance is unclear (Paillé et al., 2014). The argument by Paillé et al. (2014) is further supported by Young et al. (2015), who suggested that in recent years, there has been a number of corporate social responsibility and organizational sustainability strategies prone to environmental performance amongst employees. Numerous research has focused on methodologies and tools of altering behavioural patterns towards environmental performance, however, limited research has been conducted, where the focus has been on the actual environmental performance results of such methods or tools implemented, making it very difficult to interpret the effectiveness of such a program in an organization (Young et al., 2015; Paillé et al., 2014). Young et al. (2015) further suggest that research should not only concentrate on the type of behaviour change required as there are a variety of factors specific to the type of industry; instead research should focus on the aspects that contribute to the success in environmental performance through the behaviour change.

Young et al. (2015) presents a baseline framework (Figure 2.1), on the research completed by Tudor, Barr, and Gilg (2008), to depict the critical antecedents of a maintainable environmental behaviour demonstrated by staff in the waste management sector of the organization. The framework was chosen as it encompasses specific factors which have been widely researched which influence employee behaviour change at both the employee level and company level, as well as the fact that it was theorized as a result of studies determining the actual impact of changes in environmental performance. The framework assists in determining which aspects of employee behaviour change had the most significant impact regarding environmental performance (Paillé et al., 2014).

The framework is quite valuable in this research as it provides a platform to determine the various behaviour change techniques that have already been implemented which corresponds well with the arguments from existing literature.

2.4.1 Baseline framework for behavioural change

The framework is split between employee level factors which are in the top half of the framework, and organizational level factors at the bottom. Tudor et al. (2008) as cited in Young et al. (2015) suggest that the most important employee level factors for behavioural change are the following:

- The attitudes of employees towards the values placed on the environment and job satisfaction.
- Waste management behaviour at home.

The important organizational factors are:

- The structure of the organization, top management support, encouragement, and availability of resources from the organization such as financial and personal.
- The organizational culture of the firm.

From the similar research, the baseline line framework was adapted to include other factors such as:

- Individual factors: related to psychological factors which are involved in the individual decision-making progress.
- Organizational factors: which are decisions made by the organization that have the potential to enable or restrict behavioural change and group factors, which are the day to day decisions made by the management and staff of employee's behaviour.
- External factors which are from outside the organization that has an impact on employee behaviour, this could be political and household norms.

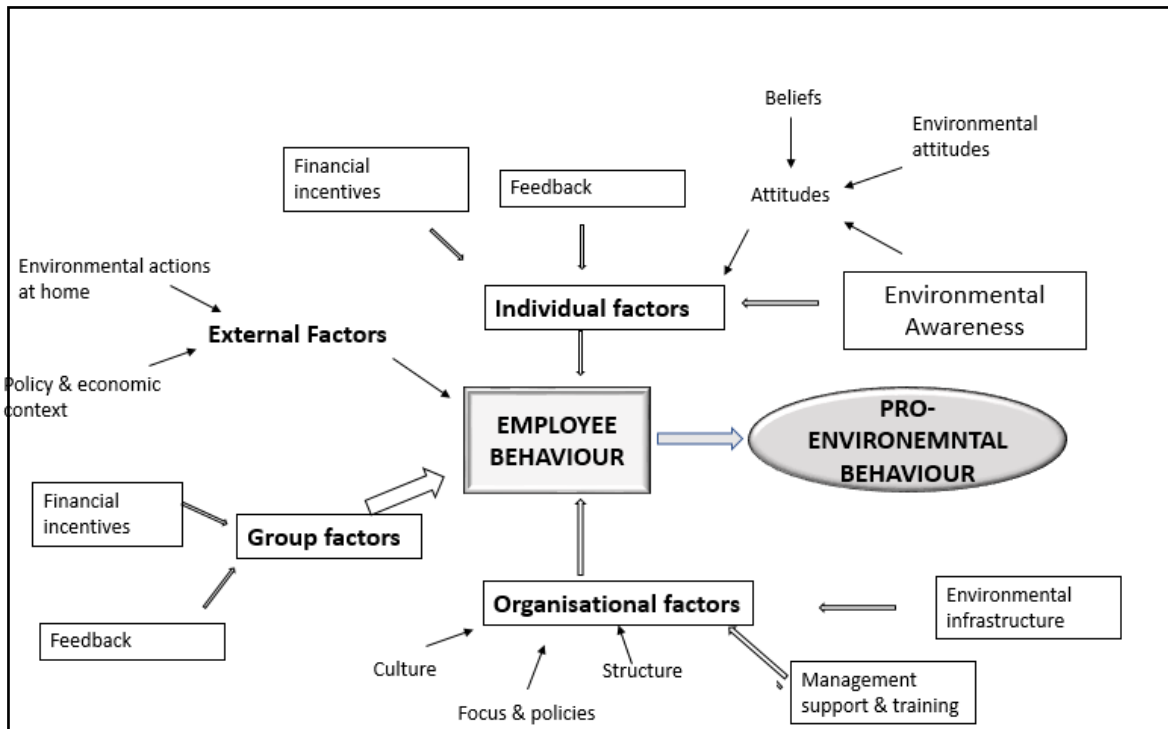


Figure 2.1: Framework for key antecedents to Pro-Environmental Behaviour

Adapted from Young, W., Davis, M., Mcneill, I. M., Malhotra, B., Russell, S., Unsworth, K. & Clegg, C. W. 2015. Changing behaviour: successful **environmental programmes in the workplace**. *Business Strategy and the Environment*, 24, p 700.

2.4.2 Individual and Group factors

Employees influence on their behaviour is a critical component of the framework which comprises of feedback, financial incentives, environmental awareness, beliefs, attitudes and environmental attitudes.

2.4.2.1 Beliefs and attitudes

Young et al. (2015) suggest that in order to enhance employee motivation, organizations need to ensure that there is a balance between employee and organizational values. The author states that environmental attitudes were a high concept for behaviour change, but the author could not confirm the statement, and no research had been observed to confirm that focusing on attitude change will bring forth an influence on behavioural change. This is contrasted in the research conducted by Begum, Siwar, Pereira and Jaafar (2009) who state that behavioural

changes are firmly based on attitudes, which leads to performance in environmental waste management issues. Attitudes towards waste reduction and minimization are the reasons for the issues with regards to waste management in the construction sector and a definite factor of attitude change is learning and knowledge. Research by Begum et al. (2009) reveals that waste contractors in the cement industry who had a better attitude towards waste management practices had exceeded in environmental performance than those who did not. The concern for the environment, which stems from the individual's personal life, and which is referred to as organizational citizenship behaviour for the environment (OCBE) has currently developed amongst environmental literature and appears to be a growing paradigm to ensuring pro-environmental behaviour at work (Boiral and Paillé, 2012).

2.4.2.2 Environmental awareness

Training is seen as a vital point in sustaining a conscious environmental culture, and in ensuring that staff are aware of the environmental impact of the organization's activities (Renwick, Redman and Maguire, 2013). Young et al. (2015) suggest that knowledge of environmental legislation and environmental processes, such as recycling or best environmental practices, have had a positive influence on employee behaviour. The authors further state that staff who were conscious of their company's practises pertaining to waste management were more accustomed to engage in best environmental practices. A case study by Jones, Jackson, Tudor and Bates (2012), reveals that employees in the construction industry who were given the opportunity of training had a high performance with regards to recycling. Research conducted by Boiral et al. (2014) on operators in the Canadian chemical industry, found that environmental performance was improved by informing the employees of their environmental duties. The paradigm of environmental awareness and training is also supported by the research undertaken by Begum et al. (2009) and Paillé et al. (2014).

According to Raj and Seetharaman (2013), the perception of the employees in the organization to environmental programs such as waste reduction, will enhance environmental performance. The authors direct their research to awareness, education and training in order to improve environmental performance, and the

authors highlight the importance of managerial influence towards sound environmental activities which creates an environment to increase performance.

Organizational learning is of paramount importance in ensuring the continuous improvement in beliefs and competencies which allows the organization to evolve constantly. Therefore, the organization remains dynamic and flexible, which enhances the performance of the firm. Organization learning has been described as an experimental and cognitive process in knowledge utilization, valorisation of tacit knowledge, empowerment and sharing amongst employees in an organization (Noruzy et al., 2013; Renwick et al., 2013). Training of management has not featured much in the literature, especially toward environmental management practices. However, most recently, management development in environmental management and concerns have become an accessible curriculum in business schools (Renwick et al., 2013).

2.4.2.3 Level feedback

Young et al. (2015) suggest that by continually providing feedback to employees improves the efforts to enhance their behaviour. The author cites a case study by Lingard, Gilbert and Graham (2001) who reported on the research conducted on the efficiency of goal establishment and communication with employees and how these variables impact the improvement of waste operations in the construction industry. The study concluded that the establishment of goals and communication through feedback have been used effectively to improve waste management programs. Green performance appraisals provide a platform to continually point out the employee's wrongdoing or downfall with regards to environmental practices which will enhance continuous improvement (Renwick et al., 2013).

Melnyk et al. (2014) states that performance management is pivotal to successfully achieving effective management for any organization, and that changes in the business environment are constantly evolving and ever-changing. If organization's change with regards to their strategies and they do not change the metrics in which performance is measured, a case will arise whereby what the organization wants to achieve and what the firm measures are not aligned which will result in inefficiencies of the organization.

2.4.2.4 Financial incentives

Young et al. (2015), Raj and Seetharaman (2013), Paillé et al. (2014) and Renwick et al. (2013) suggest that financial incentives or competency-based rewards schemes for being environmentally conscious, and applying environmental practices have been proven to motivate employees who will improve and encourage their behaviour as well as establishing an environmentally sustainable related behaviour. Incentives are seen to assist companies in mitigating illegal activities and environmental degradation and are seen to have a significant impact on employee eagerness to apply eco-initiatives. Examples of reward incentives include paid holidays, time off, gift cards, companywide public recognition, and monetary value.

Early research findings suggest that chief executive officer's (CEO's) are not stimulated by incentive programs for environmental performance. However, in recent research, there has been an active link between environmental performance and executive compensation, and there has been research which suggests that paying for environmental performance from companies who reward senior managers have a higher environmental performance than those managers in companies who have fixed salaries (Renwick et al., 2013; Young et al., 2015; Paille et al., 2014). Tam and Tam (2008) assessed an incentive program in Hong Kong, where an incentive was given for the amount of waste diverted from landfill. The results of the study showed an increased improvement in the amount of waste being disposed of in landfill sites.

2.4.3 Organizational level factors

2.4.3.1 Environmental infrastructure

Young et al. (2015) suggest that changing infrastructure and providing equipment will influence employee behaviour towards the environment. Holland, Aarts, and Langendam (2006) as cited in Young et al. (2015), investigated methods to amend behaviour amongst staff towards waste recycling, and found that by providing waste bins for recycling, recycling amongst employees increased by 80%. This research was further supported by the work done by Wu, DiGiacomo, and Kingstone (2013)

as cited in Young et al. (2015), and Guerrero et al. (2013), whereby the authors observed that a green building with recycling facilities improved the behaviour amongst employees, the supply of waste recycling containers increased the rate of recycling and the inadequate supply of containers has resulted in disposal in open areas.

2.4.3.2 Management support

Support by top management and line managers form a critical component of behavioural change, and if management has values and beliefs towards environmental sustainability, this sets an example for the employees to follow. Leaders shape their companies practises to mitigate deteriorating environmental circumstances and managers norms are influential factors for an active culture toward environmental management (Renwick et al., 2013). Employee creativity, is a vital tool for environmental management, which should be supported by managerial supervision and commitment, managerial support of environmental management is a key driver to send a message to employees that environmental management is important (Ramus, 2002).

A study conducted by Ramus (2002), showed that employees need a clear signal of organizational support and supervisory support behaviours aimed at encouraging environmental action to focus their creative energy on environmental problem-solving. The results show that that line managers, even in environmentally committed companies, are less supportive when managing environmental activities than other activities. When employees are aware that the company is committed to a written environmental policy statement they are more likely to try environmental initiatives.

2.4.3.3 Organizational culture

There is little evidence to support the relationship between organizational culture and sustainability. However, Young et al. (2015) state that organizational culture can assist in changing behaviour through environmental communication as constant environmental communication between employees will enable the visibility of employee motivation. The conclusion made by Young et al. (2015) is contrasted by Ramus (2002) where the author concludes that an organizational culture which

consists of environmental policies and supervision play a key role in the probability that employees will partake in environmental initiatives. The authors relayed the results obtained from an employee survey which could assist managers of an organization who strive for sustainable developments (Ramus, 2002).

Recent literature suggests that there is a high relationship between environmental management and human capital for the achievement of greater environmental performance, the most success in terms of environmental performance was observed in organizations where employees were stimulated by the human resource management of the company (Jabbour and Santos, 2008; Paille et al., 2014). Green human resource management has been defined as the human resource facet of environmental management. Renwick et al. (2013) and Mandip (2012), makes mention of a theory called AMO, which suggests that human resources practises enhance the companies human capital, through increased human capabilities which increase performance, according to the theory, the human resources management's function is through increasing individuals Ability by attracting and establishing high performance working employees. Motivation and commitment by actions such as reward programs and performance appraisals and by providing employees the Opportunity to partake in problem solving and the sharing of knowledge.

2.4.4 External factors

2.4.4.1 Socio-economic factors

Research suggests that there are few factors which can influence the behaviour of employees (Young et al., 2015). This is further supported by the research by Godfrey et al. (2013) who suggests that there are various social forces that shape waste behaviour in South Africa. The main barriers identified by Godfrey et al. (2013) in the public waste management sector in South Africa included, the lack of funding, lack of knowledge, lack of resources and government bureaucracy. There have been numerous reports of illegal waste management activities from various countries due to the lack of financial resources (Song et al., 2015), and in some instances good government practices influence strong recycling habits amongst communities (Guerrero et al., 2013).

2.4.4.2 Green abilities

Acquiring talented staff is becoming a critical resource in developing a culture prone to environmental practices, and organizations are seeking staff who can fit into this culture. In a survey conducted by KPMG, amongst human resource staff, found that 47% of employees would prefer being employed by an organization that has green principles and who have a culture of environmental sustainability (Renwick et al., 2013).

2.5 Conceptual framework

Figure 2.2 depicts the conceptual framework which was derived from the literature review, the conceptual framework is based on the positive influence on environmental performance by the three factors, namely, organizational culture, environmental management and pro-environmental behaviour. A correlation between the three factors have a greater influence on environmental performance.

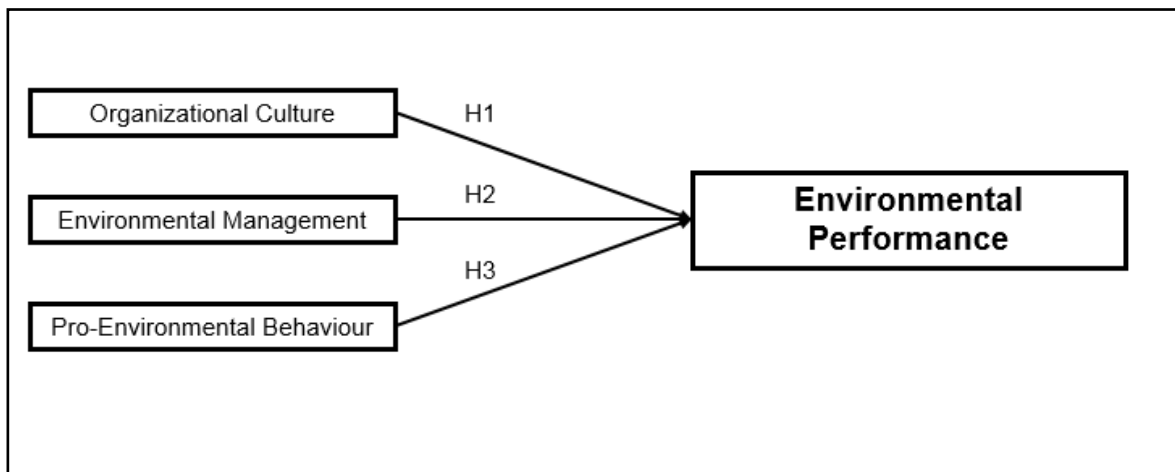


Figure 2.2: Conceptual framework (By Author)

2.6 Conclusion

From the literature review, a conceptual framework was established which suggests that there is a positive relationship between an organization's objectives and programs to conduct the activities of the business in an environmentally legal and accountable manner, and the encouragement of employees to achieve environmental performance. Hence, only environmental policies do not guarantee a positive influence on environmental performance. Organizational culture, environmental management and pro-environmental behaviour has been established

as a significant aspect of environmental performance. Much literature has concluded a positive relationship between organizational culture, environmental management, pro-environmental behaviour of employees and environmental performance. The hypothesis and the conceptual framework will be analysed and investigated in this research amongst organizations in the waste management industry in Kwa-Zulu Natal. Chapter three focuses on the research methodology that was utilized for the study.

CHAPTER THREE

Research Methodology

3.1 Introduction

Research is defined as a planned, step by step process for purposeful investigation, aimed at observing, discovering, exploring, explaining and reworking social knowledge by the researcher. Abraham (2011:1), states that, for any society to move forward and progress, knowledge is a central focal point to do so, and this entails creating questions and sourcing conclusion and answers to various problems. Chapter three examines the research methodologies which were applied in this research. Each step in the research process is explained such as the research design, instrument, target population, sampling, data collection, data analysis biasness, ethical principles and validation.

3.2 Aim of the study

The research will intend to prove that factors such as organizational culture, environmental management, and pro-environmental behaviour positively influence environmental performance in the waste management industry in Kwa-Zulu Natal(KZN). The aim of the research is to identify if the aspects above influence environmental performance in the waste management industry. Key questions that this research will address include: the current nature of the organizational culture, does the organization have an environmental management system and what effect does it have on the organization's environmental performance, and the current state of employee's pro-environmental behaviour and whether the organization motivates and enhances pro-environmental behaviour and does this all lead to greater environmental performance within the firm.

3.3 Research design and methods

According to Tshuma (2010:36), the researcher states that a research design is a leading strategy detailing the methodology and procedure for analysing and collecting the required data. An explanatory, descriptive, quantitative research methodology has been utilized in this study. The relationship between the independent variables (which is organizational culture, environmental management

and pro-environmental behaviour) and the dependent variable (which is environmental performance) was tested and analysed utilizing statistical techniques.

The features of a quantitative design are to classify subjects, count them and produce statistical models in an attempt to explain the observations of the study. The researcher knew clearly in advance what he or she was looking for, the instrument was carefully designed before data was retrieved. The research instrument is in the form of a structured, self-administered questionnaire and the data is in the form of statistical models and researcher tends to be separated from the respondents (McCusker and Gunaydin, 2015).

A qualitative study aims to explore and discover content regarding a problem, as knowledge regarding the problem is unknown. Moreover, qualitative research seeks to assist researchers to understand people and the context in which they live in. Data is collected through observation, interviews, and questionnaires (Thomas, 2010).

Table 3.1 provides a table differentiating between quantitative and qualitative research designs.

Orientation	Quantitative	Qualitative
Assumptions about the world	a single reality, i.e. can be measured by an instrument	Multiple realities
Research purpose	establish relationships between measured variables	Understanding a social situation from participants perceptive
Research methods and processes	*procedures are established before study; *a hypothesis is formalised before research can begin; *deductive in nature	* flexible, changing strategies; * design emerges as data are collected; *a hypothesis is not needed to begin research; * inductive in nature
Researchers role	The researcher is ideally an objective observer who neither participates in nor influences what is being studied.	The researcher participates and becomes immersed in the research/social setting.
Generalisability	Universal contact -free generalizations	Detailed context - based generalizations

Table 3.1 Differentiation between Quantitative and Qualitative research design

Adapted from: Thomas, P. Y. 2010. Towards developing a web-based blended learning environment at the University of Botswana, Doctoral Thesis, University of South Africa, South Africa.p 304.

3.4 Research paradigm

Terre Blanche and Durrheim (1999) suggests that a research process has three significant dimensions namely, ontology (what is reality), epistemology (how do you know something) and methodology (how do you go about finding it out). Therefore, a research paradigm is an interrelated system of practice and thinking that dictates the nature of the enquiry in accordance with these three dimensions. According to Kuhn (2012), paradigms are a set of universally accepted thinking habits of researchers. Therefore, a paradigm is a pattern, framework or a systematic structure of values, beliefs, and assumptions, and these paradigms will therefore, guide the process, the research design and the methods that will be adopted in the research. Mackenzie and Knipe (2006) suggest that there are four common types of paradigms amongst researchers, namely, positivism, interpretivism/constructivist, transformative and pragmatism.

Positivism is commonly known as scientific research, and a positivism approach aims to test a theory through observation and experiment. The researcher distances themselves from its sample respondents in order to avoid influencing the data; hence the research is conducted in a value freeway (Saunders, Lewis and Thornhill, 2016:136); Mackenzie and Knipe, 2006). Interpretivist/constructivist focuses on developing a new theory inductively and relies on the respondent's view of a particular situation which is being studied (Mackenzie and Knipe, 2006). Transformative is an approach that focuses on the belief that inquiry needs to be related with politics and a political agenda which contains an action plan that could change the lives of the respondents or organizations which are being studied and the researcher (Mackenzie and Knipe, 2006; Creswell, 2003:9). Pragmatism is a philosophy whereby concepts are only significant if it leads to a specific type of action, and this type of philosophy emphasizes on the 'what and how' of the problem by utilizing a mixed method approach. Pragmatism is outcome-oriented and is focused on determining the meaning of things (Saunders et al., 2016:137).

This study has followed a positivist paradigm. The study is based on quantifiable observation based on facts which stems from statistical analysis based on a deductive approach. Respondents completed a self-administered questionnaire, hence ensuring the independence of the researcher from the study and minimal interaction with respondents. The theory of three factors, namely organizational culture, environmental management and pro-environmental behaviour which positively influences environmental performance had been tested.

3.5 Study setting

Four waste management companies were included in the sample, where each company had a significant role in the waste management sector. Due to time constraints, additional industries in each field of the waste management sector were not included in the sample of the study. The four sectors of focus consisted of recycling, landfill management, waste transportation and environmental consulting. These four sectors provided a holistic approach to the waste management industry. The four companies assisted in proving the necessary information required to investigate the objective of the study, which is to determine the factors which positively influence environmental performance in the waste management industry.

The area of research was Kwa-Zulu Natal (KZN), specifically in the region of Richards Bay, eThekweni, iLembe, and Pietermaritzburg.

3.6 Population and sample of study

The population in a research study comprises of a group of people from whom the researcher wants to conclude findings and generalizations of the results of the research (Babbie, 2013). The population included personnel (management and the workforce) across each division of the private sector in the waste management industry from the departments: sales, technical, finance, safety, health, environmental and quality (SHEQ), operations, and logistics. Respondents were between the ages of 25 to 55 years old, from all ethnic groups. These personnel form the heart of the business and actively participate in the daily operations of the business, and they are also actively involved in the decision making in the business. Sekaran (2003:315) defines sample size as the actual number of personnel chosen as a sample to represent the population's traits and characteristics. An appropriate sample size has been calculated based on the adjusted sample size table (UKZN, 2016), in order to achieve a 95% confidence level with a 5% margin of error. A target population of 100, yielded a minimum sample size of 80.

3.7 Sampling method

Sampling is based on the theory that elements of a population provide pertinent info on the total population, therefore, by researching the selected population, results can be generalized based on the entire population (Sekaran & Bougie, 2009:284). There are two types of sampling methods, namely non-probability sampling and probability sampling. Draugalis and Plaza (2009:1) state that probability sampling occurs when, "every member of the target population has a known, non-zero probability of being included in the sample. Probability sampling implies the use of random selection." In non-probability sampling, not all respondents are given the equal opportunity to be included in the sample. The sampling is not random and is subject to subjective judgment by the researcher; therefore, the sample that has been selected may not necessarily be a good representative of the entire population. There are a variety of non-probability sampling techniques such as quota sampling, purposive, volunteer and haphazard (Saunders et al., 2016:276).

There are various errors when it comes to sampling such as coverage, sampling, and nonresponse. Coverages errors make reference to the sampling frame, whereby the sampling frame does not include all the elements of the target population. Sampling error is the discrepancy which stems from random sampling between the true value of the population and the sample. An increased sample size reduces sampling error. Non-response error refers to when the data is not collected from every person in the sample.

The technique of probability sampling had been utilized with a sampling frame consisting of frontline employees and management from industries in the private waste management sector and across each department in the company, such as finance, sales, technical, SHEQ, operations and transport. The methodology of probability sampling will entail the requirements of systematic random sampling and the sampling fraction had been determined from the target population and actual sample size. Probability sampling was chosen as the preferred method of sampling as random sampling provides confidence in the generalization of the findings of the population.

3.8 Construction of the instrument

Sekaran and Bougie (2013:160) define a questionnaire as "a preformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives". Questionnaires are an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest. Questionnaires can be administered personally, mailed to the respondents, or electronically distributed. For this study, a self-completed questionnaire had been administered to research respondents through email and collection and delivery for those respondents who did not have access to email. The questionnaire had consisted of closed-ended questions. Respondents were given 14 days to complete the questionnaire from the date of delivery. Each questionnaire had been accompanied by a letter of content and an introductory letter explaining the purpose of the research.

The questionnaire was designed from an extensive review of literature specifically focusing on organizational culture, environmental management, pro-environmental

behaviour and how these three factors influence environmental performance. These three aspects guided the questions for the questionnaire. Many researchers have utilized the methodology of questionnaire surveys for an empirical study (Vachon and Klassen, 2006; Bai and Sarkis, 2013:10; Hsu and Hu, 2009).

The questionnaire was divided into four sections, namely organizational culture, environmental management, pro-environmental behaviour and a general section named other. Section one focused on organizational culture, which included questions on the current state of the personnel's organizational culture towards environmental performance, leadership and efforts made by the organization to improve environmental performance. This section consisted of 19 questions, and respondents were asked to rate each question on a five-point Likert scale (1-strongly agree, 2- agree, 3-neutral, 4-disagree and 5-strongly disagree). Section two was based on environmental management, and the objective of this section was to determine if the organization has implemented an environmental or quality management system in the company and whether the company has initiated any environmental programs and the effect of these on environmental performance. This section consisted of 17 questions, and respondents were asked rate each question on a five-point Likert scale (1-strongly agree, 2-agree, 3-neutral, 4-disagree and 5-strongly disagree) as well as 1-yes, 2-No, and 3-maybe. Section three of the questionnaire included questions on the pro-environmental behaviour of employees, focusing on the characteristics of the behaviour of employees towards the environment and whether the employees were motivated by the organization to improve their pro-environmental behaviour. Section three consisted of 19 questions and respondents were asked rate on a five-point Likert scale (1-strongly agree, 2-agree, 3-neutral, 4-disagree and 5-strongly disagree) as well as 1-yes, 2-No, and 3-maybe. Section four consisted of one question which aimed to determine if the respondents of the company had experienced any environmental transgressions during the tenure in the organization, and respondents were asked to answer in accordance with 1-yes, 2-No, and 3-maybe.

