Environmental Sustainability: The Case of a Multi-Business Packaging Organisation in South Africa

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Abstract

South Africa contributes to greenhouse gas emissions and is vulnerable to climate change's effects on health, livelihoods, water, and food. The South African Department of Environment, Forestry and Fisheries (DEFF) supports an equitable transition to a low-carbon economy and a climate□resilient society protected for the benefit of present and future generations. The increased awareness and requirement to protect the environment has resulted in a growing demand from environmentally conscious customers for suppliers to practice the triple bottom line that requires a balanced approach to managing people, planet, and profit. Organisations therefore must have clear environmental objectives that must be aligned with the strategic goals of the organisation, to ensure better, utilisation of the organisation's resources, management of cost, and management of the organisation's environmental culture.

Organisations implement Environmental Management Systems (EMS) to evaluate, eliminate and mitigate their impact on the environment to improve their environmental performance. This study was conducted across three business units of a South African packaging organisation that aimed to ascertain the environmental sustainability status of the organisation. A mixed quantitative and qualitative research methodology was used to gain an understanding of the current environmental sustainability initiatives of the organisation and the challenges that the organisation faced towards achieving its' contribution towards environmental