3.9 Pilot study

A pilot study commonly known as a feasibility study can be referred to as a small-scale version, or provisional testing, completed as part of the preparatory steps for the main research (Polit, Beck and Hungler, 2001:467). A pilot test can also be

utilized as a means to test a particular research instrument before the sampling can occur with respondents (Van Teijlingen and Hundley, 2001:1). The benefits of undertaking a pilot test is that it provides an opportunity for the researcher to deduce any faults or failures within the study which can be resolved prior to the main study, such as the research methodology and the appropriateness of the instrument (Van Teijlingen and Hundley, 2001). Naidoo (2010:35) suggests that it is critical to conduct a pilot study, especially on the research instrument, as the particulars of the instrument are quite crucial in the study. Ensuring that the instrument is the right fit is essential. With a pilot study the researcher can ascertain if the length and relevance of the instrument is suitable. A researcher should seek advice, suggestions and guidance from an expert on the instrument especially in terms of the type and structure of questions to be used (Saunders et al., 2016:386). Pretesting of the questionnaire was conducted with seven respondents from the landfill management sector, it was deduced that the questions were relevant and well suited for to deduce a result to achieve the objectives of the study.

3.10 Data collection

A self-completed questionnaire had been administered to research respondents through email and delivery and collection. The questionnaire consisted of closed-ended questions. The data collection took place between the 21st of September 2017 to the 10th of October 2017. Respondents were given 14 days to complete the questionnaire from the date of delivery, and if no response was received within the first seven days, a reminder had been sent in order to follow up. Each questionnaire administered was accompanied by a letter of content and an introductory letter explaining the purpose of the research. 48 questionnaires had been received, therefore a response rate of 60% was achieved with a sample size of 80 personnel. Draugalis and Plaza (2009) state that a response rate of 50-60% or higher is optimal as it makes the non-response bias minimal. If the response rate was less than 50%, this would have been a cause for concern as the representability of the respondents in the population would be in question.

3.11 Data analysis

Data is gathered and collected through various techniques such as questionnaires, interviews, and secondary sources are required to be analysed for generalizations

and deductions to be acquired. Cooper and Schindler (2008) suggest that data analysis comprises of the reduction of data collected and sorting into an appropriate size to construct ideologies and patterns by utilizing statistical measures.

Figure 3.1 illustrates the flow diagram for data analysis.

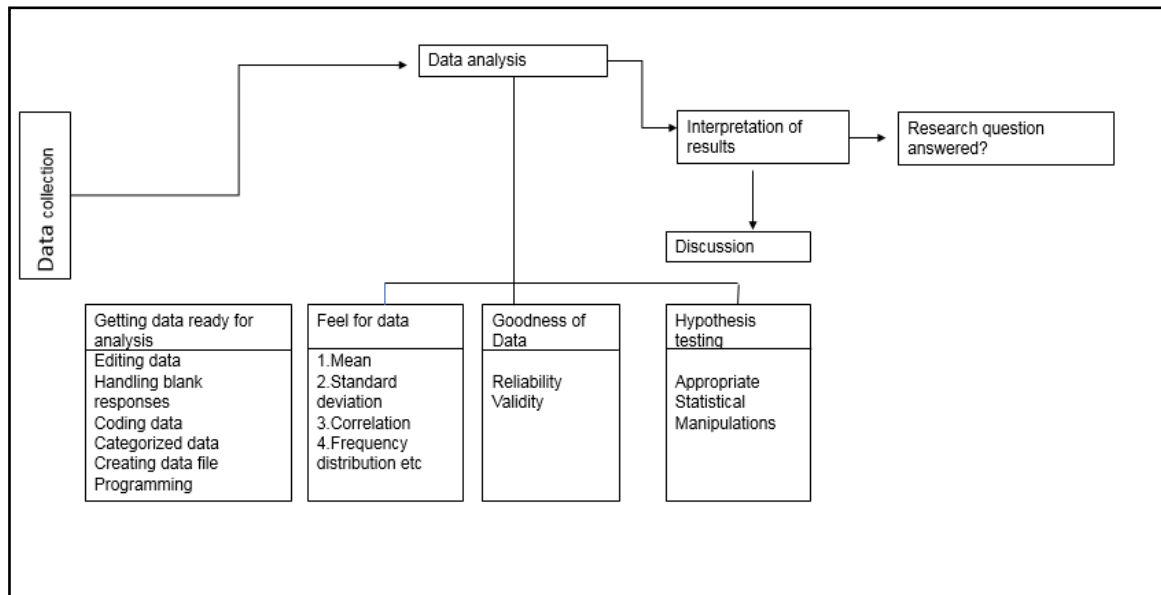


Figure 3.1: Flow diagram for data analysis

Adapted from Sekaran, U. & Bougie, R. 2013. Research Methods for Business: A Skill Building Approach. *John Wiley and Sons, New York.* p 281.

- Editing Data: data collected during the sampling will need to be edited, specifically when respondents are asked to complete open-ended questions. Questionnaire data has to be thoroughly checked in order to ascertain if all the questions have been answered and if there are any inconsistencies (Hanuman, 2006:65).
- Handling blank responses: in specific instances, not every questionnaire in the research instrument will be answered, because the respondents either do not know the answer to the question or they do not understand the question. Sekaran and Bougie (2013:282) suggest that if 25% of the items are not answered in the questionnaire, then the questionnaire should be excluded from the dataset. There are various ways to handle a blank response such as, assign the midpoint on a scale or ignore the blank responses. However, this reduces the sample size and to assign a mean value of all the response in the blank

(Sekaran and Bougie, 2013:282). In this study all questions were answered by respondents.

- Coding data: the responses received from the return questionnaires have to be coded. The data was coded and captured on a spreadsheet before being entered into the statistical package for social science (SPSS) software program.

Once, all the questionnaires were received from the respondents, the data was captured into a Microsoft excel sheet, and thereafter the SPSS was then utilized to determine the statistical analysis.

3.11.1 Descriptive statistics

Descriptive statistics involves the methodology and techniques for summarizing the data and it entails graphs and numbers such as percentages and averages. Frequency distribution is a summary table of the data depicting the number of cases (frequency) in each category. Classification of categories must be mutually exclusive (Hanuman, 2006). In this study, bar graphs have been utilized to depict the frequency of occurrence.

Measure of central tendency: Sweeney, Williams & Anderson (2009) differentiate between the measures of central tendency as per the following:

- Mean – which is probably the most significant measure of location, or average value for a variable. The mean provides a measure of central location for the data.
- Median – is the midpoint score or value in a group of data tiered from lowest to highest.
- Mode – is the numerical value that arises with the highest frequency.

Measures of variability: Agresti and Franklin (2009:57-58) distinguishes between the measures of variability as per the following:

- Range – is the variance between the largest and the smallest observations
- Standard deviation – indicates how values differ about the mean of the distribution and are defined as the square root of the variance.

- Variance – is defined as the sum of the squared deviations about the mean divided by the total number of values.

Measures of Relationship: This concerns the correlation between variables and is used when a researcher wants to determine the nature and extent of the association between the variables (Hanuman, 2006:67). Measures of the association or relationship are examined using, scatter plots, contingency tables and correlation coefficients, as separated by (Moore, McCabe, Duckworth and Sclove, 2003:102-105).

- Correlation coefficients – are descriptive statistics or numbers that express the extent of the association between the variables.
- Contingency tables – are also called cross-tabulation tables and usually depict the affiliation between sets of nominal data.
- Scatter plots – displays the direction, strength and form of the relationship amongst two quantitative variables.

Simple Descriptive Statistics: Hanuman (2006:66-67) distinguishes between simple descriptive statistics as follows:

- Ratios - are statistics, which detail the relative frequency of one set of frequencies in relation to another.
- Percentages – are the number of parts per 100 that a particular portion or whole represent. Proportions are calculated in percentages, which is done by multiplying by 100.
- Proportions – are parts of a whole and are calculated by putting the frequency of one category over that of the total numbers in the sample or population.

3.11.2 Inferential statistics

Inferential statistics involves the methodology and technique for concluding decisions or generalizations regarding a population, derived from the data which was gathered from the sample. Beins and McCarthy (2012) describe inferential statistics as utilizing a sample to generalize the findings from a population. This includes non-parametric and parametric statistical analysis (Brink, 2002).

Parametric Statistics:

- Analysis of variance (ANOVA) - determines whether the difference between two or more means deviate from one another substantially or merely by chance (Moore and McCabe, 2006:720).
- t-Test - is utilized when the researcher wishes to associate the means of two groups to determine if the variances between the two means are substantial or fortuitous (Aczel and Sounderpandian, 2006:341).

Non-Parametric statistics:

According to Hanuman (2006:68), non-parametric statistics are also referred to as distribution-free statistical tests and include the following:

- The chi-squared is one of the most frequently utilized non-parametric statistical analysis. It is suitable for comparing sets of information that are in the form of frequencies (Hanuman, 2006:68). Pearson's Chi-square is used to test the independence of variables and is compared to a Chi-square distribution with known degrees of freedom in order to determine the p-value.
- Correlation ascertains the association between any two variables employed in the research. The correlation coefficient is a type of test "measuring the strength of association of bivariate data" (Wilson, 2010:243). This correlation analysis provides a signal of the "direction, strength and significance of the bivariate relationship among variables" (Sekaran and Bougie, 2013:289). The Pearson product-moment correlation coefficient is used to determine whether there is a relationship between two variables.

In the research study the various methodologies of inferential and differential statistics were used to determine if patterns or generalizations exist between organizational culture, environmental management, pro-environmental behaviour and environmental performance.

3.12 Reliability and validity

Reliability refers to the consistency of the measurement. There are various means to ensure the reliability of a study such as homogeneity, split-half reliability, Kuder-

Richardson coefficient and Cronbach's alpha. Heale and Twycross (2015) suggest that the Cronbach's α is the most commonly utilized methodology for reliability to assess the quality of the research. Cronbach's alpha is computed by correlating the score for each question with the total score for each question (individual's responses) and then comparing that to the variance for all individual item scores. The Cronbach's α was used as the test to measure reliability, based on the Cronbach alpha value = 0.932 that was calculated from the study. Heale and Twycross (2015) suggest that a score of >0.70 is acceptable, hence the questionnaire was concluded to have a reliable internal consistency.

Validity examines if the measures of the study test what supposed to be tested or if the analysis of the results and the instruments utilized to analyse relationships between variables are accurate and appropriate (Saunders et al., 2016:730; Heale and Twycross, 2015). Heale and Twycross (2015) suggest that there are three major types of validity, namely content validity, construct validity and criterion validity. Content validity identifies if the instrument to be utilized adequately covers the content of the study, and a subcategory of content validity is face validity. Face validity allows the researcher to seek advice from appropriate individuals as to whether the instrument adequately addresses the content of the research (Heale and Twycross, 2015). Construct validity is a category of validity whereby correlations can be drawn from the test scores in relation to the subject of the research, or other words, the instrument measures what it intended to measure. There are three types of measures which are used to determine to construct validity such as homogeneity, convergence and theory evidence. Criterion validity is a measure to compare the test to some known criterion, the extent a correlation can be drawn to between the two instruments that measure the same variable. There are three types of measures to test to criterion validity namely, convergent validity, divergent validity and predictive validity.

In this study, validity was measured by the methodology of face validity and criterion validity whereby during the pilot study, the respondents were asked whether the questions covered the content of the factors that have an impact on environmental performance, experienced individuals were satisfied with the questionnaire which adequately addressed the objective of the study, hence the face validity was accepted. During the literature review process, a number of published papers were

reviewed which measured the variable of environmental performance, hence the instrument used for the study was deemed appropriate as it correlated with published instruments which measured the same variable, therefore the criterion validity was accepted.

3.13 Bias

Bias is defined as any tendency which prevents unprejudiced consideration of a question (Tshuma, 2010). Bias can occur at any phase of research, including study design or collection, as well as in the process of data analysis and publication. Bias is unknown or unacknowledged error created during the design, measurement, sampling, procedure or choice of the problem studied (Thomas, 2010).

3.13.1 Measurement Bias

Biggam (2012) posits that measurement bias can come either intentionally distorting data, changing the way data is collected or when data collection technique does not truly measure the topic of interest. In the research, measurement bias was mitigated by a pilot study to ensure that the questions measured the topic at hand. The respondents and the researcher remained objective and did not influence the respondents.

3.13.2 Reporting Bias

Reporting bias occurs when the researcher intentionally alters results to affect the outcome of the study, in certain instances the negative factors are not reported by the researcher. In this study all outcomes of the study both positive and negative have been reported.

3.13.3 Response Bias

Response bias refers to respondents who reply with the intention of providing answers that the researcher would like to expect. Respondents are of the view that the specific answer will help the research achieve the objective of the research. Response bias was mitigated in this study by issuing a self-administered questionnaire. The respondents and the researcher remained objective and the researcher did not influence the respondents.

3.14 Ethical consideration

Maintaining the principle of ethics is crucial in research in order to mitigate any bias associated with results. The ethical principle through the research study had been in line with not intending to cause harm to the respondents or organization. Consent in the form of a letter from the management of the organizations utilized as the target population for sampling had been obtained before the data collection process. Sampling had taken place after the approved ethical clearance application was received from the University of Kwa-Zulu Natal's (UKZN) board of ethics. Protection of confidentiality and anonymity had been preserved throughout the study, and a letter of consent had been issued to all respondents without any undue pressure to complete the questionnaire. Presentation of the analyzed results and a summary had been emailed and printed for the participants who undertook the questionnaire. The presentation and summary contained only pertinent information related to the study and did not include any individual response. The entire study was made available to the participants upon request, and no respondents had asked to review the completed study.

3.15 Formulation of hypotheses

A hypothesis is an assumption or theory guess that a researcher makes about some characteristics of the population being investigated (McDaniel and Gates, 2010). Cant, Gerber-Nel, and Kotzel (2003:176) state that hypothesis testing is an alternative mean of deriving conclusions about the traits of a population. This is a process which begins with the researcher's ideas or beliefs about the inherent properties of certain variables in the population (McDaniel and Gates, 2010). According to Maree (2008:12) there are two hypotheses formulated for each theory that a researcher wants to be tested, which is a null hypothesis and an alternative hypothesis. The null hypothesis is depicted by H_0 and is used to state a "no association" or "no correlation" scenario. The alternative hypothesis is depicted by H_1 and would indicate what relationship or theory should be tested (McDaniel and Gates, 2010).

A Chi-square test was conducted in SPSS (see Annexure 3). The mean response is referred to as μ . In general, the test for the Null hypothesis is $\mu = 0$ against the alternate hypothesis $\mu \neq 0$ for each of the respective questions in the key variables

of the study (organisational culture, environmental management and the pro-environmental behaviour of employees) respectively against namely, gender, age, qualification, department, job title and years of work experience of the respondents (as per Annexure 3). If the p-value was found to be less than 0.05, then the Null hypothesis is rejected and thus concludes that there was a significant response, relationship, correlation or non-response (either in agreement or disagreement with the statement proposed). In addition, a correlation test was done on SPSS to determine the strength and significance of the relationship between the variables being measured.

3.16 Conclusion

This chapter provided an outline of the research methods that have been employed in the research. The following aspects were explained in detail: the aim of the study, research paradigm, research design which consisted of a quantitative research methodology, research instrument which comprised of a self-administered questionnaire, sampling protocols which entails probability sampling, the data collection techniques, data analysis which utilized statistical methods such as descriptive and inferential statistics derived from the SPSS software, the mitigation of research bias, ethical consideration and the formulation of hypothesis. Chapter four entails the presentation of results obtained from the study.

CHAPTER 4

Presentation of Results

4.1 Introduction

Chapter four entails the results which have been interpreted from the questionnaire survey which was administered to the respondents. The software utilized for the data analysis was the statistical package for social science (SPSS). Furthermore, the total does not add up to 100 due to the automatic rounding off by the SPSS program. The results will be presented according to the profile information of the respondents, followed by the interpretation of the results in the form of graphs categorized by organizational culture, environmental management, pro-environmental behavior and other, lastly, the statistical analysis utilized for correlations, generalizations and reliability are presented. All of the questions included in the survey are depicted in this chapter.

4.2 Data

4.2.1 Biographical information

The questionnaire comprised of four sections namely, organizational culture, environmental management, pro-environmental behavior and other, the questions from each section of the questionnaire and the biographical data have been presented below in the form of graphs.

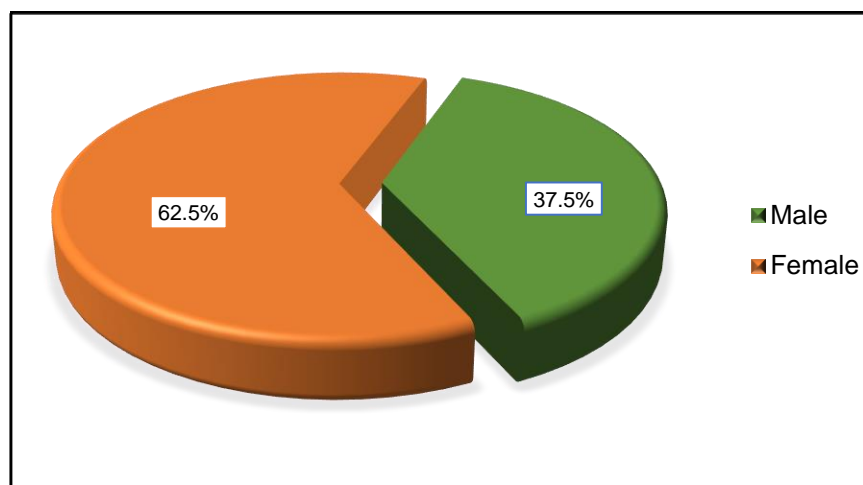


Figure 4.1: Gender distribution of respondents

Figure 4.1 illustrates the gender distribution of respondents in the study. Majority of the respondents were female (62.5%) as compared to males (37.5%).,

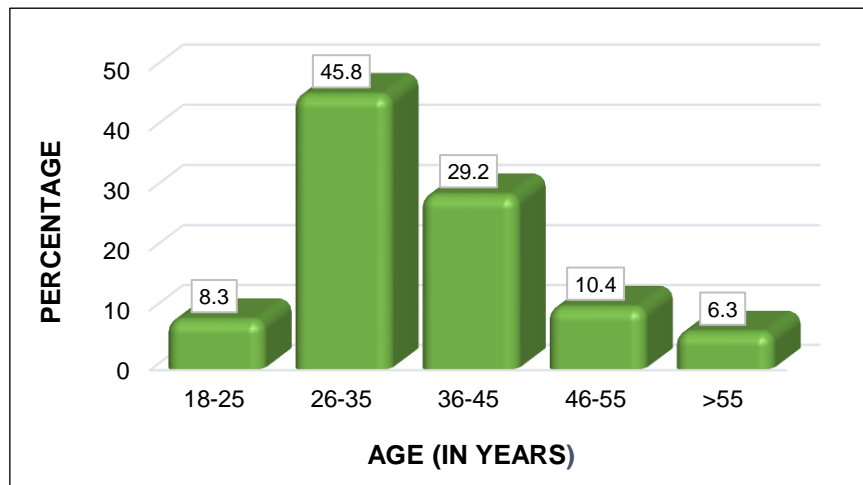


Figure 4.2: Age of respondents

Figure 4.2 displays the age groups of the respondents in the study. A collective 51.4% are from the age group between 18-35, which reveals that the age of staff in the waste management are within an age of growth and are not of the age of experience and knowledge.

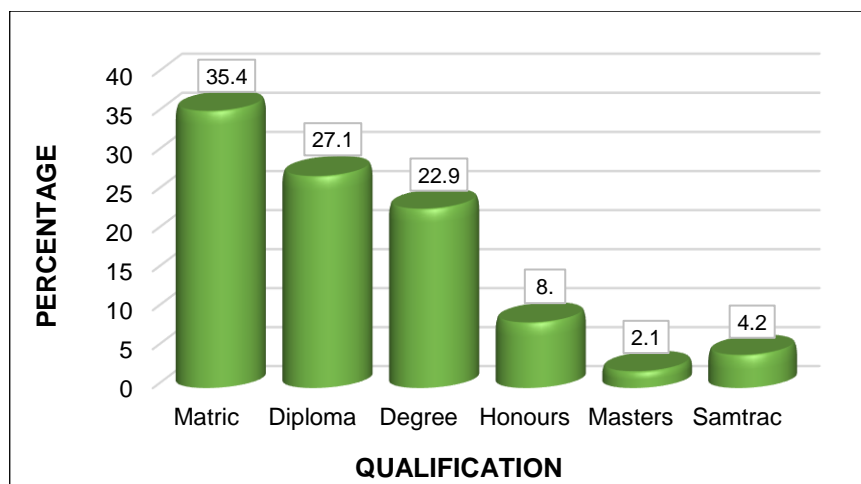


Figure 4.3: Qualification level of respondents

Figure 4.3 depicts that collectively 60.4% of the respondents are in possession of tertiary level education.

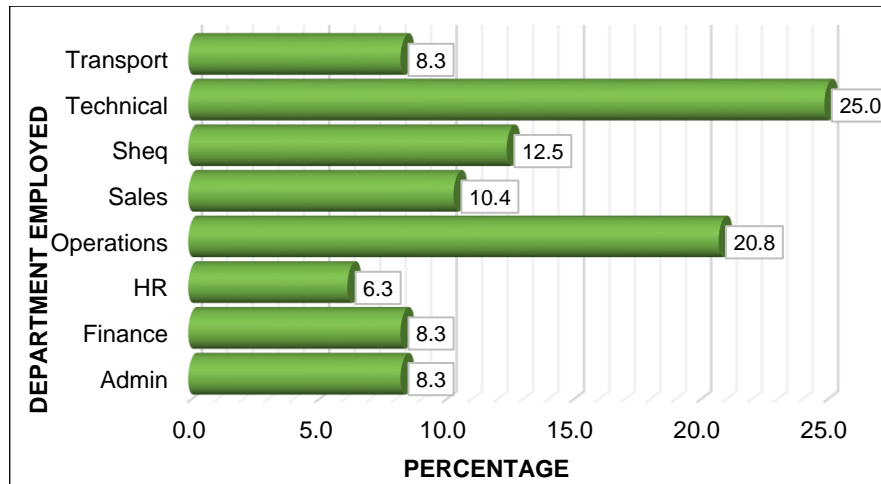


Figure 4.4: Department employed

Figure 4.4 presents the data on the various departments' respondents are employed. There was a good spread between departments, with 25% originating from the technical department, 20.8% from operations and 12.5% from safety, health, environment and quality (SHEQ). These three departments play a significant role in the activities of the business that contribute to environmental performance.

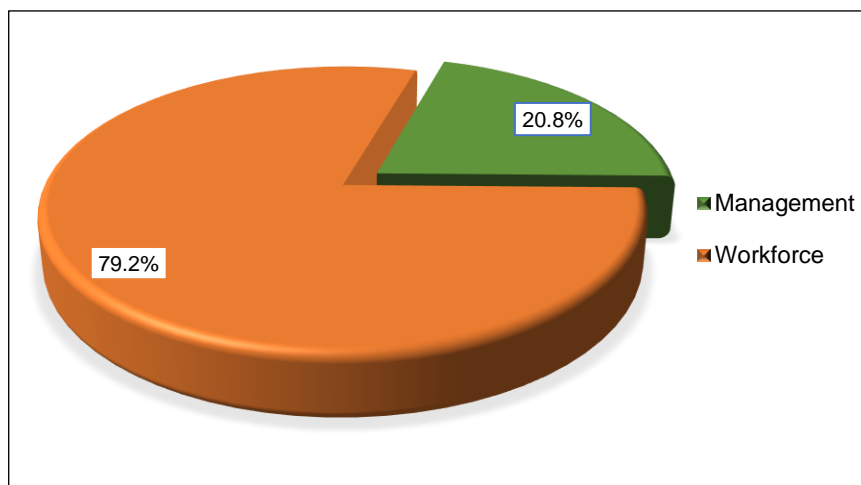


Figure 4.5: Distribution of management and workforce

Figure 4.5 illustrates the percentage of respondents who formed part of management and the workforce. Majority of respondents (79.2%) were made up of the workforce and 20.8% of respondents were a part of management.

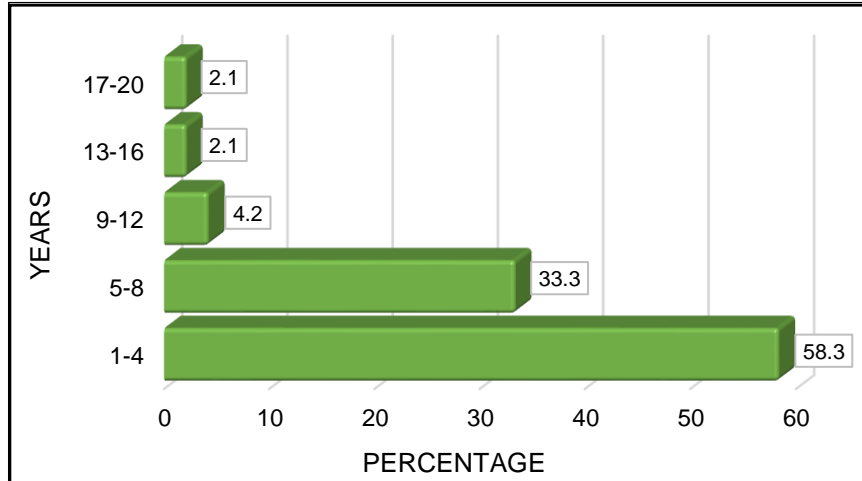


Figure 4.6: Duration of employment

Figure 4.6 reveals that 58.3% of respondents worked in the company between 1-4 years, which is quite low and indicates a low retention period. Only 4.2% worked at the company for between 9-12 years and collectively 4.2% between 13-20 years.

4.3 Organizational culture

4.3.1 Q1.1 My company actively partakes in environmentally sustainable practices (Reduction of waste, recycling, green procurement, use of green material, prevention of pollution).

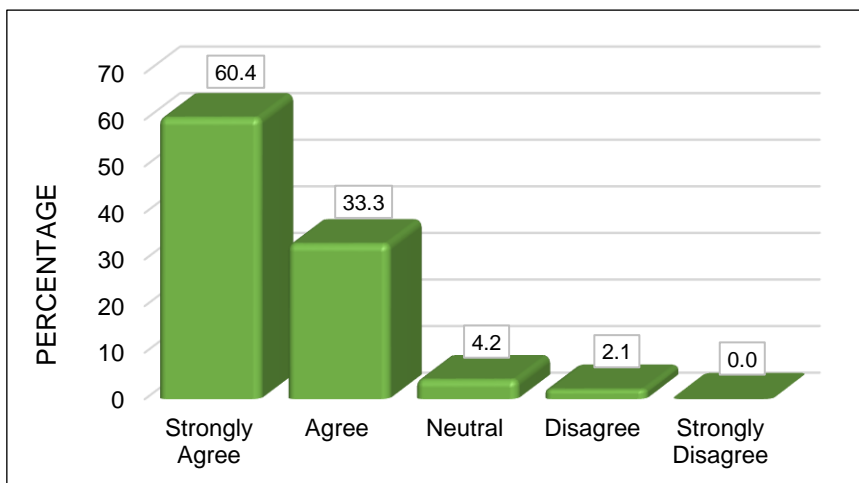


Figure 4.7: Actively partakes in environmentally sustainable practices

Figure 4.7 illustrates that collectively 93.7% of the respondents agree that their company actively partakes in environmentally sustainable practises.

4.3.2 Q1.2 My company's organizational culture is geared towards increasing environmental performance.

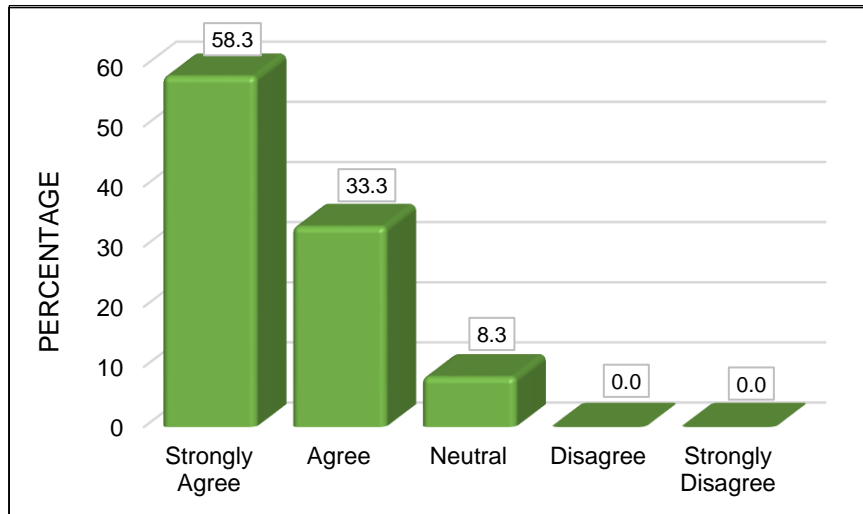


Figure 4.8: Organizational culture geared at environmental performance

Figure 4.8 illustrates that collectively 91.6% of the respondents are in agreement that their respective company's culture is engineered at increasing their organizations environmental performance.

4.3.3 Q1.3 My company creates a line of sight between its employee's daily duties and the company's goals and objectives.

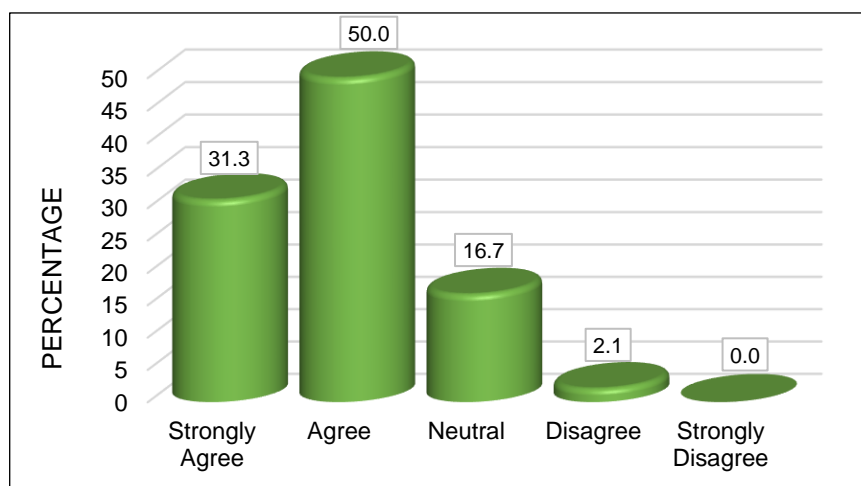


Figure 4.9: Company and employee's goals and objectives

Figure 4.9 illustrates that collectively 81.3% of the respondents agree that their respective companies create awareness in terms of alignment between the employee's duties and the company's mission and objective.

4.3.4 Q1.4 My company's mission and vision contain environmental sustainable practices which improves environmental performance.

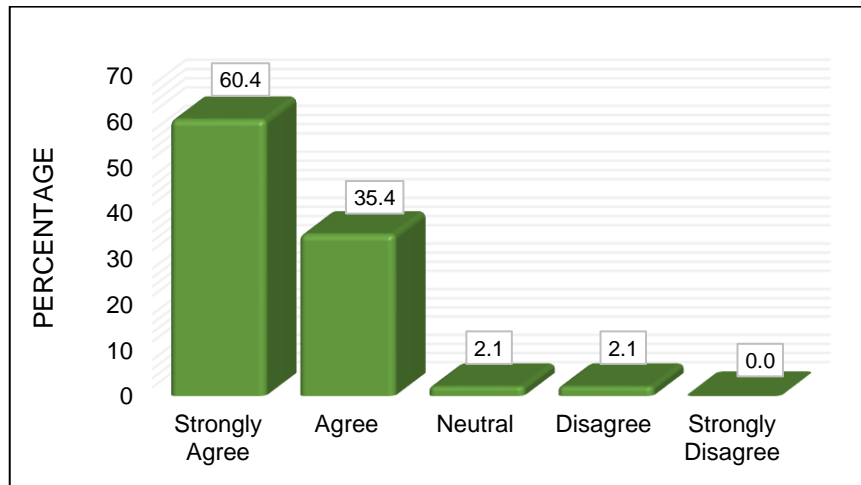


Figure 4.10: Vision and mission contains environmentally sustainable practices

Figure 4.10 illustrates that collectively 95.8% of respondents agreed that the company's mission and vision make provision for sustainable activities that improve environmental performance.

4.3.5 Q1.5 At my company, we make an effort to let all employees understand the importance of environmental performance.

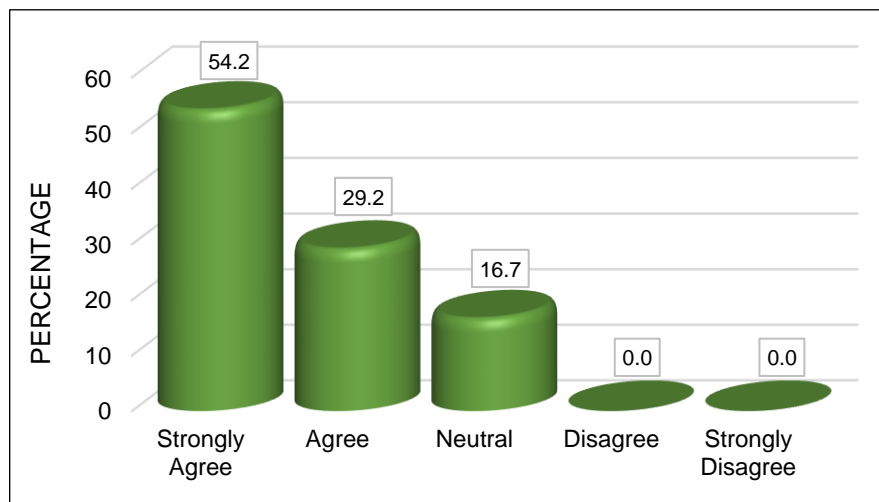


Figure 4.11: Employees understand the importance of environmental performance

Figure 4.11 illustrates that 83.4% collectively agree that the company makes a concerted effort to create awareness amongst employees pertaining to the significance of environmental performance.

4.3.6 Q1.6 My company regularly measures the environmental performance of the company.

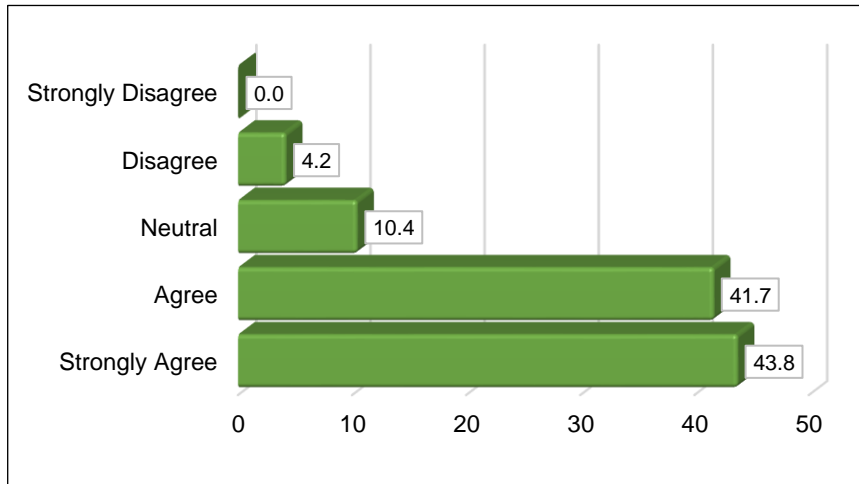


Figure 4.12: Environmental performance is regularly measured

Figure 4.12 illustrates that collectively 85.5% agree that their company regularly monitors and measure the company’s environmental performance. This finding is significant as it concludes that environmental performance forms part of the culture.

4.3.7 Q1.7 All employees are aware of the environmental performance objectives of the company.

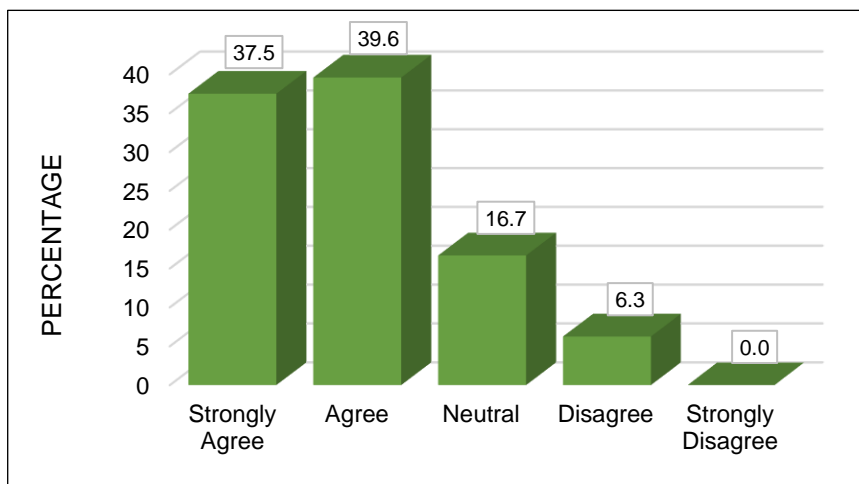


Figure 4.13 Environmental objectives of the company

Figure 4.13 depicts that 77.1 % collectively are in agreement that employees are aware of the objectives of their company pertaining to environmental performance.

4.3.8 Q1.8 Environmental protection and performance is equally important for everybody at the company.

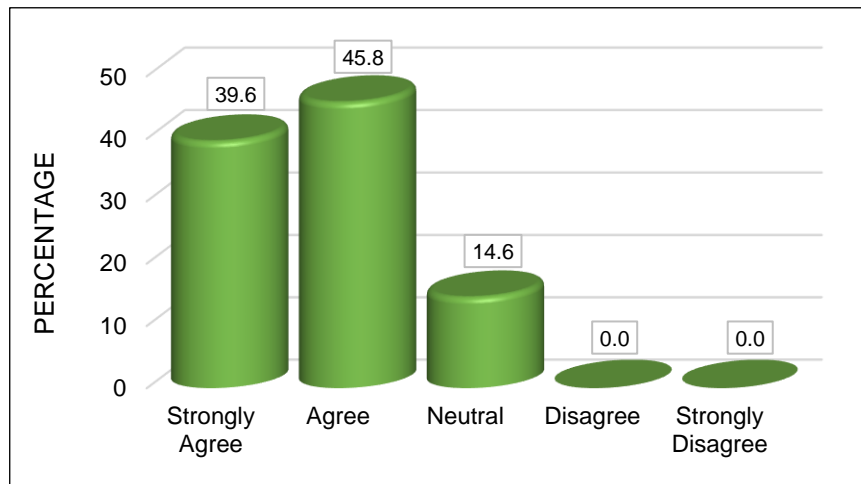


Figure 4.14: Importance of environmental protection and performance

Figure 4.14 illustrates that collectively 85.4% agree that the all personnel affiliated with the company recognise the significance of environmental protection and performance.

4.3.9 Q1.9: My company creates opportunities to share and learn new knowledge and experiences.

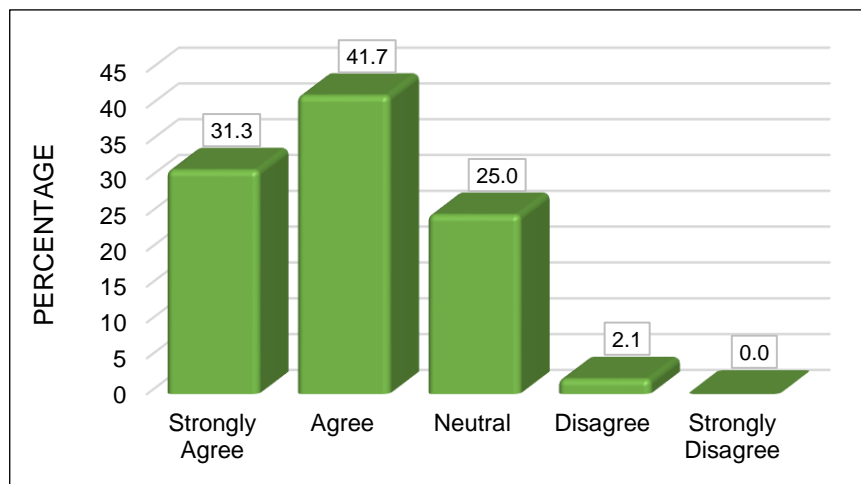


Figure 4.15: Opportunity to share and learn knowledge

Figure 4.15 illustrates that 73% agree that the company provides individuals with the opportunity to learn and share knowledge and experiences.

4.3.10 Q 1.10 My company allows employees to make mistakes and learn from it.

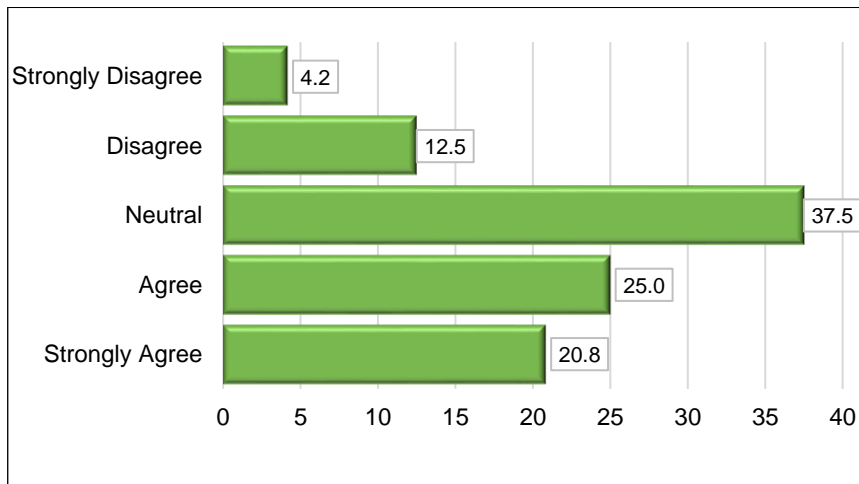


Figure 4.16: Employee mistakes are allowed

Figure 4.16 illustrates a mixed response from respondents. Collectively 45.8% agree that individuals can make mistakes in their company, 37.5% remain neutral and collectively 16.7% disagree. This finding shows that employees in the waste management sector are in fear of making mistakes.

4.3.11 Q 1.11 My company deals with environmental performance only because it is obliged to do so by law.

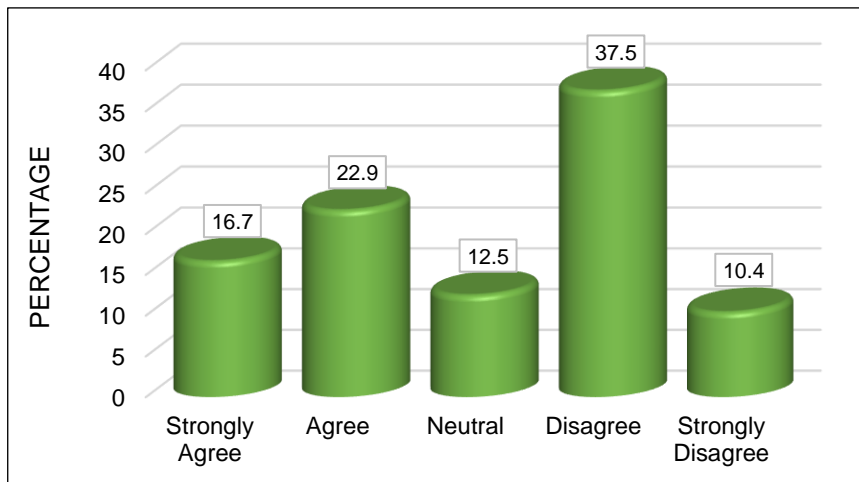


Figure 4.17: Company obliged to environmental performance due to law

Figure 4.17 illustrates an important finding whereby collectively 39.6% agree, 47.9% disagree and 12.5% remain neutral in respect of their company motivation for their environmental performance.

4.3.12 Q 1.12 Because my company's culture focuses on environmental issues, the company's environmental performance is good.

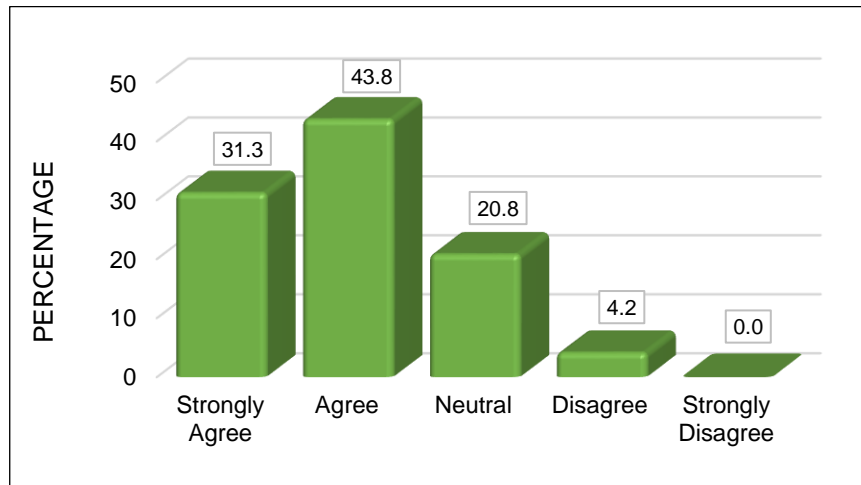


Figure 4.18: Company culture related to good environmental performance

Figure 4.18 illustrates that collectively 75.1% agree that the culture of the company influences their environmental performance.

4.3.13 Q1.13 Financial constraints of the company hinder environmental performance.

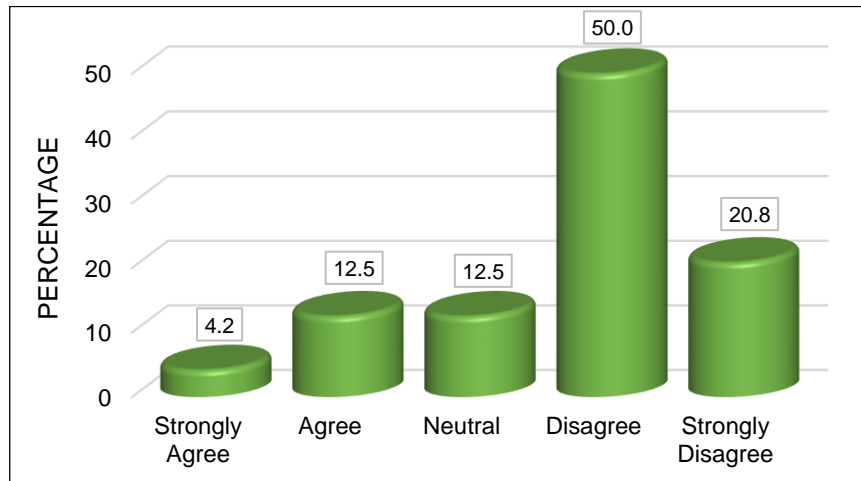


Figure 4.19: Financial constraints hinder environmental performance

Figure 4.19 depicts that 70.8% collectively disagree that environmental performance is put on hold or hindered by the company's finances.

4.3.14 Q1.14 The environmental objectives of the company are always fully achieved.

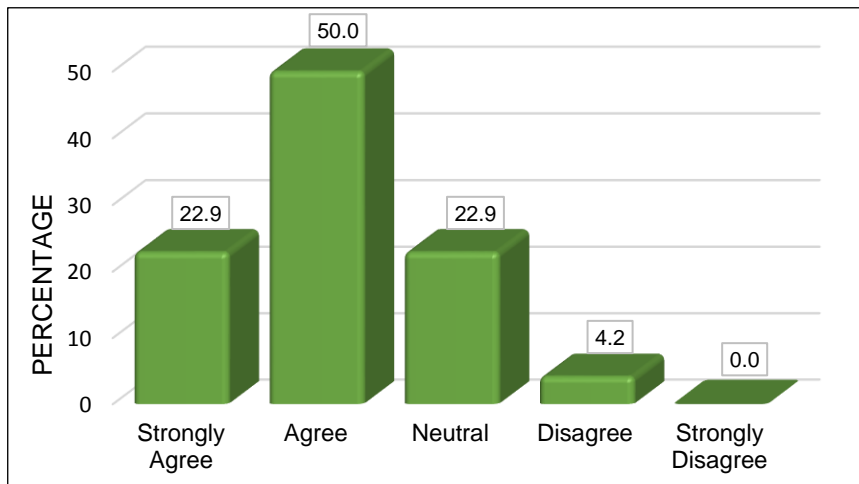


Figure 4.20: Achievement of environmental objectives

Figure 4.20 reveals that collectively 72.9% are in agreement that the company ambitions and objectives pertaining to environmental performance are achieved.

4.3.15 Q1.15 The management of my company focus their attention to managing environmental problems.

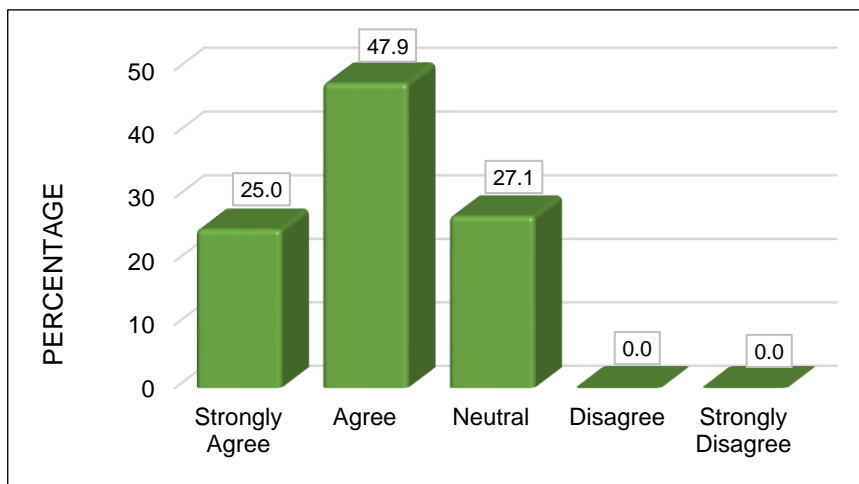


Figure 4.21: Company manages environmental problems

Figure 4.21 indicates that collectively 72.9% agree that their management pay particular attention to addressing environmental issues.

4.3.16 Q1.16 The company's management is always on the lookout for new opportunities for increasing environmental performance for the organization.

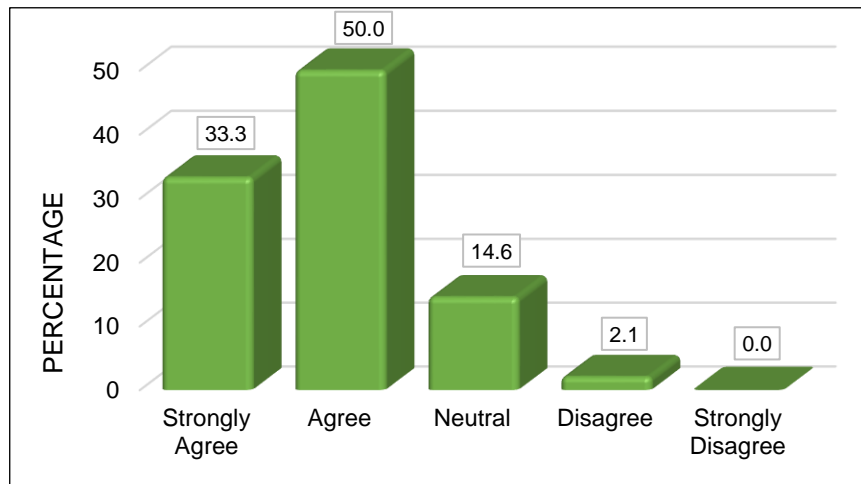


Figure 4.22: Company seeks opportunities for increasing environmental performance

Figure 4.22 shows that collectively 83.3% agree that their management continually engage in ideas to create new ventures for increasing the organizations environmental performance.

4.3.17 Q1.17 The company's management succeeds in motivating the rest of the company.

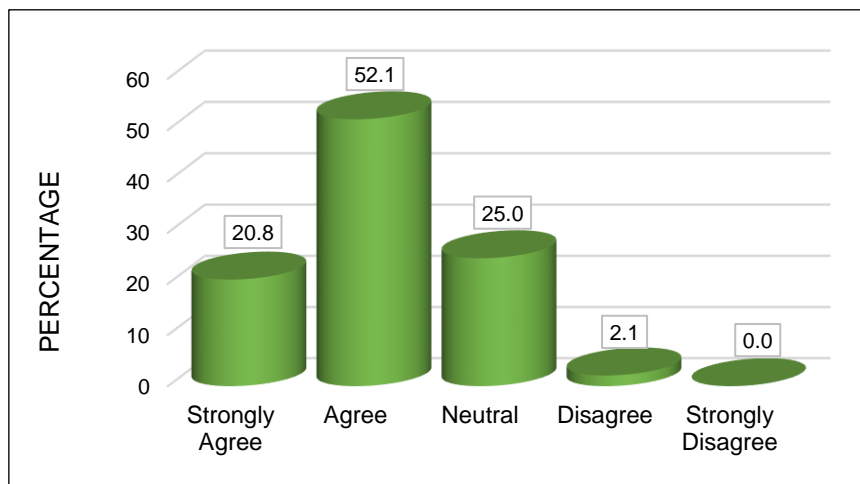


Figure 4.23: Motivation by management

Figure 4.23 illustrates that 72.9% collectively agree that their management motivates them towards enhancing environmental performance.

4.3.18 Q1.18 Management creates an environment that is prone to greater environmental performance.

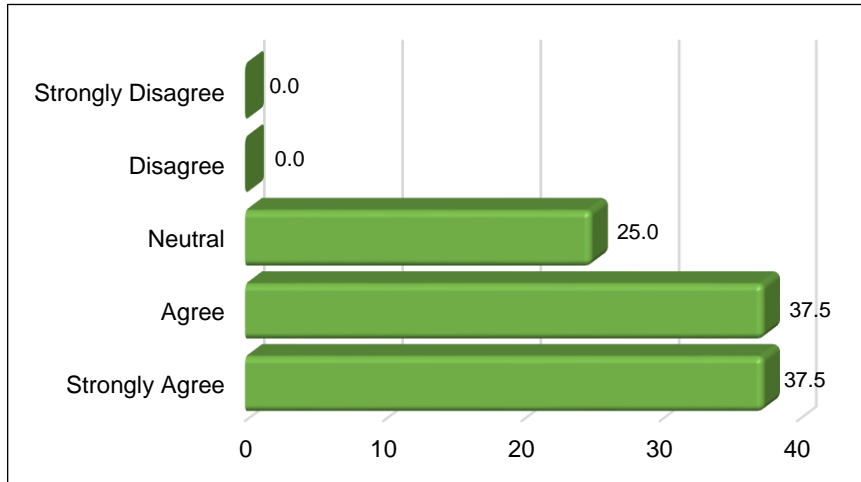


Figure 4.24: Management creates environment for environmental performance

Figure 4.24 illustrates that collectively 75 % agree that management of the company create a culture that signifies the importance of environmental performance.

4.3.19 Q1.19 Management's behaviour is in the best interest of the environment.

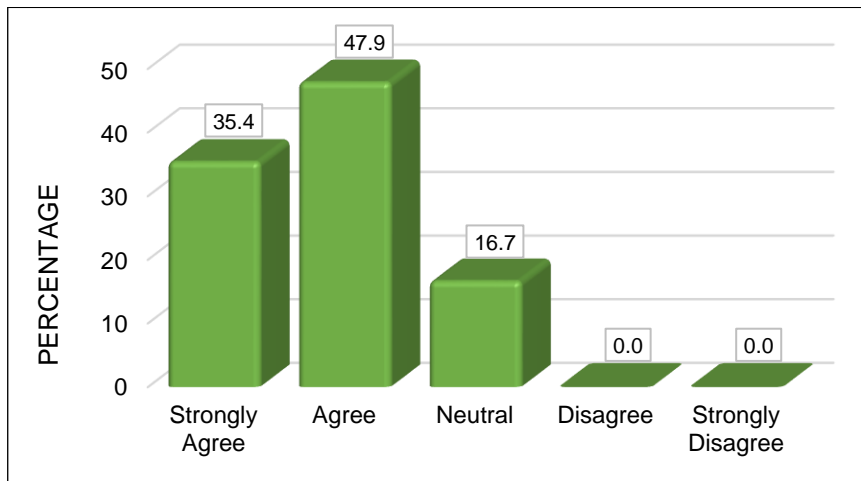


Figure 4.25: Management behaviour focuses on the environment

Figure 4.25 illustrates that collectively 83.3% agree that their management's behaviour always takes the environment in account.

4.4 Environmental management (EM)

4.4.1 Q2.1 EM helps the company to prevent and control pollution and adverse impact of the business.

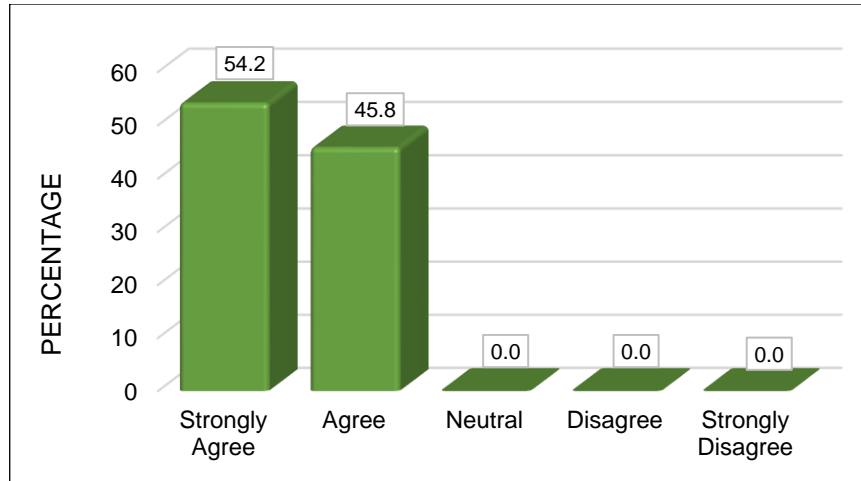


Figure 4.26: EM helps reduce adverse impacts

Figure 4.26 illustrates that collectively 100% agree that environmental management plays a vital role in preventing environmental degradation by the activities of the business.

4.4.2 Q2.2 EM improves the company's efforts to ensure legislative compliance.

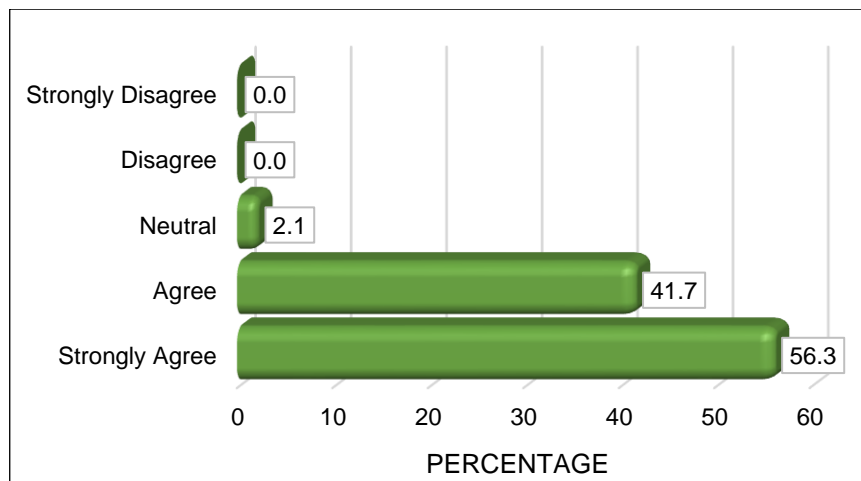


Figure 4.27: Environmental management improves legislative compliance

Figure 4.27 illustrates that collectively 87.9% agree that environmental management ensures regulatory compliance.

4.4.3 Q2.3 EM better identifies future environmental initiatives

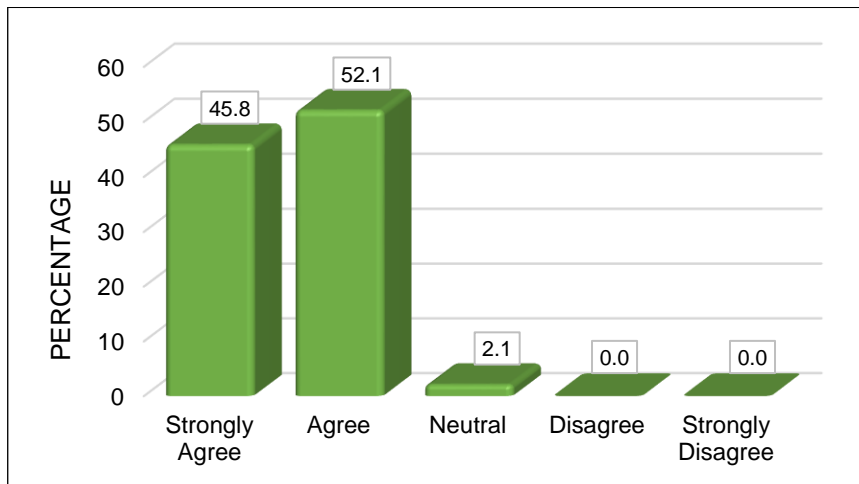


Figure 4.28 Environmental management identifies future initiatives

Figure 4.28 illustrates that collectively 87.9% are in agreement with respect to environmental management positive influence on future environmental programs and campaigns.

4.4.4 Q 2.4 EM improves our company's image.

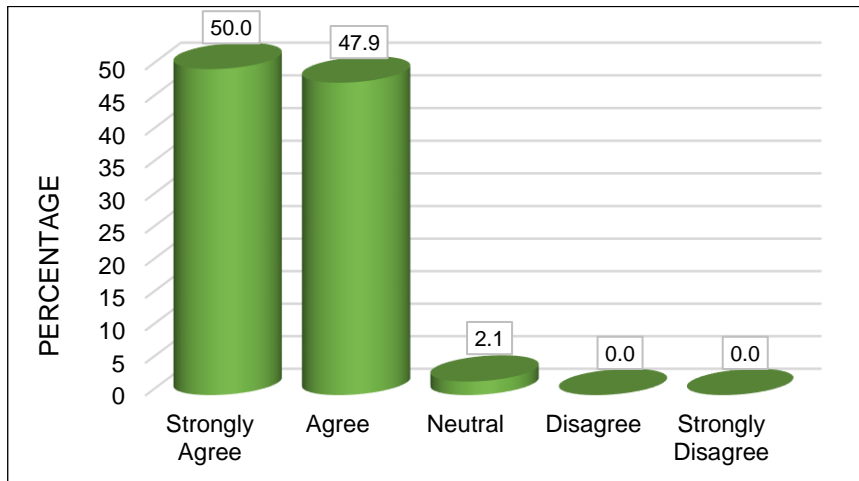


Figure 4.29: Environmental management improves company's image

Figure 4.29 illustrates that 97.9% collectively agree that EM has an impact on how the company image is viewed.

4.4.5 Q2.5 EM enhances environmental performance.

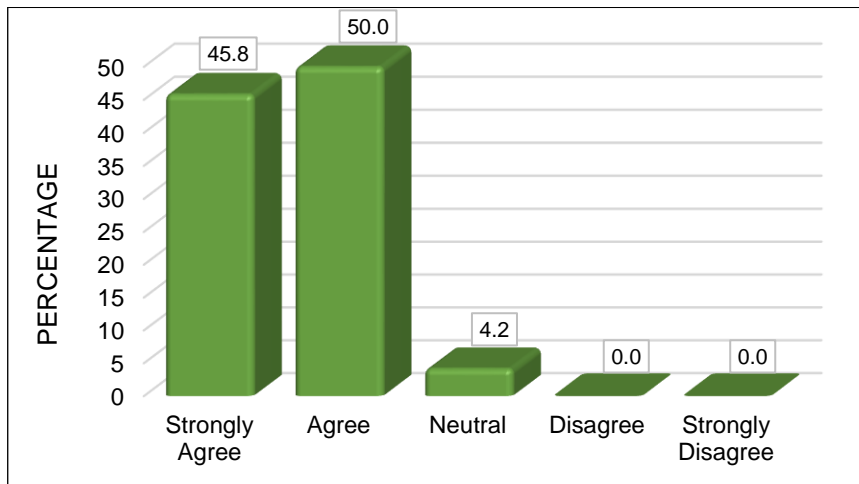


Figure 4.30: Environment management improves environmental performance

Figure 4.30 illustrates that collectively 95.8% agree that environmental management has a positive impact on environmental performance.

4.4.6 Q2.6 Has your company established a certified ISO 14001 Environmental Management System (EMS)?

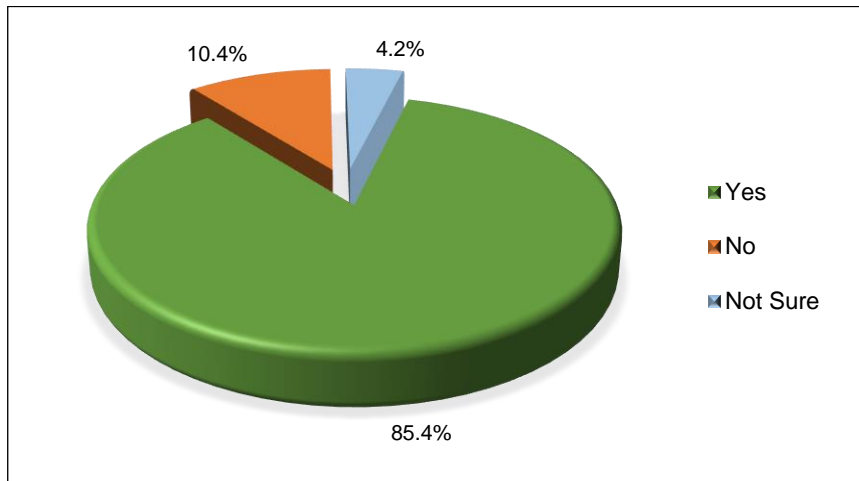


Figure 4.31: The company and ISO 14001 management system

Figure 4.31 illustrates that 85.4% of the respondents said yes to their company having an EMS ISO 14001 system.

4.4.7 Q2.7 Are you aware of what the ISO 14001 EMS entails?

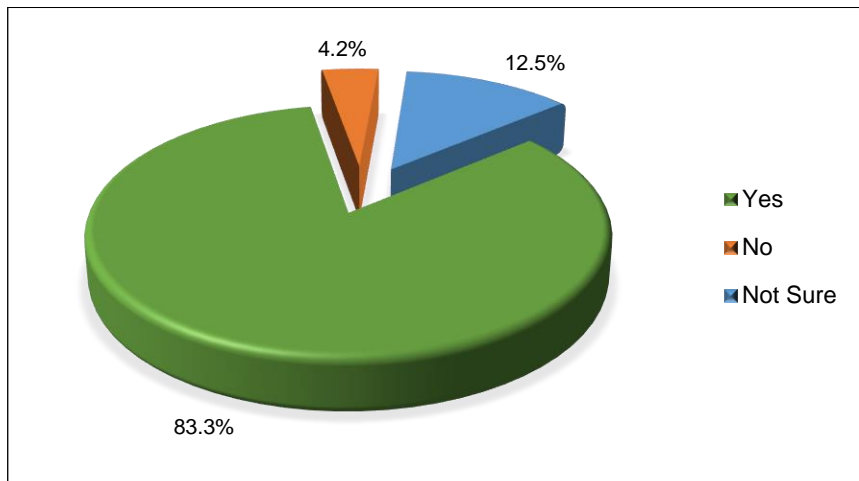


Figure 4.32: Awareness of the ISO 14001 management

Figure 4.32 illustrate that 83.3% are adequately aware of what the EMS comprises of.

4.4.8 Q2.8 Has the environmental management system fundamentally changed the values of employees towards environmental performance?

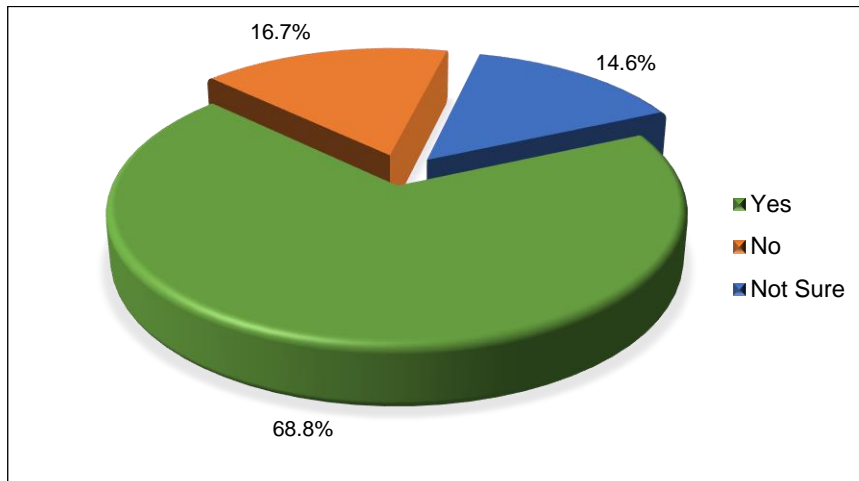


Figure 4.33: Impact of EMS on employees

Figure 4.33 illustrates that 68.8% of respondents believe that an EMS implemented in their company have changed the beliefs and values of the employees towards environmental performance.

4.4.9 Q2.9 Does an EMS induce positive trends towards environmental performance?

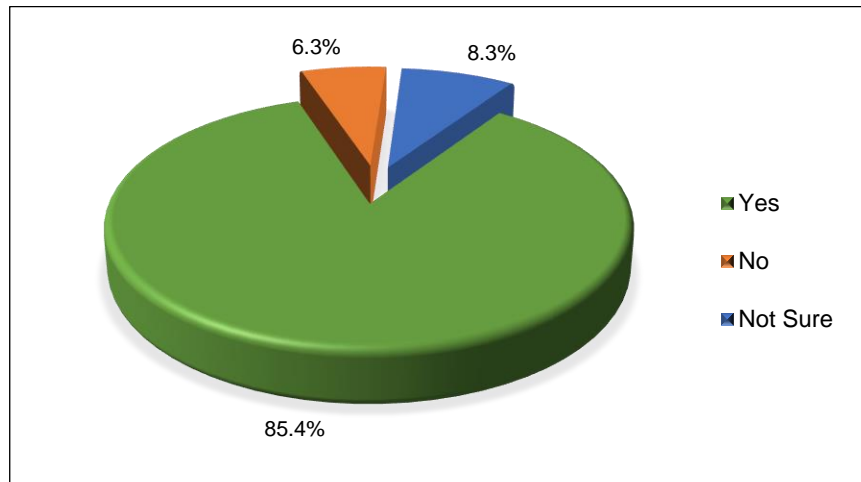


Figure 4.34: ISO 14001 induces positive trends

Figure 4.34 illustrates that 85.4% are in the opinion that an EMS produces positive trends towards environmental performance.

4.4.10 Q2.10 Has your company established a certified ISO 9001 or Total Quality Management system (TQMS)?

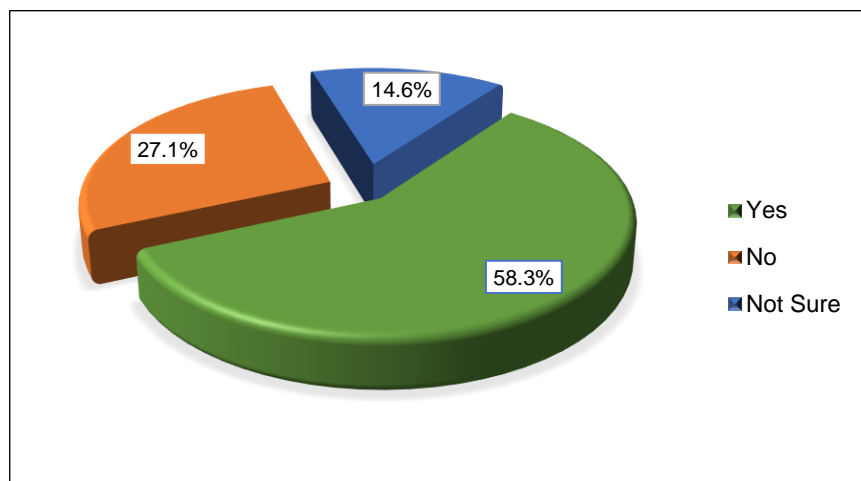


Figure 4.35: Company establishment of ISO 9001 or TQMS

Figure 4.35 illustrates that 58.3% have confirmed that their company has implemented a total quality management system (TQMS) or a certified ISO 9001 system.

4.4.11 Q2.11 Are you aware of what the ISO 9001 and TQMS systems entails?

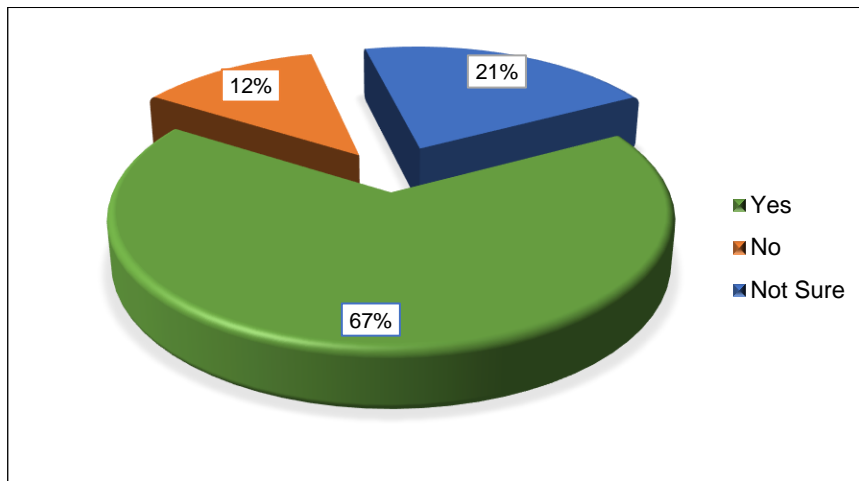


Figure 4.36: Knowledge of ISO 9001 and TQMS

Figure 4.36 illustrates that 66.7% are aware of what the TQMS comprises of.

4.4.12 Q2.12 Has the quality management system has fundamentally changed the values of employees towards environmental sustainability and performance?

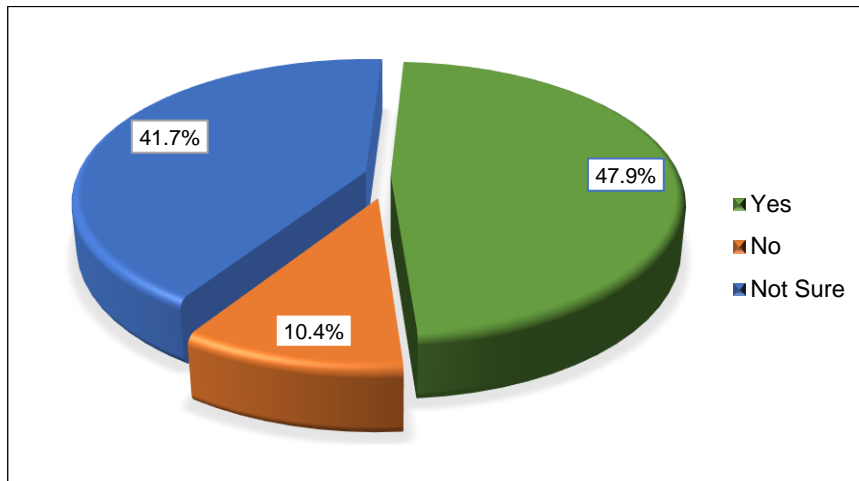


Figure 4.37: Impact of ISO 9001 on values of employees

Figure 4.37 illustrates a mixed response, as 47.9% are of the opinion that the QMS has positively impacted on the values of employees towards environmental performance and 41.7% are of the opinion that it does not.

4.4.13 Q2.13 Does a TQMS induce positive trends towards environmental performance?

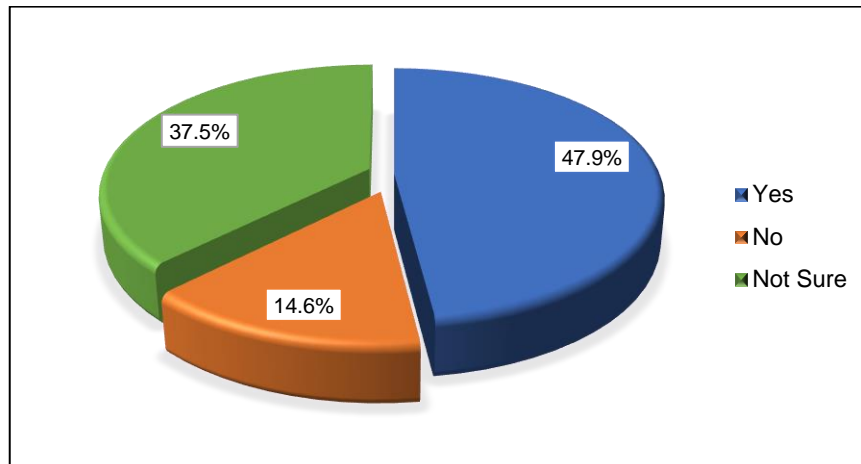


Figure 4.38: TQMS and positive trends

Figure 4.38 illustrates that 47.9% are of the opinion that the TQMS has produced positive trends towards environmental performance.

4.4.14 Q2.14 Are there programs in place to reduce the environmental impacts of the company's operations?

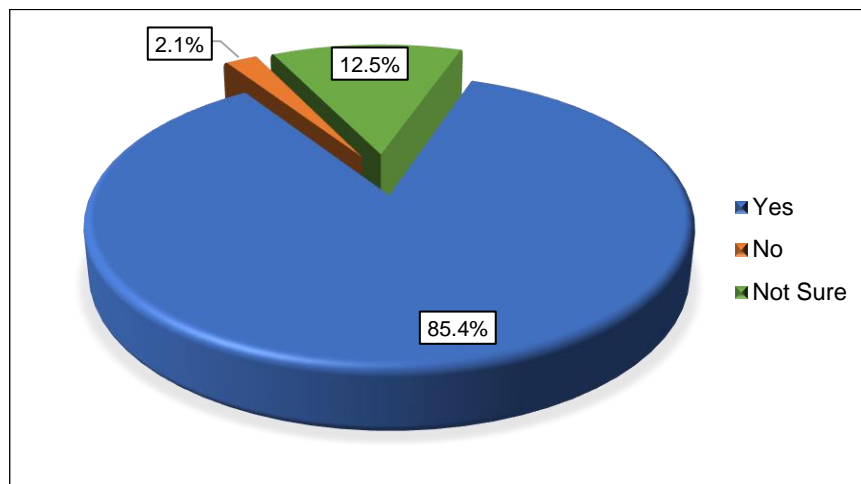


Figure 4.39: Company environmental programs

Figure 4.39 illustrates that 85.4% have confirmed that their company have programs or initiatives in place to reduce adverse environmental impacts.

4.4.15: Q2.15 Does your company focus on reduction and beneficiation of waste?

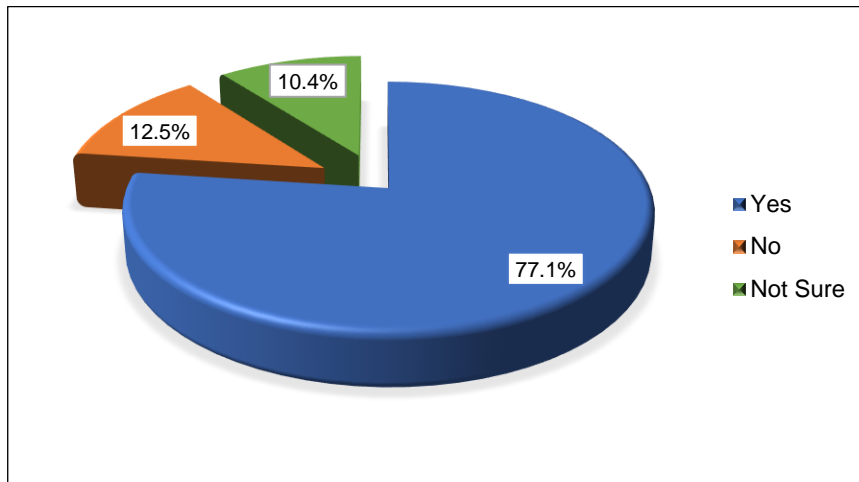


Figure 4.40: Reduction and beneficiation of waste

Figure 4.40 illustrates that 77.1% confirm that their company pays particular attention to the beneficiation and reduction of waste.

4.4.16 Q2.16 Does your company ensure that the activities of the business are done so in accordance with legislation?

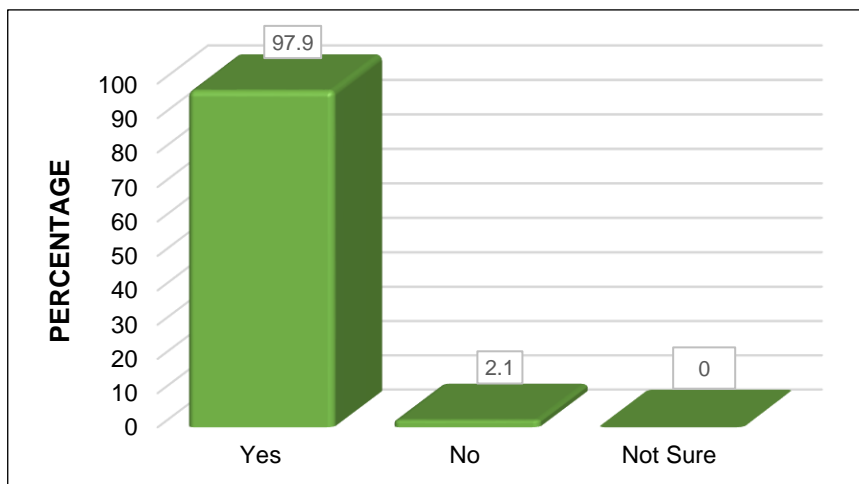


Figure 4.41: Business activities in accordance with legislation

Figure 4.41 illustrates that the majority of respondents (97.9%) confirm that their company places significant emphasis towards regularity compliance pertaining to the activities associated with the business.

4.4.17 Q2.17 Are the environmental management tools of the company not sufficient to achieve effective environmental performance?

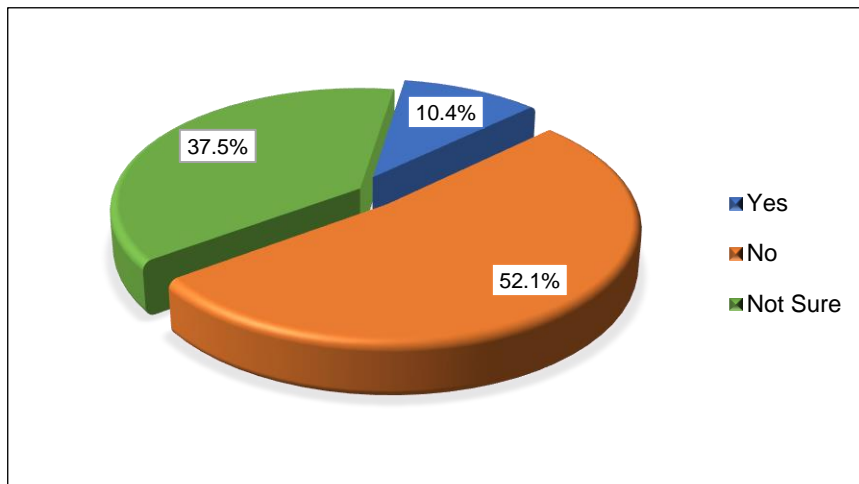


Figure 4.42 Environmental management tools

Figure 4.42 illustrates that 52.1% are of the opinion that their environmental management system (EMS) is currently adequate to attain effective environmental performance.

4.5 Pro-Environmental behaviour

4.5.1 Q3.1 The employees of our company always respect SHEQ instructions.

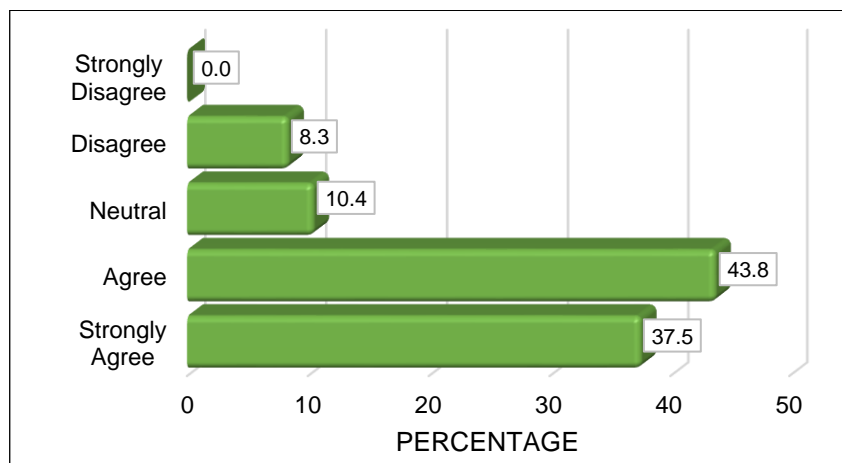


Figure 4.43: SHEQ instructions are respected

Figure 4.43 illustrates that collectively 81.3% are in agreement towards employees respecting SHEQ rules and regulations in their respective companies.

4.5.2 Q3.2 The employees of the company are not motivated by environmental performance but by obligatory instructions.

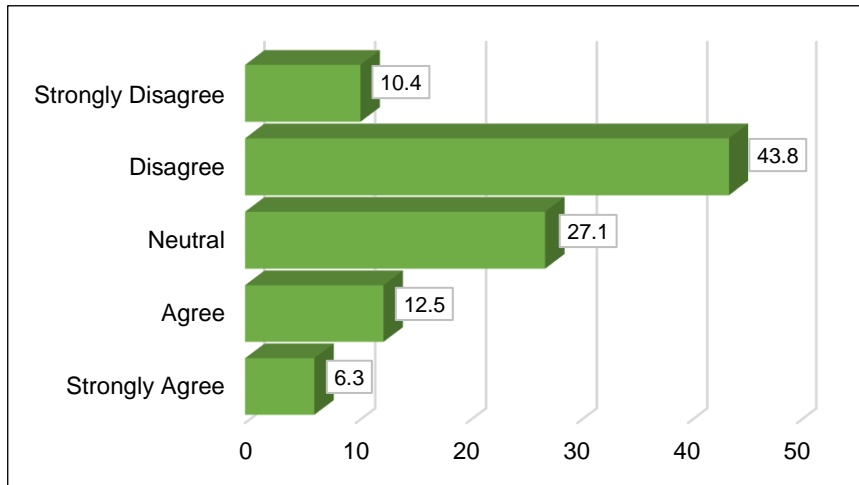


Figure 4.44: Employee motivation

Figure 4.44 illustrates that collectively 54.2% are in disagreement towards the statement that employees are motivated towards environmental practises by obligation.

4.5.3 Q3.3 Employees always receive appropriate feedback concerning the environmental output of their work.

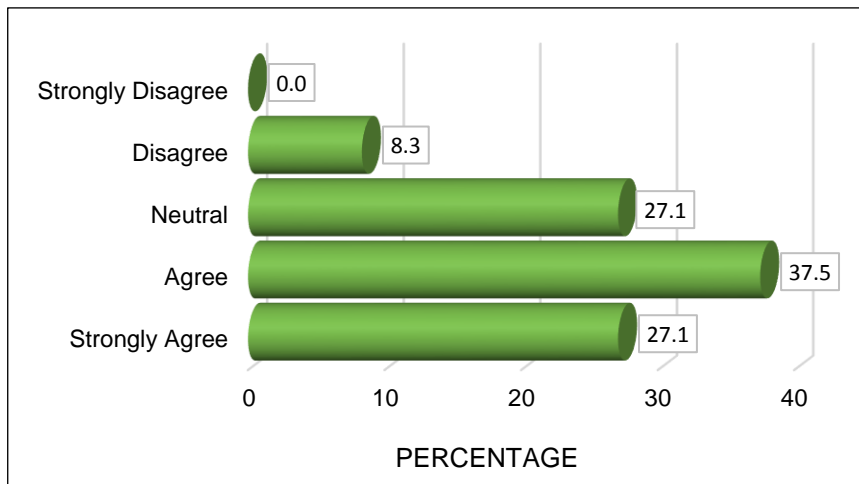


Figure 4.45: Feedback on environmental output

Figure 4.45 illustrates that collectively 64.6% agree that they receive adequate feedback pertaining to their duties in relation to the environment.

4.5.4 Q3.4 Performance appraisals are taken seriously and conducted periodically.

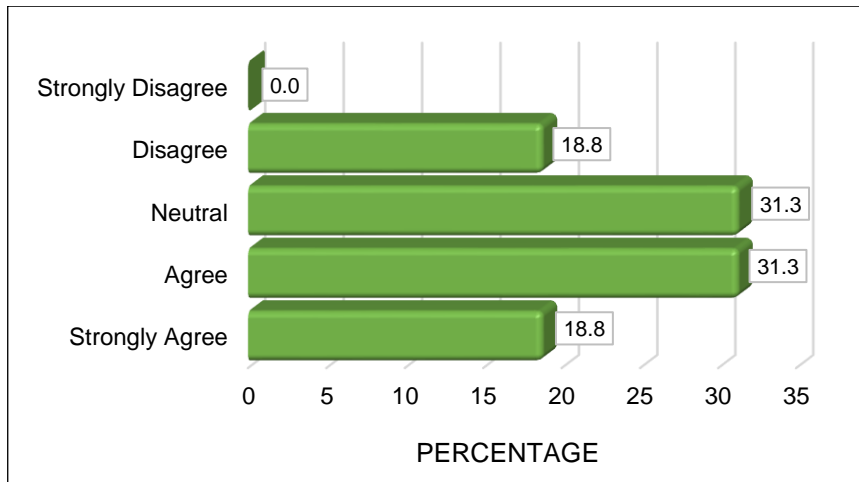


Figure 4.46: Performance appraisal

Figure 4.46 reveals that collectively 50.1% are in agreement toward performance appraisals being conducted at regular intervals and are not taken lightly by the company.

4.5.5 Q3.5 The management of the company often talk to employees about the importance of environmental protection.

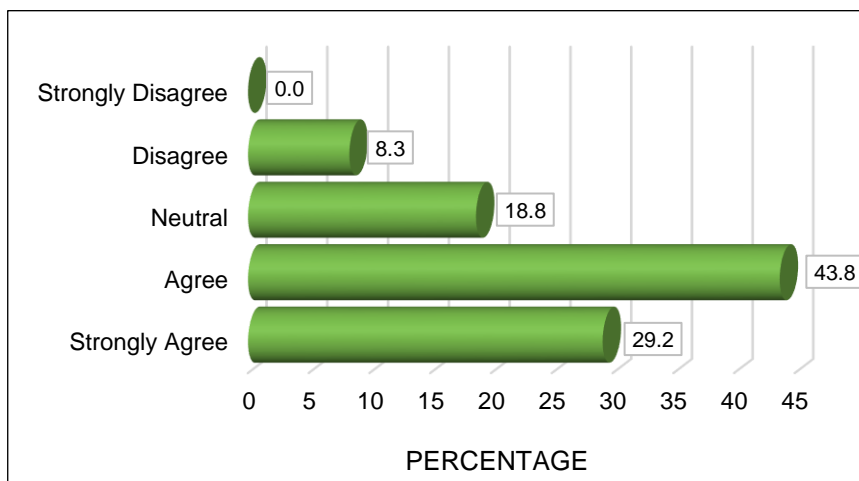


Figure 4.47 Management communication on environmental protection

Figure 4.47 illustrates that collectively 73% are in agreement that there is effective communication from management pertaining to the significance of environmental performance.

4.5.6 Q3.6 The company values environmental training and offers it to its employees.

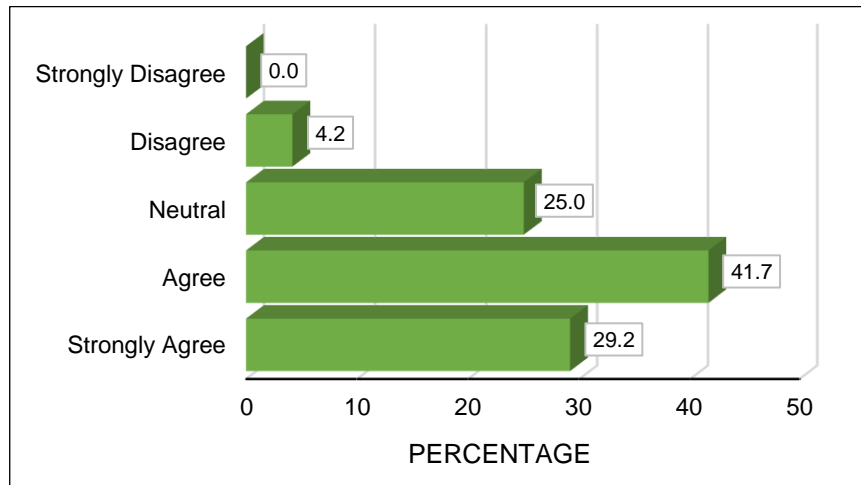


Figure 4.48: Environmental training offered to employees

Figure 4.48 illustrates that collectively 70.9% confirm that the company does offer environmental training and it's important to the company.

4.5.7 Q3.7 The environmental training offered by the company improves employees' attitudes and knowledge a great deal.

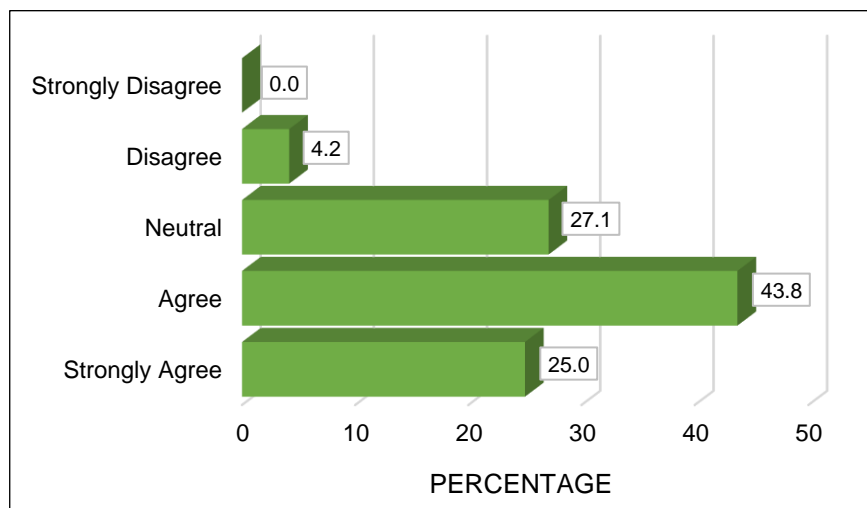


Figure 4.49: Training and employee attitude and knowledge

Figure 4.49 depicts that collectively 68.8% are in agreement that the training offered by the company has a positive impact on the attitudes and knowledge of employees.

4.5.8 Q3.8 My company asks the opinion of its employees pertaining to environmental issues.

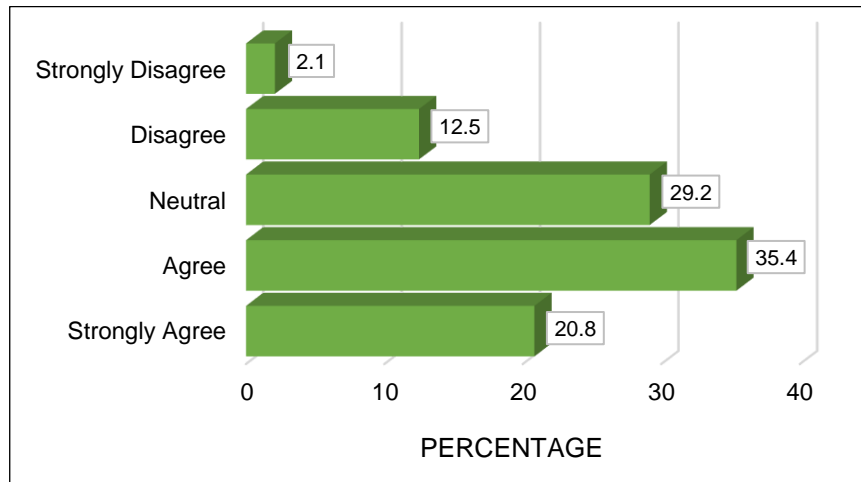


Figure 4.50: Company obtains opinion of employees on environmental issues

Figure 4.50 illustrates that collectively 56.2% of respondents believe that the company asks for input from employees regarding environmental issues.

4.5.9 Q3.9 My company applies direct incentives, rewards and acknowledgment to motivate environmental practises.

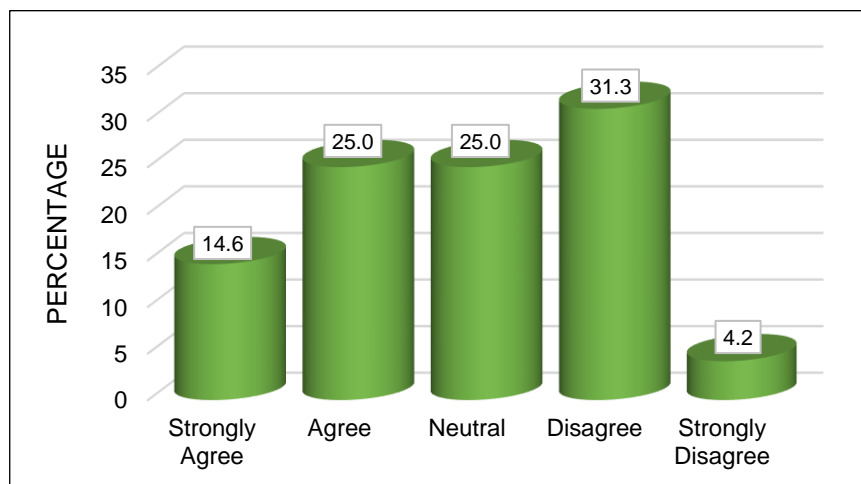


Figure 4.51: Rewards and incentives for environmental practices

Figure 4.51 illustrates a mixed response with regards to the statement, whereby collectively 39.6% agree that they receive incentives and rewards to motivate the employees towards environmental initiatives. However, 31.3% disagree and 25% remain neutral.

4.5.10 Q3.10 The company allows employees ample opportunities to increase environmental awareness.

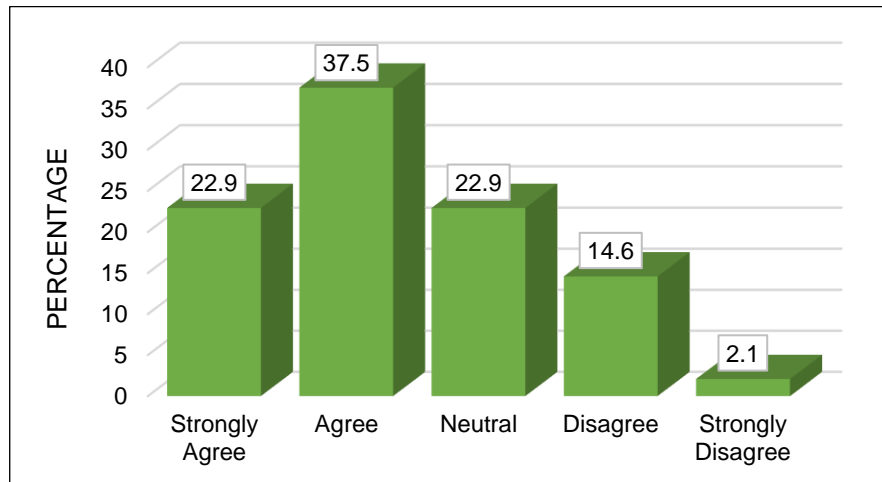


Figure 4.52: Employee opportunities to increase environmental awareness

Figure 4.52 illustrates collectively 60.4% agree towards the opportunity given by the company to establish awareness towards to the environment.

4.5.11 Q3.11 One of the goals of the company is to promote pro-environmental behaviour.

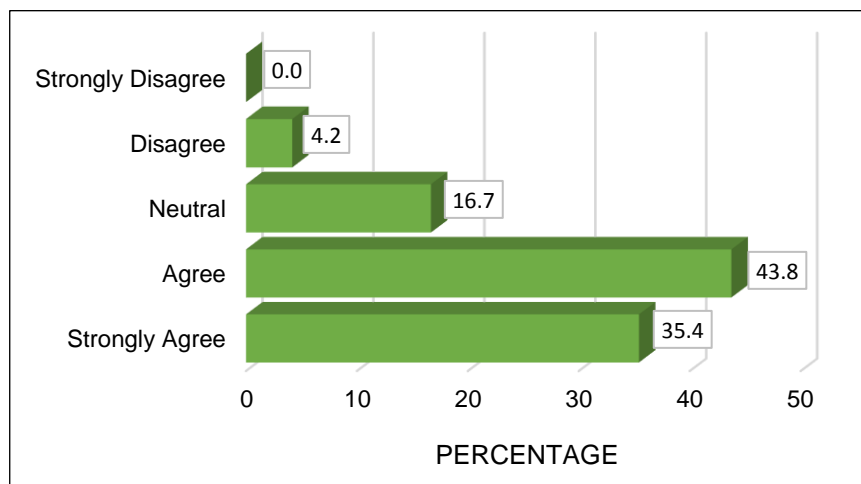


Figure 4.53: Company promotion of pro-environmental behaviour

Collectively 79.2% agreed that their company seeks to promote pro-environmental behaviour in their company.

4.5.12 Q3.12 The company recognizes environmental behaviour and attitude in recruitment criteria.

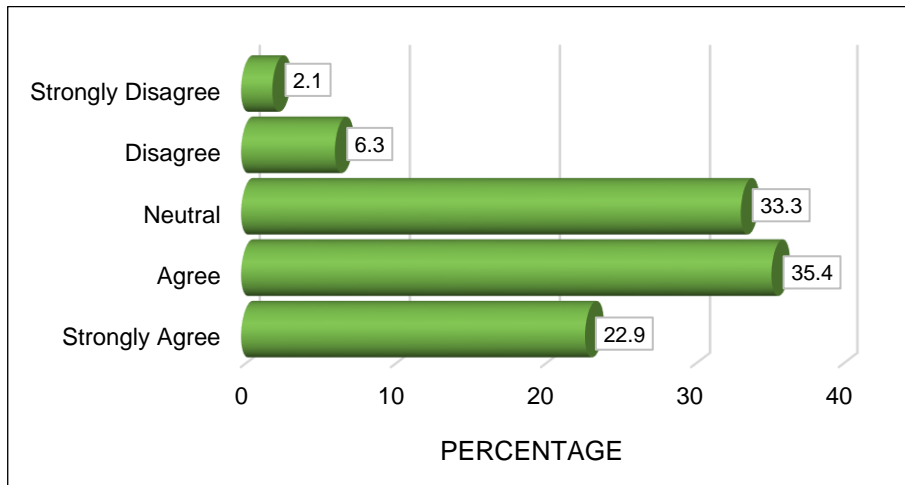


Figure 4.54: Environmental issues recognized in recruitment

Figure 4.54 illustrates that 58.3% agreed with the statement, their company does recognize environmental attributes and characteristics of employees during recruitment.

4.5.13 Q3.13 A pro-environmental behaviour amongst employees improves environmental performance.

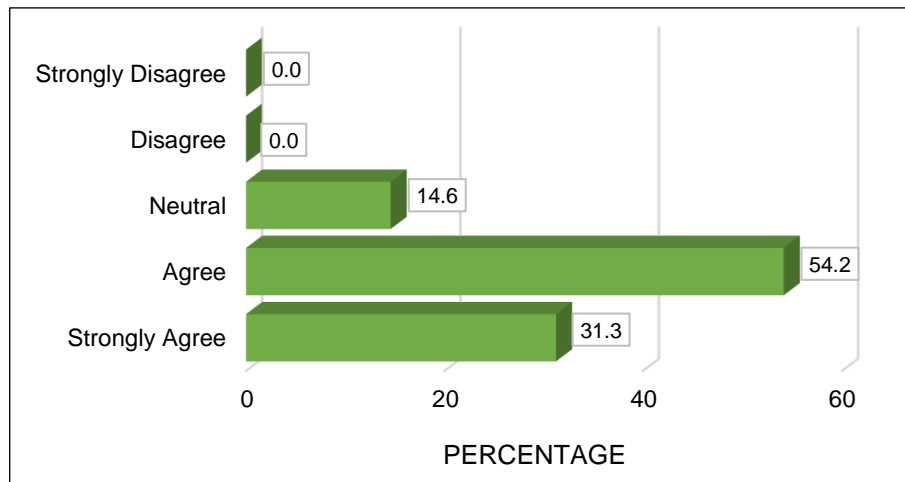


Figure 4.55: Pro-environmental behaviour improves environmental performance

Figure 4.55 illustrates that collectively 85.5% agreed that a pro-environmental behaviour does indeed have a positive impact on environmental performance.

4.5.14 Q3.14 In my work, I weigh my actions before doing something that could affect the environment.

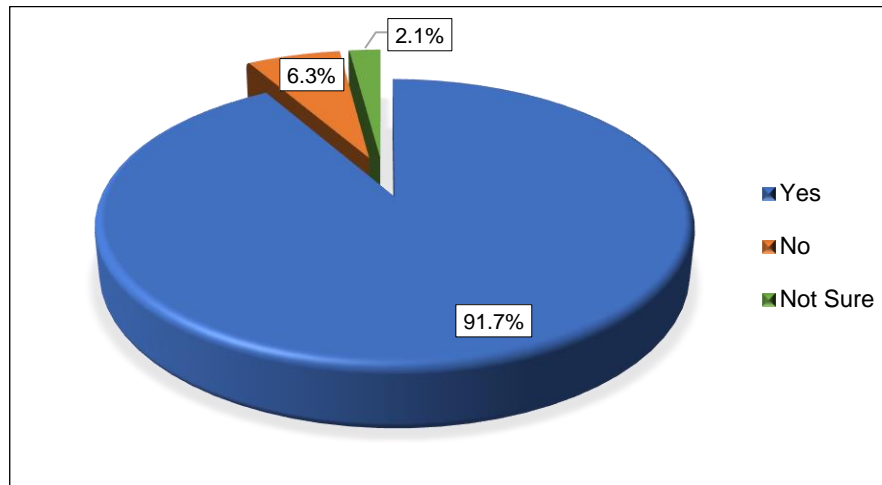


Figure 4.56: Environmental actions of employees

Majority of the respondents (91.7%) think about their activity before acting on something that could affect the environment.

4.5.15 Q3.15 I make suggestions to my colleagues about ways to more effectively protect the environment, even when it is not my direct responsibility.

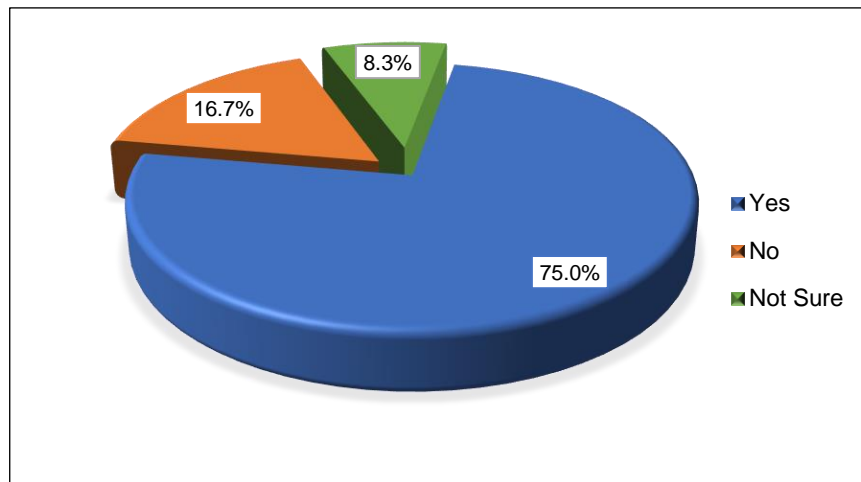


Figure 4.57: Suggestions to colleagues to protect the environment

Figure 4.57 illustrates that 75% of respondents make suggestions to work colleagues to proactively work towards a more environmentally sustainable practise.

4.5.16 Q3.16 I actively participate in environmental events organized in and/or by my company.

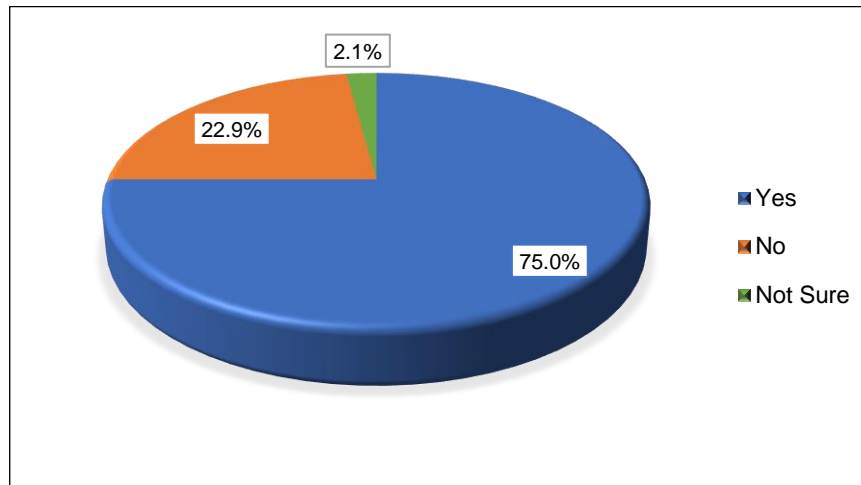


Figure 4.58: Employee environmental participation

Figure 4.58 illustrates that 75% of respondents, actively partake in environmental events held by the company.

4.5.17 Q3.17: I stay informed about my company's environmental initiatives

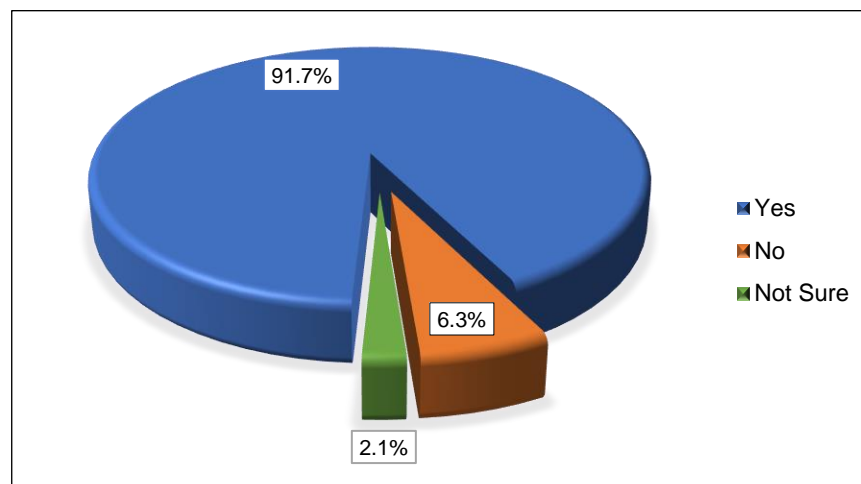


Figure 4.59: Knowledge regarding the company's environmental initiatives

Majority of respondents (91.7%) take the initiative to be informed about their company's environmental program and activities.

4.5.18 Q3.18 I encourage my colleagues to adopt a more environmentally conscious behaviour.

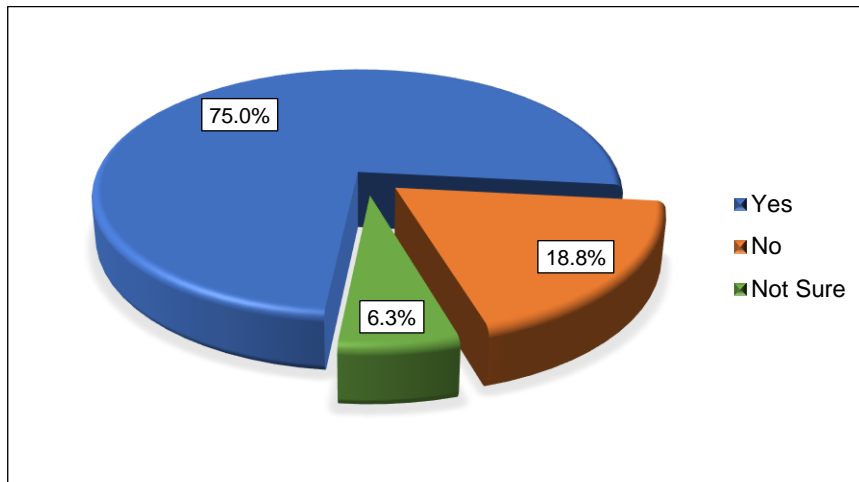


Figure 4.60: Employee encouragement

Majority of the respondents (75%) tend to encourage their employees to strive and initiate to think more consciously regarding their behaviour towards the environment.

4.5.19 Q3.19 I encourage my colleagues to express their ideas and opinions on environmental issues.

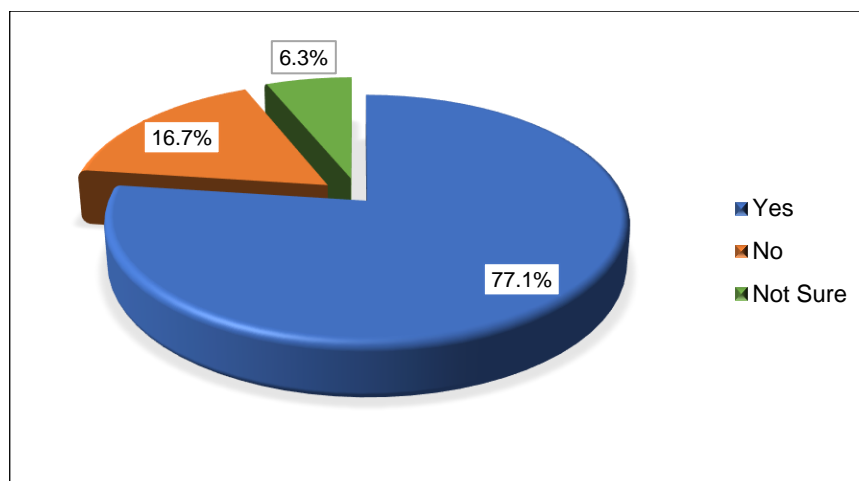


Figure 4.61: Employee ideas on environmental issues are encouraged

A large proportion of respondents (77.1%) motivate employees to not keep their suggestion on environmental issues to themselves but rather express them.

4.6 Other

4.6.1 Q4.1 Has your company had any action taken against it for environmental transgressions?

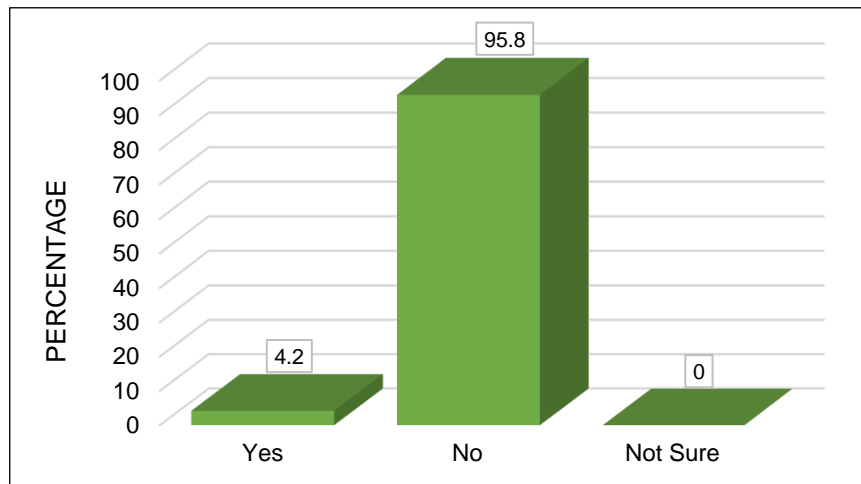


Figure 4.62: Environmental transgressions

Majority of respondents (95.8%) stated that their companies have not had any environmental non-compliances.

4.7 Inferential statistics

4.7.1 Cronbach Coefficient Alpha

Table 4.1: Cronbach Coefficient Alpha

Reliability statistics	
Cronbach's Alpha	N of Items
0.932	56

Table 4.1 illustrates the Cronbach Coefficient Alpha result. A total of 56 items were tested, which yielded a Cronbach Alpha of 0.932. Hence the research instrument, namely the questionnaire, has a high degree of reliability and an acceptable level of inter item consistency.

4.7.2 Correlation table

Table 4.2: Correlation table

Correlations: Spearman's rho				
		Organizational Culture	Environmental Management	Pro-Environmental Behaviour
Organizational Culture	Pearson Correlation			
	Sig. (2-tailed)			
	N			
Environmental Management	Pearson Correlation	.450**		
	Sig. (2-tailed)	.001		
	N	48		
Pro-Environmental Behaviour	Pearson Correlation	.775**	.613**	
	Sig. (2-tailed)	.000	.000	
	N	48	48	

** . Correlation is significant at the 0.05 level (2-tailed).

Table 4.2 confirms that there is a correlation between all three factors which positively influence environmental performance.

4.8 Hypothesis testing

According to Bryman, Becker, and Sempik (2008:694), “hypothesis is an informed speculation, which is set up to be tested, about the possible relationship between two or more variables”. A chi-square test is a test of statistical significance, which is typically employed to establish how confident one can be that the findings displayed in the contingency table can be generalized from a probability sample to a population (Bryman et al., 2008:691). The frequently used method to reporting a result requires a statement of statistical significance. A p-value is generated from a test statistic. A significant result is indicated with "**p < 0.05**". The chi-square test looked at whether there was any relationship between the column variables and row variables (statements). Table 4.3 illustrates an example of a Chi-Square test.

Table 4.3 Chi- Square Table
Q1.1 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.118 ^a	3	0.018

Table 4.3 depicts a statistical significance between the job title and the following statement, my company actively partakes in environmentally sustainable practises (Reduction of waste, recycling, green procurement, use of green material, prevention of pollution). The p value was calculated at 0.018, hence the statement is significant. The full set of results is presented in annexure 3.

4.9 Conclusion

The interpretation of the results revealed significant findings to the hypothesis presented. Key findings from the results reveal that collectively 75.1% of the respondents are in agreement that the company's environmental performance is good due to the culture of the company. Moreover, collectively 95.8% are in agreement that environmental management enhances environmental performance and 85.5% collectively are in agreement that a pro-environmental behaviour amongst employees enhances environmental performance. The results of the cross tabulations and Chi-square tests revealed a significant influence between age, gender, department and various statements. Chapter five will contain a discussion of the results which were analysed in Chapter four.

CHAPTER 5

Discussion

5.1 Introduction

Chapter five entails a descriptive summary of the findings of this study. The significance of this chapter is the assessment of the comparisons between the literature which has been reviewed, the proposed research objectives and the study findings. The hypothesis based on the positive impact on environmental performance imparted by an organizational culture, environmental management and a pro-environmental behavior in the waste management industry will be discussed based on data collected via the surveys and correlations investigated based on the Figures, Tables, and graphs as presented in Chapter four.

5.1.2 Biographical Information

Distribution of respondents in terms of gender revealed that majority of the respondents were female (62.5%), male respondents accumulated to 37.5%, according to Zoogah, Vora, Richard, and Peng (2008:13), females are required within teams, as females are renowned for coordination as compared to males. In addition to this, females, prefer to put the team's attributes ahead of their personal ego, as compared to males who have traits of self-promotion, individualism and competitiveness which inherently disturbs team cohesion and efficiency.

Majority (51.4%) of the respondents were in the age group of between 18-35, , which reveals that the age of staff in the waste management are within an age of growth and are not of the age of experience and knowledge. According to Kooij, De Lange, Jansen, Kanfer, and Dijkers (2011:6), employees between the age group of 21-30 are more flexible, multitask oriented and technologically advanced. On the other hand, according to Maurer and Barbeite (2011), the decline in the ability of personnel between the age group between 41-60, is counter acted by their knowledge and experience.

Collectively 60.4% of respondents are in possession of a tertiary education, according to Silman (2011:1) "the individuals who pursue post-secondary education

are perceived to be more ambitious, motivated, self -confident and teachable than their non-degreed colleagues, education plays a pivotal role in the way people interact and share knowledge in a group.

A good representation of the various departments sampled in the study was achieved, majority of which comprised of technical (25%) and operations (20.8%). Majority (79.2%) of the respondents comprised of the frontline employees and 20.8% stemmed from management. A relatively low retention period was observed amongst the respondents as the majority (58.3%) had a length of service in the company between 1-4 years and 33.3% between 5-8 years. Brundage and Koziel (2010) suggest that companies who are able to have a high retention of staff are more efficient, whilst a low turnover rate contributes to the overall sustainability of the company.

5.1.3 Research objectives

The research objectives of the study were as follows:

- To ascertain if an organizational culture leads to greater environmental performance in waste management companies.
- To determine if environmental management leads to greater environmental performance in waste management companies.
- To identify if the pro-environmental behaviour of employees leads to greater environmental performance in waste management companies.

5.1.4 Findings of the research

The findings from the research study are discussed under two headings namely; significant observations from the literature review and findings from the research.

5.1.5 Organizational Culture

5.1.5.1 Significant observation from literature

- A cohesive organizational culture is greatly dependant on the number of people collaborating with each other with the aim of the accomplishment of goals in their environment (Valmohammadi and Roshanzamir, 2015; Hanna et al., 2000).

- A culture which is prone to environmental sustainability, values and beliefs assists employees in creating an aura which leads to employees actively performing environmental actions.
- In order to facilitate and sustain an environmental culture and commitment, there needs to be a collaboration between departments of an organization, where all employees need to work together and participate in environmental practices to achieve a shared goal which is a part of the organizational culture (Hamdoun and Zouaou, 2017).
- To sustain a pro-environmental behaviour in the workplace, environmental values need to be in the heart of the organizational culture, and even though the organization has numerous environmental activities, the organizations need to continually revisit the environmental culture (Zsóka, 2007).
- Environmental activities rely on a large extent on the motivation, commitment and leadership of top management who are in a role to implement policies and procedures (Robertson and Barling, 2013; Graves et al., 2013; Boiral et al., 2014).

5.1.5.1 Findings from the study

Collectively 71% of respondents agree that their company's culture is geared towards enhancing environmental performance, and collectively 75.1% agree that because the culture of the company is prone to environmental sustainability, the environmental performance is good. Sanyal and Pal (2017) believe that an organizational culture has a purpose of ensuring enthusiasm amongst employees and motivates employees to enhance the organizations efficiency. Ogbonna and Harris (2000) state that an organizational culture has a direct impact on the organizations' performance. It is evident that the employees in the study believe that the organization that they work in have established a culture which puts measures in place to influence the behaviour of employees towards environmental sustainability; hence, environmental performance is achieved.

Majority (73%) of respondents agree that their company provides opportunities to employees to share and learn new knowledge, a culture which is based on the sharing of knowledge share a common pool of values which is a pre-requisite for the success of the company to meet expectations (Sanyal and Pal, 2017). This is further evident in the fact that collectively 72.9 % of the respondents agree that their company's environmental objectives are regularly accomplished.

Management motivation plays a critical component in an organizational culture. The study revealed that collectively 72.9% agree that their management motivates employees to conduct activities in an environmentally responsible manner which increases environmental performance. Sokro (2012) suggests that management should ascertain the best way possible to drive staff in order to optimize performance, the performance of employees is significantly related to motivation.

A successful culture is one where the goals of the organization are aligned to the goals of the employees (Sokro, 2012). The study revealed that collectively 95.8% of respondents agree that their company has successfully achieved the objective of aligning the goals of the organization and the daily duties of employees, hence, environmental performance is a vital objective of the respondent's companies and employees are aware of the performance factors which need to be achieved. This is evident in the fact that collectively 77.1% of respondents are in agreement that they are conscious of the environmental performance aims of the company and collectively 83.4% agree that their company makes an effort to inform the employees of the importance of sustaining a good environmental performance.

Innovation in an organizational culture is a critical component for organizations to continue renewing their beliefs and values which contributes to the performance of the company; and innovative ideas may be hindered if the organization does not facilitate the opportunity to constantly regenerate and share ideas (Hogan and Coote, 2014). Management play a pivotal role in shaping a culture towards innovative behaviour, as managers have the capacity and capability to influence and promote innovation (Hogan and Coote 2014). The findings revealed that collectively 83.3% of respondents agreed that their respective management are always striving to engage and promote new opportunities for increasing the environmental

performance of the company, hence the employees are actively striving to better their environmental objectives on a regular basis.

According to Zsoka (2007), management values are strongly associated with the organisation, and the value and beliefs of managers can either have a positive or negative effect on the organizations depending on their environmental orientation and considerations. The managers value and beliefs have a strong influence on the environmental performance of the organization. The study revealed that collectively 72.9% and 83.3% of respondents agree that their management have values which are in the best interest of the environment and apply their focus on managing environmental problems.

5.1.6 Environmental management

5.1.6.1 Significant observations from literature

- Environmental management plays a significant role in sustaining a culture towards creating good environmental performance, profitability and a competitive advantage (Hamdoun and Zouaoui, 2017).
- A positive relationship exists between environmental management and environmental performance, and a formal environmental management system (EMS) such as the ISO 14001 significantly improves company performance. Through an EMS, a firm has the tools and the necessary means to decrease or eradicate waste and pollution which ultimately has an impact on a firm's financial bottom line (Weingarten and Pagell, 2012).
- Studies have recommended that a good quality managed system has the potential to be a building block for successful environmental management practices (Weingarten and Pagell, 2012; Prajogo et al, 2012).

5.1.6.2 Findings from the study

All of the respondents agreed that environmental management greatly assists their company in ensuring the mitigation of risk to the environment by their business.

According to Raj and Seetharaman (2013), environmental management ensures the management of the operations of the business towards the environment, and it enhances the company's environmental performance as well as its long-run financial performance.

Collectively 87.9% of respondents agree that environmental management significantly impacts on the company's efforts to ensure legislative compliance. In addition to this, environmental management positively improves environmental initiatives and the company's image as revealed by the study whereby collectively 87.9% & 97.9% agree respectively. Environmental management tends to improve the company's image and shows that the company is ethically and environmentally committed (Christmann and Taylor, 2002; Gonzalez-Benito and Gonzalez-Benito, 2005).

A significant 95.8% of respondents collectively agree that environmental management positively influences the environmental performance of their companies. According to Jabbour, De Sousa Jabbour, Govindan, Teixeira and De souza Freitas (2013), there is a consensus among various literature that the adoption of environmental management increases environmental performance which is indicative of various indicators. Jabbour et al. (2013) also suggests that environmental management should be with behavioural and human aspects. A large proportion (85.4%) of respondents had answered yes to having a formal International organization of standardization (ISO) 14001 environmental management system, while, 4.2% were unsure and 10.4% said no.

An ISO 14001 environmental management system has many positive advantages such as the encouragement of environmentally sustainable practices such as waste reduction, recycling, process design, environmental monitoring, preventative measures and corrective actions, environmental audits and legal compliance which improve overall environmental performance (Melnyk, Scroufe and Calantine, 2003; Boiral and Paille, 2012).

In a study by Melnyk et al. (2003), the author concludes that environmental performance is influenced by environmental management and strongly influenced

by a certified ISO 14001 system. 83.3% of respondents had knowledge of the content of an ISO 14001 system, which ensures that the environmental management system has become a part of the culture, where each section of the business is aware of the company's EMS. Knowledge of the ISO 14001 system by employees allows for the improvement of the company's environmental impact, by facilitating, planning, implementation of the policies, and corrective and preventative action. According to Boiral and Henri (2012), the adoption of the ISO 14001 system must be accompanied by an integration of environmental issues into daily activities which entails a fundamental change in the mind-sets of individuals. 68.8% of respondents believed that the EMS had changed the principles and values of employees towards environmental performance, with 16.7% saying no and 14.6% who are not sure. This depicts that the ISO 14001 system has had a positive influence on the employees towards environmental performance.

In terms of a Quality management system (QMS), a mixed response was received with only 58.3% of the respondents saying yes, 27.1% stating no and 14.6% who were unsure to the question of whether their company has a quality system. 66.7% of respondents were aware of the contents of the QMS as compared to the vast amount of the EMS, and only 47.9% were of the opinion that the QMS system has positively impacted on the belief of employees. Watson, Klingenberg, Poluto and Grurts (2004) suggest that total quality management (TQM) techniques assist in improving the overall environmental performance.

Raj and Seetharaman (2013) state that TQM and EMS assist in reducing the cost of the business in respect to environmental clean-up costs, penalties and fines from government and the cost associated with the loss of market share as clients would not want to associate themselves with a company that has caused pollution. Hence these companies should pay particular attention to a QMS system to enhance the EMS, which improves environmental performance.

In conjunction with the management systems, 85.4% of respondents have stated yes to their company having programs and activities in place to mitigate business activities towards the environment. According to Uecker-Mercado and Walker (2012), environmental responsibility has become a common feature amongst

organizations who are conducting activities over and above regulatory compliance in order to sustain a competitive advantage and increasing environmental performance.

What is good to notice especially in conjunction with the national governments aim to beneficiate waste, is that, 77.1% of respondents are of the opinion that their company puts measures in place to reduce and beneficiate waste. The reduction and beneficiation of waste results in less energy consumption and use of natural resources, as well as reducing the risk towards environmental pollution, which not only increases environmental performance but reduces significantly the cost associated with waste (Raj and Seetharaman, 2013). According to Jabbour and Santos (2008) the philosophy of waste reduction greatly assists in achieving the objectives of environmental protection.

Compliance with national legislation is of vital importance not only to ensure that the business is performing activities in the right manner, but also to ensure a competitive advantage as clients want to do business with company's who are actively compliant especially in light of the recent spate of environmental transgressions by waste management companies. The study revealed that 97.9% believe that their companies' operations are aligned to conditions pertaining to legislation. However, somewhat contradictory to the fact that only 52.1% of respondents are of the opinion that their company's environmental management tools are sufficient to achieve environmental performance, whilst 37.5% are unsure. This could be a feature for the organizations to work on. Marchi, Maria and Micelli, (2013) suggest a concept of environmental upgrading which entails introducing environmental actors, where organizations can work on each aspect of the activities of the business.

5.1.7 Pro-Environmental behaviour

5.1.7.1 Significant observations from literature review

- There has been a significant amount of research on the actions of employees with regards to the mitigation of environmental degradation from their behaviour (Paillé et al., 2014).

- Young et al. (2015) present a baseline framework in Figure 2.1 on the work completed by Tudor et al. (2008) to depict the critical antecedents of sustainable environmental behaviour performed by employees in the waste management sector of the organization.
- The framework as per Figure 2.1 is quite valuable in this research as it provides a platform to determine the various behaviour change techniques that have already been implemented which corresponds well with the arguments from existing literature.
- Begum et al. (2009) state that behavioural changes are firmly based on attitudes, which leads to performance in environmental waste management issues.
- Training is seen as a vital point in sustaining a conscious environmental culture, in ensuring that staff is aware of the environmental impact of the organization's activities (Renwick et al., 2013).
- Green performance appraisals provide a platform to continually point out the employee's wrongdoing or downfall with regards to environmental practices which will enhance continuous improvement (Renwick et al., 2013).
- Young et al. (2015), Raj and Seetharaman (2013), Paillé et al. (2014) and Renwick et al. (2013) suggest that financial incentives or competency-based rewards schemes for being environmentally conscious and applying environmental practices have been proven to motivate employees who will improve and encourage their behaviour.
- Employee creativity is a vital tool for environmental management, which should be supported by managerial supervision and commitment. Managerial support of environmental management is a key driver to send a message to employees that environmental management is important (Ramus, 2002).

- The most success regarding environmental performance was observed in organizations where employees were stimulated by the human resource management of the company (Jabbour and Santos, 2008; Paille et al., 2014).

5.1.7.2 Findings from the study

Collectively 81.3% of respondents are in agreement that employees of their company respect safety, health, environmental and quality (SHEQ) instructions, and collectively 54.2% disagree that obligatory reasons are not the motivational factor to focus on environmental practices. This is important as it ensures that employees are not willing to take short cuts pertaining to their duties, and have an attitude which exerts a positive influence on behavior towards the environment (Begum et al., 2009).

Numerous research has been conducted on pro-environmental behavior, and there have been some antecedents which have been researched which encourage a pro-environmental behavior amongst employees such as performance management, incentive rewards, recruitment process, and training programs (Razab, Udin, and Osman, 2015; Steg et al., 2014; Young et al., 2015). Collectively, 64.6% of respondents agree that they receive appropriate feedback about their environmental aspect of their work. Performance management plays a key role in motivating pro-environmental behavior, and 50% of the respondents agreed that their companies undertook performance appraisal seriously while, 18.8% disagreed and 31.3% remained neutral. This is a cause for concern and something that needs to be addressed.

Recruitment of staff is key to establishing human capital, and much research has focused on the role of human resource management and pro-environmental behavior. Collectively 58.3% of respondents believe that their companies do consider environmental attributes during recruitment of staff. According to Razab et al. (2015), the environmental culture of the company should be incorporated into the recruitment process, and the personnel to be selected should match the attribute and character required for environmental competencies. Jabbour and Santos (2008) suggest that human resource management plays a pivotal role in achieving environmental objectives, and if the human resources practices are efficient, they

are in a position to understand the company's environmental objects and can assist in achieving them.

Management plays a significant role in an organization. As discussed previously, the organizational culture of the company is significantly influenced by management, and a pro-environmental behavior of a company follows a similar suit. Sanyal and Pal (2017) suggest that an organizational culture has a positive impact on pro-environmental behavior. Collectively, 73.3% of respondents agree that their management regularly communicate to them the importance of the protection of the environment.

Training is a critical component of establishing and sharing knowledge. Collectively 70.9% of respondents agree that their company values training and awareness programs which are offered to employees. In a study by Kulatunga, Amaratunga, Haigh and Rameezdeen (2006) as cited in Raj and Seetharaman (2013), the authors noticed that through education and training the perception and attitude of the workforce influenced positive waste management strategies. In order to improve environmental performance the workforce has to be educated through training (Raj and Seetharaman, 2013). The importance of training is evident in the fact that collectively 68.8% are in agreement that training improves the attitude and knowledge of employees. In the waste management industry, this is critical, as employees are often exposed to new legislation and new means to constantly practice sustainable environmental actions. In a study by Sarkis et al. (2010) as cited in Jabbour and Santos (2008), environmental training had been concluded to be the mediating variable for the success of environmental practices.

Collectively, 56.2% of respondents agree that their thoughts and opinions related to the environment are taken seriously by the company, and engagement is somewhat regularly conducted. Raj and Seetharaman (2013) suggest that to improve performance, a company needs to have a good communication channel with its employees.

Rewards and incentives are a vital component of motivation and encouraging pro-environmental behavior. However, this seems to be the failure of companies in the

waste management industry as only 39.6% collectively agree that they do receive rewards or recognition, whilst 31.3% disagree and 25% remain neutral. Kulatunga et al. (2006) and Tam and Tam (2008) suggest that rewarding the employees in the form of bonuses or allowances changes the attitude of employees towards good practices and without some reward system employees become careless with regards to their activities.

A level of autonomy is critical for pro-environmental behavior, and restrictions can hinder environmental performance. The study revealed that 60.4% of employees feel that their company provides them with ample opportunities to increase environmental awareness and collectively 79.2% of respondents agree that the promotion of pro-environmental behavior is one of the key goals of the company. Sanyal and Pal (2017) suggest that by encouraging a pro-environmental behavior, will lead to a symbolic reduction in environmental issues.

The above ties in with the fact that 70.8% disagree that financial constraints hinder environmental performance. In the study by Godfrey et al. (2013), financial constraints had been concluded as one of the major barriers hindering good waste management practices. Therefore, it is good to note that the companies of the respondents pay careful attention to the environmental tasks at hand and have included environmental concerns in their budget.

Collectively 85.5% of respondents are in agreement that pro-environmental behavior amongst employees enhances environmental performance. There have been a large number of pollution cases lately, and Steg, Bolderdijk, Keizer and Perlaviciute (2014) state that by managing and changing human behavior, an organization can resolve and promote environmental quality. According to Begum et al. (2009), human factors play a significant role in the minimization of waste and waste activities can be improved by changing attitudes.

Individual attributes and traits of an employee's character can enhance environmental performance, and 91.7% of respondents pay particular attention to how their duties and actions affect the environment before a decision is made to act. According to Turaga, Howarth and Borsuk (2010), inducing pro-environmental

behaviours (PEBs) in individuals, is one of the important challenges in the path to sustainability. 75% of respondents encourage other employees to act in a more environmentally friendly manner, and 75% are actively involved in environmental programs and activities in their companies.

75% and 77.1% of respondents motivate employees to have a more conscious thought of mind towards the environment, and they motivate employees to express their ideas, opinions, and concerns towards environmental issues respectively. According to Steg and Vlek (2009), when people frequently act in the same way in a particular situation, that situation will be mentally associated with the relevant goal-directed behaviour. The more frequently this occurs, the stronger and more accessible the association becomes, and the more likely it is that an individual will act accordingly.

Keeping abreast of the various legislation and updates on environmental initiatives is crucial for sustaining environmental practices. 91.7% of respondents are kept abreast of their company's environmental activities. As controlling environmental impact is seen to be a responsibility for all employees, taking their tacit knowledge into account is important in identifying sources of pollution, managing emergency situations, and developing preventative solutions (Renwick et al., 2013). 95.8% of respondents have revealed that their companies have not undergone any environmental transgressions. This is evident in the responses received, whereby the zero transgressions are attributed to the fact that the respondents from the companies who had partaken in the study have an organizational culture that is prone to environmental performance. The environment management policies and procedures that are in place, enhance environmental performance and the employees display strong characteristic of pro-environmental behavior that enhances environmental performance.

5.1.8 Hypothesis

The results of the cross tabulations and Chi-square tests revealed a significant influence between age, gender, department and various statements, therefore all three hypotheses have been accepted and the null hypotheses rejected.

The results presented in annexure 3, shows significant relationships between the job title and the following statements:

- My company actively partakes in environmentally sustainable practises (Reduction of waste, recycling, green procurement, use of green material, prevention of pollution, etc), $p= 0.018$.
- My company deals with environmental performance only because it is obliged to do so by law, $p=0.027$.
- The environmental objectives of the company are always fully achieved, $p=0.013$.
- The company's management succeeds in motivating the rest of the company in terms of environmental performance, $p=0.039$.
- Does an EMS induce positive trends towards environmental performance? $p= 0.037$.
- Performance appraisals are taken seriously and conducted periodically, $p=0.049$.
- The management of the company often talk to employees about the importance of environmental protection, $p = 0.045$.

In addition, Annexure 3 shows significant relationships between the qualification and the following statements/questions:

- My company creates a line of sight between its employee's daily duties and the company's goals and objectives $p =0.022$.
- My company deals with environmental performance only because it is obliged to do so by law, $p = 0.034$.

Significant relationships between the department and the following statement/questions:

- At my company, we make an effort to let all employees understand the importance of environmental performance, $p = 0.043$.

- The management of my company focus their attention to managing environmental problems, $p = 0.029$.
- Performance appraisals are taken seriously and conducted periodically, $p = 0.021$.
- I stay informed about my company's environmental initiatives $p = 0.036$.
- I encourage my colleagues to express their ideas and opinions on environmental issues, $p = 0.013$.

Significant relationships between gender and the following statements/questions

- My company allows employees to make mistakes and learn from it, $p = 0.049$.
- Management creates an environment that is prone to greater environmental performance, $p = 0.003$.
- Management's behaviour is in the best interest of the environment, $p = 0.009$.
- The employees of the company are not motivated by Environmental performance but by obligatory instructions, $p = 0.007$.

Significant relationships between age and the following statements/questions

- My company allows employees to make mistakes and learn from it, $p = 0.002$.
- Management's behaviour is in the best interest of the environment, $p = 0.025$.
- Does an EMS induce positive trends towards environmental performance?
 $p = 0.027$.
- The company values Environmental training and offers it to its employees,
 $p = 0.018$.

The above results corroborate with the findings in the data analysis

5.1.9 Conceptual Framework

Figure 2.1 depicts the conceptual framework developed from the literature review, which elaborates on the intercorrelation between the three factors which positively influence namely organizational culture, environmental management and the pro-environmental behaviour of employees, statistically Table 4.3 depicts a strong correlation between the three factors, which, is in line with the conceptual framework established from the literature review.

5.2 Conclusion

Chapter five discusses the significant findings observed and generalized from the literature review and the findings of the analysis of the research questionnaire distributed to respondents. The literature review revealed that an organizational culture, environmental management and pro-environmental behavior of employees, all have a positive influence on environmental performance on organizations. It is evident that top management has a fundamental role to play in each factor. Findings from the respondents reveal that these factors have been observed to positively influence environmental performance, inter alia amongst other contributions to each factor. 75.1% agree that because the culture of the company is prone to environmental sustainability, the environmental performance is good, and 95.8% of respondents collectively agree that environmental management positively influences the environmental performance of their companies. Collectively 85.5% of respondents are in agreement that pro-environmental behavior amongst employees enhances environmental performance. Chapter six focuses on the conclusion of the findings, limitations, recommendations for the research problem and for the areas for future research.

CHAPTER 6

Conclusions and Recommendations

6.1 Introduction

Chapter six presents the conclusion, implications, limitations, recommendations of the research and areas for future research. Conclusions have been drawn from the analysis of the results in chapter four and the discussion of those findings in chapter five. The recommendations will emanate from the findings, generalizations and conclusions of the study.

6.2 Conclusion on findings

Due to globalization and a rapid economic and technological development of industries, there has been a vast increase in the amount of waste generated. Waste has become a nationwide focus due to handling, storage, transport, treatment and disposal of waste. In recent times there has been a spate of environmental transgressions in the waste management sector. In light of this, the objective of the study was to investigate the factors that influence environmental performance in the waste management industry in Kwa-Zulu Natal (KZN). In particular, the factors which were investigated were as follows: organizational culture, environmental management and the pro-environmental behavior of employees.

The key findings assisted the researcher in investigating the hypothesis that was established for this study. The study was guided by the conceptual framework developed through the literature review, whereby the factors described above have a positive influence on environmental performance. The main results of the study reveal that the hypothesis put forth is accepted and statistically valid for those companies analyzed in the waste management industry. Management in the waste management sector need to pay particular attention to the organizational culture of their organization in order to continually encourage an environmental mindset of employees to protect the environment. Environmental management programs should be initiated in order to ensure the mitigation of adverse impacts of the activities of the business. Human capital forms the heart of the business and the

pro-environmental behavior of employees is essential in ensuring that their actions from their activities are in line with the protection of the environment.

6.3 Implications of this research

These results have implications for the management of waste management firms who are seeking on ways to improve their environmental performance and for companies who are looking for a competitive advantage in the waste industry. There is a need to establish a culture which focuses on the protection of the environment and legal compliance, and this should form part of the vision and mission of the company so that all employees, whether it be old or new, are motivated by the company culture to engage in their work activities in an environmental safe manner.

Management need to ensure that an environmental management system is in place to ensure that there are policies, procedures and work instructions to actively engage employees towards a process for increasing improving environmental performance. Further to this, management need to constantly communicate and provide employees with a platform to regularly improve pro environmental behavior of employees, training initiatives and incentive reward programs and motivation from management needs to be the primary focus to ensure that employees think about the environment before they conduct their daily duties.

6.4 Limitations of the study

The following limitations of this research study are acknowledged:

- Due to time constraints, only a few companies were chosen to be included in the target population, and the sample size was limited.
- The sampling period spanned between September and October, a more longitudinal study would have been preferred.
- CEO's of companies did not partake in the study, input from the leader of the company would have further enhance the investigation.

6.5 Recommendations to solve the research problem

Based on the findings of this study, the following recommendations are put forward to ensure that companies in the waste management industry increase their environmental performance:

- Management should regularly revisit policies pertaining to environmental activities and performance, and employees should be made aware of these policies and align their daily duties around these statements. This will change the mindset of employees pertaining to their actions.
- Commitment from management is key towards environmental actions and sustainability, and the behavior and attitude of management is followed by staff who look up to management for direction. Management should continuously establish weekly meetings to put forth environmental concerns.
- The environmental objectives of the company should be established and regularly communicated to all employees, and the objectives should play a significant role in the culture of the company.
- An internal memo or newsletter should be communicated to all staff on a monthly basis with details of the company's environmental performance stats.
- Environmental management should be taken seriously by the company and not just as a means for compliance and audits, and all employees should have knowledge of such systems and how relate the core of the system to their work function.
- Implementation and focus on a quality management system should reviewed. A quality management system in conjunction with an EMS, will bolster environmental performance.
- Performance appraisals should be taken seriously by the company and should be conducted regularly, and environmental actions of the employees should be discussed and preventative action taken.
- Training and awareness of all employees should be conducted regularly, as this will allow employees to regularly expand their knowledge and awareness pertaining to environmental activities.

- Rewards and recognition should be offered to employees for environmental performance, as this will lead to increased motivation and encouragement amongst staff perform their duties diligently and in accordance with regulation. Rewards for top management should also be considered, to encourage an organization to increase environmental performance.

6.6 Recommendations for future studies

Further research should be conducted on other factors that influence environmental performance which could be adopted by organizations in the waste sector. In collaboration with this, environmental performance indicators and quantification thereof should be investigated further, as it is not featured in this study. As this will measure as to how the factors investigated improve environmental performance.

The sample population should include employees who have been employed in companies that have been non-compliant in terms of environmental compliance, to ascertain the traits the attributes which have contributed to the downfall as compared to those companies who have excelled in improving their environmental performance. The sample population should also include all sectors of the waste industry to provide a holistic approach, only four were utilized in this study. Further to this, research should be conducted on the comparison between company's who have an environmental management system and companies who do not implement environmental management activities and programs.

Top management in the form of chief executive officers (CEO's) should partake in the study in order to ascertain their opinion on the matter pertaining to the company culture and environmental performance, management formed part of this study, however, no CEO has completed a questionnaire.

The adequacy of the South African legislative framework and the monitoring thereof by the national departmental compliance affiliates should be researched further, the research should aim to ascertain the effectiveness of the variables mentioned above and the impact it has on environmental noncompliance and transgressions and waste management company's.

6.7 Challenges encountered and overcome

Certain challenges were experienced during the study, below is a summary of the challenges and how they were overcome:

- Due to the recent media publicity of companies in the waste management industry and the intense competition amongst organizations in the industry, not all organizations were interested in partaking in the study at first. Various meetings had to occur with the management and human resource personnel of the companies to explain the purpose of the research and to ensure the personnel that, at no point will the information gathered be leaked to potential competitors or an external party.
- It was a challenge to attain the questionnaires from the respondents, majority of the respondents did not respond during the required period. Phone calls had to be made and emails sent to remind the respondents that the questionnaire had to be returned should they wish to participate.

6.8 Summary

Chapter six concludes the generalizations and findings of the study. The hypothesis and the conceptual framework derived from the literature review has been accepted based on the analysis of the results of the research. The objectives of the research were achieved, and it was found that organizational culture, environmental management and the pro-environmental behavior of employees do indeed positively influence environmental performance. The limitations of the study did not significantly interfere with the findings of the study. The implications of the research will enlighten management to the various means and ways to improve the environmental performance of their company, and further research should focus on the quantification of environmental performance measures.

REFERENCES

- Abraham, D. 2011. Social Research Methods. Available at: <http://www.socialresearchmethods.net/tutorial/Abrahams/What%20is%20Research.htm>. Date Retrieved: 29 April 2017.
- Aczel, A.D. & Sounderpandian, J. 2006. *Complete Business Statistics*. 6th Edition. New York: McGraw-Hill Irwin.
- Agresti, A. & Franklin, C. 2009 *Statistics the Art and Science of Learning from Data*. Upper Saddle River: Pearson Education Inc.
- Awadh, A.M. & Alyahya, M.S. 2013. Impact of organizational culture on employee performance. *International Review of Management and Business Research*, 2, 168.
- Baard, P., Pdeci, Edward, L., & Ryan, M.R. 2004. Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of applied social psychology*, 34, 2045-2068.
- Babbie, E.R. 2013. *The basics of social research*. Belmont, CA: Wadsworth Cengage Learning.
- Bai, C. & Sarkis, J. 2010. Integrating sustainability into supplier selection with grey system and rough set methodologies. *International Journal of Production Economics*, 124, 252-264.
- Begum, R.A., Siwar, C., Pereira, J.J. & Jaafar, A.H. 2009. Attitude and behavioral factors in waste management in the construction industry of Malaysia. *Resources, Conservation and Recycling*, 53, 321-328.
- Beins, B. C., & McCarthy, M. A. 2012. *Research Methods and Statistics*. New Jersey: Pearson Education.
- Biggam, C.P., 2012. *The semantics of colour: A historical approach*. Cambridge: Cambridge University Press.
- Boiral, O., Baron, C. & Gunnlaugson, O. 2014. Environmental leadership and consciousness development: A case study among Canadian SMEs. *Journal of Business Ethics*, 123, 363-383.
- Boiral, O. & Henri, J.F. 2012. Modelling the impact of ISO 14001 on environmental performance: A comparative approach. *Journal of environmental management*, 99, 84-97.

Boiral, O. & Paillé, P. 2012. Organizational citizenship behaviour for the environment: Measurement and validation. *Journal of business ethics*, 109, 431-445.

Brink, H.I. 2002. *Fundamentals of Research Methodology for Health Care professionals*. South Africa: Juta and Company.

Brundage, H. & Koziel, M. 2010. Focus on people now to keep turnover costs down when the economy improves. *Journal of Accountancy (May 2010)*, 38.

Bryman, A., Becker, S. & Sempik, J. 2008. Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology*, 11, 261-276.

Cant, M., Gerber-Nel, C. & Kotze, D. 2003. *Marketing Research*. Claremont South Africa: New Africa Books (Pty) Ltd.

Chattopadhyay, S. P. 2001. Improving the speed of ISO 14000 implementation: a framework for increasing productivity. *Managerial Auditing Journal*, 16, 36-40.

Christmann, P. & Taylor, G. 2002. Globalization and the environment: Strategies for international voluntary environmental initiatives. *The Academy of Management Executive*, 16, 121-135.

Creswell, J. W. 2013. *Research Design: Qualitative, Quantitative and Mixed Method Approaches*. 4th Edition. Thousand Oaks, California: Sage Publications.

Comoglio, C. & Botta, S. 2012. The use of indicators and the role of environmental management systems for environmental performances improvement: a survey on ISO 14001 certified companies in the automotive sector. *Journal of Cleaner Production*, 20, 92-102.

Cooper, D. R. & Schindler, P. S. 2003. *Business Research Methods. International Edition*. New Delhi: Tata McGraw- Hill.

Cox, A. 2010. Waste Company Head Arrested. Available at:
<http://www.iol.co.za/news/south-africa/waste-company-head-arrested-480897>.
Date retrieved 01/05/2017.

Csutora, M. 2012. One more awareness gap? The behaviour–impact gap problem. *Journal of consumer policy*, 35, 145-163.

Denison, D.R., Mishra, A.K. 1995. Toward a theory of organizational culture and effectiveness. *Organization Science*, 6(2), 204-223.

(DEA) Department of Environmental Affairs .2017. *Waste minimization with relation to producers - fact pack*, 1-61.Pretoria: Department of Environmental Affairs.

Draugalis, J.R. & Plaza, C.M. 2009. Best practices for survey research reports revisited: implications of target population, probability sampling, and response rate. *American journal of pharmaceutical education*, 73, 142.

Dubey, R., Gunasekaran, A. & Ali, S.S. 2015. Exploring the relationship between leadership, operational practices, institutional pressures and environmental performance: A framework for green supply chain. *International Journal of Production Economics*, 160, 120-132.

Ellinger, A., Daughtery, P., & Keller, S. 2000. The relationship between marketing/logistics interdepartmental integration and performance in US manufacturing firms: An empirical study. *Journal of Business Logistics*, 21, 1–22.

Franchetti, M. 2011. ISO 14001 and solid waste generation rates in US manufacturing organizations: an analysis of relationship. *Journal of Cleaner Production*, 19, 1104-1109.

Mungazde, S. 2014. Imported waste from Japan and has been illegally dumped in South Africa. Available at:
<http://www.bdlive.co.za/business/industrials/2014/05/26/interwaste-probe-reaches-across-borders>. Date retrieved 02/03/2017.

Gagné, M. & Deci, E. L. 2005. Self-determination theory and work motivation. *Journal of Organizational behavior*, 26, 331-362.

Garcia-Morales, V. J., Jimenez-Barrionuevo, M. M. & Gutierrez-Gutierrez, L. 2012. Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of business research*, 65, 1040-1050.

Gasbarro, F., Rizzi, F. & Frey, M. 2013. The mutual influence of Environmental Management Systems and the EU ETS: Findings for the Italian pulp and paper industry. *European Management Journal*, 31, 16-26.

Gavronski, I., Paiva, E.L., Teixeira, R. & De Andrade, M.C.F. 2013. ISO 14001 certified plants in Brazil—taxonomy and practices. *Journal of Cleaner Production*, 39, 32-41.

- Gholami, R., Sulaiman, A. B., Ramayah, T. & Molla, A. 2013. Senior managers' perception on green information systems (IS) adoption and environmental performance: Results from a field survey. *Information & Management*, 50, 431-438.
- Godfrey, L., Scott, D. & Trois, C. 2013. Caught between the global economy and local bureaucracy: the barriers to good waste management practice in South Africa. *Waste Management & Research*, 31, 295-305.
- González-Benito, J. & González-Benito, Ó. 2005. Environmental proactivity and business performance: an empirical analysis. *Omega*, 33, 1-15.
- Graves, L.M., Sarkis, J. & Zhu, Q. 2013. How transformational leadership and employee motivation combine to predict employee proenvironmental behaviors in China. *Journal of Environmental Psychology*, 35, 81-91.
- Guerrero, L. A., Maas, G. & Hogland, W. 2013. Solid waste management challenges for cities in developing countries. *Waste management*, 33, 220-232.
- Hajmohammad, S., Vachon, S., Klassen, R.D. & Gavronski, I. 2013. Reprint of Lean management and supply management: their role in green practices and performance. *Journal of Cleaner Production*, 56, 86-93.
- Hamdoun, M. & Zouaoui, M. 2017. Impact of Environmental Management on Competitive Advantage of Tunisian Companies: The Mediator Role of Organizational Culture. *International Review of Management and Marketing*, 7, 76-82.
- Hanna, M.D., Rocky Newman, W. & Johnson, P. 2000. Linking operational and environmental improvement through employee involvement. *International journal of operations & production management*, 20, 148-165.
- Hanuman, M. 2006. A Critical Evaluation of Bed Occupancy Rates at Public Hospitals in the eThekweni District and Recommendations for Addressing Critical Shortages. MBA. Regent Business School, Kwa-Zulu Natal.
- He, W., Liu, C., Lu, J. & Cao, J. 2015. Impacts of ISO 14001 adoption on firm performance: Evidence from China. *China Economic Review*, 32, 43-56.
- Heale, R. & Twycross, A. 2015. Validity and reliability in quantitative studies. *Evidence-based nursing*, ebnurs-2015-102129.

- Hogan, S. J. & Coote, L. V. 2014. Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*, 67, 1609-1621.
- Holland R.W., Aarts, H. & Langendam, D. 2006. Breaking and creating habits on the working floor: a field-experiment on the power of implementation intentions. *Journal of Experimental Social Psychology* 42(6): 776–783.
- Hui, I., Chan, A. H. & Pun, K. 2001. A study of the environmental management system implementation practices. *Journal of Cleaner Production*, 9, 269-276.
- Hsu, C.-W. & Hu, A. H. 2009. Applying hazardous substance management to supplier selection using analytic network process. *Journal of Cleaner Production*, 17, 255-264.
- Jabbour, C.J.C., De Sousa Jabbour, A.B.L., Govindan, K., Teixeira, A.A. & De Souza Freitas, W.R. 2013a. Environmental management and operational performance in automotive companies in Brazil: the role of human resource management and lean manufacturing. *Journal of Cleaner Production*, 47, 129-140.
- Jabbour, C.J.C. & Santos, F.C.A. 2008. The central role of human resource management in the search for sustainable organizations. *The International Journal of Human Resource Management*, 19, 2133-2154.
- Jabbour, C.J.C., Santos, F.C.A., Fonseca, S.A. & Nagano, M.S. 2013b. Green teams: understanding their roles in the environmental management of companies located in Brazil. *Journal of Cleaner Production*, 46, 58-66.
- Jones J, Jackson J, Tudor T & Bates M. 2012. Strategies to enhance waste minimization and energy conservation within organizations: a case study from the UK construction sector. *Waste Management and Research* 30(9): 981–990.
- Kulatunga, U., Amaratunga, D., Haigh, R. & Rameezdeen, R., 2006. Attitudes and perceptions of construction workforce on construction waste in Sri Lanka. *Management of Environmental Quality: An International Journal*, 17(1), pp.57-72.
- Kahn, K. B. 2005. Department status: An exploratory investigation of direct and indirect effects on product development performance. *Journal of Product Innovation Management*, 22, 515–526.
- Kooij, D.T., De Lange, A.H., Jansen, P.G., Kanfer, R. & Dijkers, J.S. 2011. Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior*, 32, 197-225.

Kuhn, T.S. 2012. *The structure of scientific revolutions*. Chicago: University of Chicago press.

Lascu, D., Manrai, L. A., Manrai, A. K., & Kleczek, R. 2006. Interfunctional dynamics and firm performance: A comparison between firms in Poland and the United States. *International Business Review*, 15, 641–659.

Lingard, H., Gilbert, G. & Graham, P. 2001. Improving solid waste reduction and recycling performance using goal setting and feedback. *Construction Management and Economics*, 19(8): 809–817.

López-Gamero, M.D., Molina-Azorín, J.F. & Claver-Cortés, E. 2010. The potential of environmental regulation to change managerial perception, environmental management, competitiveness and financial performance. *Journal of Cleaner Production*, 18, 963-974.

McDaniel, C. & Gates, C. 2010. *Marketing Research Essentials*. 7th Edition. Hoboken, New Jersey: Wiley and Sons.

Mackenzie, N. & Knipe, S. 2006. Research dilemmas: Paradigms, methods and methodology. *Issues in educational research*, 16, 193-205.

Mandip, G. 2012. Green HRM: People management commitment to environmental sustainability. *Research Journal of Recent Sciences*, ISSN, 2277, 2502.

Marchi, V. D., Maria, E. D. & Micelli, S. 2013. Environmental strategies, upgrading and competitive advantage in global value chains. *Business strategy and the environment*, 22, 62-72.

Maree, K. 2008. *First Steps in research*. 2nd Edition. Pretoria: Van Schaik Publishers.

Massoud, M., Tabcharani, R., Nakkash, R. & Jamali, D. 2012. Environmental performance improvement and ISO 14001: case of Lebanon. *Environmental Impact*. WIT Press Southampton, UK.

Maurer, T. & Barbeite, F. 2011. Job Performance and Age. *Journal of Organizational Behavior*, 248-263.

Mccusker, K. & Gunaydin, S. 2015. Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion*, 30, 537-542.

Melnyk, S.A., Bititci, U., Platts, K., Tobias, J. & Andersen, B. 2014. Is performance measurement and management fit for the future? *Management Accounting Research*, 25, 173-186.

Melnyk, S.A., Sroufe, R.P. & Calantone, R. 2003. Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21, 329-351.

Molina-Azorín, J.F., Tarí, J. J., Pereira-Moliner, J., López-Gamero, M.D. & Pertusa-Ortega, E.M. 2015. The effects of quality and environmental management on competitive advantage: A mixed methods study in the hotel industry. *Tourism Management*, 50, 41-54.

Moore, D. S., McCabe, G. P., Duckworth, W. M. & Sclove S. L. 2003. *The Practice of Business Statistics Using Data for Decisions*. New York: W. H. Freeman & Company.

Moore, D. S. and McCabe G.P. 2006. *Introduction to the Practice of Statistics*. 5th Edition. New York: W. H. Freeman and Company.

Mungazde, S. 2014. Imported waste from Japan and has been illegally dumped in South Africa. Available at:
<http://www.bdlive.co.za/business/industrials/2014/05/26/interwaste-probe-reaches-across-borders>. Date retrieved 02/03/2017.

Naidoo, N. (2010). An Evaluation of Customer Retention Strategies at a Retail Hearing Aid Company. MBA. Regent Business School, Kwa-Zulu Natal.

Nguyen, Q. A. & Hens, L. 2015. Environmental performance of the cement industry in Vietnam: the influence of ISO 14001 certification. *Journal of Cleaner Production*, 96, 362-378.

Nishitani, K., Kaneko, S., Fujii, H. & Komatsu, S. 2012. Are firms' voluntary environmental management activities beneficial for the environment and business? An empirical study focusing on Japanese manufacturing firms. *Journal of environmental management*, 105, 121-130.

Noruzy, A., Dalfard, V.M., Azhdari, B., Nazari-Shirkouhi, S. & Rezazadeh, A. 2013. Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: an empirical investigation of manufacturing firms. *The International Journal of Advanced Manufacturing Technology*, 1-13.

Ntuli, N. 2016. Toxic cocktail suspected in stink pollutions busters roped in Campbell's book gets global face. Available at:
<http://sundaytribune.newspaperdirect.com/epaper/viewer.aspx>. Date retrieved 19/03/2017.

Ogbonna, E. & Harris, L.C. 2000. Leadership style, organizational culture and performance: empirical evidence from UK companies. *International Journal of Human Resource Management*, 11, 766-788.

Otis, N., Grouzet, F.M. & Pelletier, L.G. 2005. Latent Motivational Change in an Academic Setting: A 3-Year Longitudinal Study. *Journal of Educational Psychology*, 97, 170.

Paillé, P., Chen, Y., Boiral, O. & Jin, J. 2014. The impact of human resource management on environmental performance: An employee-level study. *Journal of Business Ethics*, 121, 451-466.

Pieterse, C. 2015. Illegal Dump a Hazard. Available at: <http://www.news24.com/SouthAfrica/News/Illegal-dump-a-health-hazard-20150629> Date retrieved 02/03/2017.

Polit, D. F., Beck C.T. & Hungler B.P. 2001. *Essentials of Nursing Research: Methods, Appraisal and Utilization*. Philadelphia: Lippincott Williams and Wilkins.

Potoski, M. & Prakash, A. 2005. Green clubs and voluntary governance: ISO 14001 and firms' regulatory compliance. *American journal of political science*, 49, 235-248.

Prajogo, D., Tang, A.K. & Lai, K.H. 2012. Do firms get what they want from ISO 14001 adoption?: an Australian perspective. *Journal of Cleaner Production*, 33, 117-126.

Raj, J.R. & Seetharaman, A. 2013. Role of waste and performance management in the construction industry. *Journal of Environmental Science and Technology*, 6, 119.

Ramus, C. A. 2002. Encouraging innovative environmental actions: What companies and managers must do. *Journal of world business*, 37, 151-164.

Razab, M., Udin, Z.M. & Osman, W.N. 2015. Understanding the role of GHRM towards environmental performance. *Journal of Global Business and Social entrepreneurship (GBSE)*, 1, 118-125.

Renwick, D.W., Redman, T. & Maguire, S. 2013. Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15, 1-14.

Robertson, J. L. & Barling, J. 2013. Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior*, 34, 176-194.

Russo, A. & Tencati, A. 2009. Formal vs. informal CSR strategies: Evidence from Italian micro, small, medium-sized, and large firms. *Journal of Business Ethics*, 85, 339-353.

Sarkis, J., Gonzalez-Torre, P. & Adenso-Diaz, B., 2010. Stakeholder pressure and the adoption of environmental practices: The mediating effect of training. *Journal of Operations Management*, 28(2), pp.163-176.

Sanyal, U. & Pal, D. 2017. Effect of organizational culture in environmental awareness on pro-environmental behaviour at workplace: A new perspective on organizational sustainability. *International Journal of Commerce and Management Research*, 60-65.

Saunders, M., Lewis, P. & Thornhill, A. 2016. *Research Methods for Business Students: Lecturers' Guide*. 7th Edition. England: FT Prentice Hall.

Sekaran, U. 2006. *Research Methods for Business. A Skill Building Approach*. Singapore: John Wiley & Sons Inc.

Sekaran, U. & Bougie, R. 2009. *Research Methods for Business. A Skill Building Approach*. 5th Edition. United Kingdom: John Wiley & Sons.

Sekaran, U. & Bougie, R. 2013. *Research Methods for Business: A Skill Building Approach*. 6th Edition. New York: John Wiley and Sons.

Silman, J. 2011. Do Employers Really Value Education? Top Skills Employers Seek from Applicants. Available at.

http://www.meador.com/upload/doemployersvalueeducation_65350.pdf.

Date retrieved: 21/05/2017.

Singh, M., Brueckner, M. & Padhy, P.K. 2015. Environmental management system ISO 14001: effective waste minimisation in small and medium enterprises in India. *Journal of Cleaner Production*, 102, 285-301.

Sokro, E. 2012. Analysis of the relationship that exists between organisational culture, motivation and performance. *Problems of Management in the 21st Century*, 3, 106-119.

Song, Q., Li, J. & Zeng, X. 2015. Minimizing the increasing solid waste through zero waste strategy. *Journal of Cleaner Production*, 104, 199-210.

(SANS) South African National Standard 2015. *Environmental management system- requirements with guidance for use: SANS 14001:2015*, South African National Standard, Pretoria.

- Steg, L., Bolderdijk, J.W., Keizer, K. & Perlaviciute, G. 2014. An integrated framework for encouraging pro-environmental behaviour: The role of values, situational factors and goals. *Journal of Environmental Psychology*, 38, 104-115.
- Steg, L. & Vlek, C. 2009. Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of environmental psychology*, 29, 309-317.
- Sweeney, D. J., Williams, T. A. and Anderson, D. R. 2009. *Fundamentals of Business Statistics*. 5th Edition. Ohio: South-Western.
- Tam, V. W., Tam, C. M. 2008. Waste reduction through incentives: a case study. *Building Research and Information*, 36(1): 37–43.
- Terre Blanche, M., Durrheim, K. and Painter, D. 2006. *Research in Practice*. Cape Town: UCT Press (Pty) Ltd.
- Testa, F., Rizzi, F., Daddi, T., Gusmerotti, N.M., Frey, M. & Iraldo, F. 2014. EMAS and ISO 14001: the differences in effectively improving environmental performance. *Journal of Cleaner Production*, 68, 165-173.
- Thomas, P. Y. 2010. Towards developing a web-based blended learning environment at the University of Botswana, Doctoral Thesis, University of South Africa, South Africa.
- Tsai, C.J. 2006. High performance work systems and organizational performance: an empirical study of Taiwan's semiconductor design firms. *The International Journal of Human Resource Management*, 17, 1512-1530.
- Tshuma, N. 2010. An evaluation of a change strategy to integrate nutrition in HIV and AIDS programmes run by the Community AIDS response. MBA Thesis. Regent Business School, Kwa-Zulu Natal.
- Tudor, T.L., Barr, S.W. & Gilg, A.W. 2008. A novel conceptual framework for examining environmental behavior in large organizations: A case study of the Cornwall National Health Service (NHS) in the United Kingdom. *Environment and Behavior*, 40, 426-450.
- Turaga, R.M.R., Howarth, R.B. & Borsuk, M.E. 2010. Pro-environmental behavior. *Annals of the New York Academy of Sciences*, 1185, 211-224.
- Uecker-Mercado, H. & Walker, M. 2012. The value of environmental social responsibility to facility managers: Revealing the perceptions and motives for adopting ESR. *Journal of Business Ethics*, 110, 269-284.

(UKZN) University of Kwa-Zulu Natal .2016. MBA Dissertation style guideline, Kwa-Zulu Natal.

Vachon, S. & Klassen, R. D. 2006. Green project partnership in the supply chain: the case of the package printing industry. *Journal of Cleaner production*, 14, 661-671.

Valmohammadi, C. & Roshanzamir, S. 2015. The guidelines of improvement: Relations among organizational culture, TQM and performance. *International Journal of Production Economics*, 164, 167-178.

Van Teijlingen, E.R. and Hundley, V., 2001. The importance of pilot studies. *Social research update*, 35(4), pp.1-4.

Watson, K., Klingenberg, B., Polito, T. & Geurts, T.G. 2004. Impact of environmental management system implementation on financial performance: A comparison of two corporate strategies. *Management of Environmental Quality: An International Journal*, 15, 622-628.

Wei, Y.S. & Morgan, N.A. 2004. Supportiveness of organizational climate, market orientation, and new product performance in Chinese firms. *Journal of product innovation management*, 21, 375-388.

Wicks, J. 2017. Landfill bosses criminally charged over smelly KZN dump. Available at:<https://www.timeslive.co.za/news/south-africa/2017-08-17-landfill-bosses-criminally-charged-over-smelly-kzn-dump/>. Date retrieved 08/08/2017.

Wiengarten, F. & Pagell, M. 2012. The importance of quality management for the success of environmental management initiatives. *International Journal of Production Economics*, 140, 407-415.

Wilderom, C.P., Van Den Berg, P.T. & Wiersma, U.J. 2012. A longitudinal study of the effects of charismatic leadership and organizational culture on objective and perceived corporate performance. *The Leadership Quarterly*, 23, 835-848.

Wilson, J. 2010. *Essentials of business research : a guide to doing your research project*. London: Sage.

Wu, D.W.L., DiGiacomo, A. and Kingstone, A., 2013. A sustainable building promotes pro-environmental behavior: an observational study on food disposal. *PloS one*, 8(1), p.e53856.

Yarbrough, L., Morgan, N. A. & Vorhies, D. W. 2011. The impact of product market strategy-organizational culture fit on business performance. *Journal of the Academy of Marketing Science*, 39, 555-573.

Young, W., Davis, M., Mcneill, I.M., Malhotra, B., Russell, S., Unsworth, K. & Clegg, C. W. 2015. Changing behaviour: successful environmental programmes in the workplace. *Business Strategy and the Environment*, 24, 689-703.

Zoogah, D., Vora, D., Richard, O. & Peng, M. 2008. Strategic Alliance Team Diversity, Coordination, and Effectiveness. University of Texas at Dallas, Dallas.

Zsóka, Á. N. 2007. The role of organisational culture in the environmental awareness of companies. *Journal for East European Management Studies*, 109-131.

Zutshi, A. & Sohal, A.S. 2004. Adoption and maintenance of environmental management systems: critical success factors. *Management of Environmental Quality: An International Journal*, 15, 399-419.

APPENDICES

Appendix 1: Questionnaire

Informed Consent Letter

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

MBA Research Project

Researcher: Kyle Adam Gaffar (0835071117)

Supervisor: Dr Bibi Zaheenah Chummun (031 260 8943)

Research Office: Ms P Ximba 031-2603587

I, **Kyle Adam Gaffar** an MBA student, at the Graduate School of Business and Leadership, of the University of Kwa-Zulu Natal. You are invited to participate in a research project entitled “**Factors that influence Environmental Performance in the waste management industry in Kwa-Zulu Natal.**”

The aim of this study is to investigate the characteristics and traits of Organizational culture, environmental management and the pro-environmental behavior of employees which positively impacts on an organizations environmental performance.

CEO’s and senior management will benefit from the research as it will seek to explore methodologies which will assist in increasing environmental performance and reduce negative environmental impacts.

Through your participation I hope to understand the traits of an organizations culture in the waste management industry, to identify if an organization who practices environmental management has a greater environmental performance than a company without and to identify the current status and positive impact of pro-environmental behavior of employees towards environmental performance.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The questionnaire should take you about **45** minutes to complete. I hope you will take the time to complete this survey. Thank you for your participation.

Sincerely

Kyle Gaffar

Investigator’s Signature _____

Date _____

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

MBA Research Project
Researcher: Kyle Adam Gaffar (0835071117)
Supervisor: Dr Bibi Zaheenah Chummun (031 260 8943)
Research Office: Ms P Ximba 031-2603587

CONSENT

I.....(full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT

DATE

.....

Please take note of the following instructions:

- The questionnaire consists of four sections, Organizational Culture, Environmental Management, Pro-Environmental behaviour & Other
- Kindly complete the questions in the questionnaire by marking the relevant option with an x and completing the questions that follow under the category of **Other**
- There are no incorrect answers (i.e. no right or wrong answer)
- Please be as honest as possible and please complete the entire questionnaire

Definitions:

Organizational Culture - a set of values, beliefs, assumptions and symbols that define the way in which a firm conducts its business, organizational culture is based on standards and practises learned in the workplace and valid within the organization.

Environmental management - Technical and organizational activities aimed at reducing environmental impact caused by an organizations business operation

Environmental Performance - Environmental performance demonstrates a methodology to ascertain the effectiveness of the environmental initiatives an organization puts in place to mitigate and protect the environment.

Pro- Environmental Behaviour - a kind of behaviour that consciously seeks to minimise the negative impact of one's action on the natural and built environment

Gender:	
Age Group:	18-25 <input type="checkbox"/> 26-35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> >55 <input type="checkbox"/>
Highest Qualification:	
Which department do you work in? (e.g., Sales, Marketing, SHEQ, Technical)	
Job Title:	
Number of years you have worked in the company?	

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Organizational Culture					
1.1 My company actively partakes in environmentally sustainable practises (Reduction of waste, recycling, green procurement, use of green material, prevention of pollution, etc).	1	2	3	4	5
1.2 My company's organizational culture is geared towards increasing environmental performance.	1	2	3	4	5
1.3 My company creates a line of sight between its employee's daily duties and the company's goals and objectives.	1	2	3	4	5
1.4 My company's mission and vision contains environmental sustainable practices which improves environmental performance.	1	2	3	4	5
1.5 At my company, we make an effort to let all employees understand the importance of environmental performance.	1	2	3	4	5
1.6 My company regularly measures the environmental performance of the company.	1	2	3	4	5
1.7 All employees are aware of the environmental performance objectives of the company.	1	2	3	4	5
1. Organizational Culture	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.8 Environmental protection and performance is equally important for everybody at the company.	1	2	3	4	5
1.9 My company creates opportunities to share and learn new knowledge and experiences.	1	2	3	4	5
1.10 My company allows employees to make mistakes and learn from it.	1	2	3	4	5

1.11 My company deals with environmental performance only because it is obliged to do so by law.	1	2	3	4	5
1.12 Because my company's culture focuses on environmental issues, the company's environmental performance is good	1	2	3	4	5
1.13 Financial constraints of the company hinder environmental performance.	1	2	3	4	5
1.14 The environmental objectives of the company are always fully achieved.	1	2	3	4	5
1.15 The management of my company focus their attention to managing environmental problems.	1	2	3	4	5
1.16 The company's management is always on the lookout for new opportunities for increasing Environmental performance for the organization.	1	2	3	4	5
1.17 The company's management succeeds in motivating the rest of the company in terms of environmental performance.	1	2	3	4	5
1.18 Management creates an environment that is prone to greater environmental performance.	1	2	3	4	5
1.19 Management's behaviour is in the best interest of the environment.	1	2	3	4	5

2.Environmental Management (EM)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
2.1 EM helps the company to prevent and control pollution and adverse impact of the business.	1	2	3	4	5
2.2 EM improves the company's efforts to ensure legislative compliance.	1	2	3	4	5
2.3 EM better identifies future environmental initiatives.	1	2	3	4	5
2.4 EM improves our company's image.	1	2	3	4	5
2.5 EM enhances environmental performance.	1	2	3	4	5
	Yes	No	Not Sure		
2.6 Has your company established a certified ISO 14001 Environmental Management System (EMS)?	1	2	3		
2.7 Are you aware of what the ISO 14001 EMS entails?	1	2	3		
2.8 Has the environmental management system fundamentally changed the values of employees towards environmental performance?	1	2	3		

2.9 Does an EMS induce positive trends towards environmental performance?	1	2	3
2.10 Has your company established a certified ISO 9001 or Total Quality Management system (TQMS)?	1	2	3
2.11 Are you aware of what the ISO 9001 & TQMS systems entails?	1	2	3
2.12 Has the quality management system has fundamentally changed the values of employees towards environmental sustainability and performance?	1	2	3
2.13 Does a TQMS induce positive trends towards environmental performance?	1	2	3
2.14 Are there programs in place to reduce the environmental impacts of the company's operations?	1	2	3
	Yes	No	Not Sure
2.15 Does your company focus on reduction and beneficiation of waste?	1	2	3
2.16 Does your company ensure that the activities of the business are done so in accordance with legislation?	1	2	3
2.17 Are the environmental management tools of the company not sufficient to achieve effective environmental performance?	1	2	3

3. Pro-Environmental Behaviour	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.1. The employees of our company always respect SHEQ instructions.	1	2	3	4	5
3.2. The employees of the company are not motivated by Environmental performance but by obligatory instructions.	1	2	3	4	5
3.3 Employees always receive appropriate feedback concerning the environmental output of their work.	1	2	3	4	5
3.4 Performance appraisals are taken seriously and conducted periodically.	1	2	3	4	5
3.5 The management of the company often talk to employees about the importance of Environmental protection.	1	2	3	4	5
3.6 The company values Environmental training and offers it to its employees.	1	2	3	4	5
3.7 The environmental training offered by the company improves employees' attitudes and knowledge a great deal.	1	2	3	4	5

3.8 My company asks the opinion of its employees pertaining to environmental issues.	1	2	3	4	5
3.9 My company applies direct incentives, rewards and acknowledgment to motivate environmental practises.	1	2	3	4	5
3.10 The company allows employees ample opportunities to increase environmental awareness.	1	2	3	4	5
3. Pro-Environmental Behaviour	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.11 One of the goals of the company is to promote pro-environmental behaviour.	1	2	3	4	5
3.12 The company recognizes environmental behaviour and attitude in recruitment criteria.	1	2	3	4	5
3.13 A pro-environmental behaviour amongst employees improves environmental performance	1	2	3	4	5
	Yes	No	Not Sure		
3.14 In my work, I weigh my actions before doing something that could affect the environment.	1	2	3		
3.15 I make suggestions to my colleagues about ways to more effectively protect the environment, even when it is not my direct responsibility	1	2	3		
3.16 I actively participate in environmental events organized in and/or by my company.	1	2	3		
3.17 I stay informed about my company's environmental initiatives.	1	2	3		
3.18 I encourage my colleagues to adopt a more environmentally conscious behaviour.	1	2	3		
3.19 I encourage my colleagues to express their ideas and opinions on environmental issues.	1	2	3		
Other	Yes	No	Not Sure		
1. Has your company had any action taken against it for environmental transgressions?	1	2	3		

Appendix 2: Ethical Clearance



21 September 2017

Mr Kyle Adam Gaffar (205510672)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Gaffar,

Protocol reference number: HSS/1503/017M

Project title: Factors that influence Environmental Performance in the Waste Management industry in KwaZulu-Natal

Approval Notification – Expedited Application

In response to your application received on 21 August 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully


.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr Bibi Zaheenah Cummun
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

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Website: www.ukzn.ac.za



Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

Appendix 3: Chi Square

Q1.1 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.118 ^a	3	0.018

Q1.3 * Qualification

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.927 ^a	15	.022

Q1.5 * Department

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.188 ^a	14	.043

Q1.10 * Gender

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.529 ^a	4	.049

Q1.10 * Age

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.001 ^a	16	.002

Q1.11 * Qualification

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.017 ^a	20	.034

Q1.11 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.929 ^a	4	.027

Q1.14 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.771 ^a	3	.013

Q1.15 * Department

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.614 ^a	14	.029

Q1.17 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.347 ^a	3	.039

Q1.18 * Gender

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.970 ^a	2	.003

Q1.19 * Gender

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.337 ^a	2	.009

Q1.19 * Age

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.571 ^a	8	.025

Q2.8 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.578 ^a	2	.037

Q2.9 * Age

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.271 ^a	8	.027

Q3.2 * Gender

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.000 ^a	4	.007

Q3.4 * Department

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.124 ^a	21	.021

Q3.4 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.848 ^a	3	.049

Q3.5 * Jobtitle

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.036 ^a	3	.045

Q3.6 * Age

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.425 ^a	12	.018

Q3.17 * Department

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.818 ^a	14	.036

Q3.19 * Department

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.198 ^a	14	.013

Q4.1 * Years

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.851 ^a	4	.000

Appendix 4: Cronbach Alpha

Cronbach's Alpha:

Reliability Statistics	
Cronbach's Alpha	N of Items
.932	56

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1.1	101.8125	412.922	.472	.931
Q1.2	101.7917	411.275	.560	.931
Q1.3	101.3958	408.840	.564	.930
Q1.4	101.8333	415.418	.402	.932
Q1.5	101.6667	406.482	.633	.930
Q1.6	101.5417	404.466	.655	.930
Q1.7	101.3750	407.686	.498	.931
Q1.8	101.5417	408.083	.635	.930
Q1.9	101.3125	408.687	.523	.931
Q1.10	100.7500	405.936	.441	.931
Q1.11	100.2708	415.223	.179	.935
Q1.12	101.3125	406.730	.565	.930
Q1.13	99.5833	430.035	-.105	.936
Q1.14	101.2083	406.764	.596	.930
Q1.15	101.2708	402.797	.792	.929
Q1.16	101.4375	406.422	.652	.930
Q1.17	101.2083	403.062	.772	.929
Q1.18	101.4167	406.759	.601	.930
Q1.19	101.4792	409.021	.596	.930
Q2.1	101.8333	416.482	.476	.931
Q2.2	101.8333	414.567	.526	.931
Q2.3	101.7292	415.010	.507	.931
Q2.4	101.7708	417.244	.402	.932
Q2.5	101.7083	415.275	.463	.931
Q2.6	102.1042	422.436	.190	.933
Q2.7	102.0000	425.191	.030	.934
Q2.8	101.8333	415.504	.345	.932
Q2.9	102.0625	423.209	.121	.933

Q2.10	101.7292	413.138	.426	.931
Q2.11	101.7500	419.170	.197	.933
Q2.12	101.3542	405.595	.520	.931
Q2.13	101.3958	408.414	.459	.931
Q2.14	102.0208	415.170	.395	.932
Q2.15	101.9583	425.615	.017	.934
Q2.16	102.2708	425.776	.120	.933
Q2.17	101.0208	418.617	.284	.932
Q3.1	101.3958	404.883	.571	.930
Q3.2	99.8958	430.989	-.128	.936
Q3.3	101.1250	399.559	.701	.929
Q3.4	100.7917	398.594	.666	.929
Q3.5	101.2292	397.840	.768	.929
Q3.6	101.2500	403.468	.654	.930
Q3.7	101.1875	402.922	.686	.929
Q3.8	100.8958	396.095	.719	.929
Q3.9	100.4375	395.868	.642	.930
Q3.10	100.9375	392.145	.790	.928
Q3.11	101.3958	405.436	.609	.930
Q3.12	101.0000	398.213	.709	.929
Q3.13	101.4583	409.105	.632	.930
Q3.14	101.9792	438.191	-.224	.940
Q3.15	101.9583	416.339	.380	.932
Q3.16	102.0208	419.680	.325	.932
Q3.17	102.1875	422.368	.262	.932
Q3.18	101.9792	417.255	.370	.932
Q3.19	102.0000	418.979	.302	.932
QONE	101.3333	426.440	.003	.933

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1.11	100.2708	415.223	.179	.935
Q1.13	99.5833	430.035	-.105	.936
Q2.6	102.1042	422.436	.190	.933
Q2.7	102.0000	425.191	.030	.934
Q2.9	102.0625	423.209	.121	.933
Q2.11	101.7500	419.170	.197	.933
Q2.15	101.9583	425.615	.017	.934
Q2.16	102.2708	425.776	.120	.933
Q3.2	99.8958	430.989	-.128	.936
Q3.14	101.9792	438.191	-.224	.940
QONE	101.3333	426.440	.003	.933

Annexure 5: Turnitin Report

Kyle Gaffar Dissertation v5

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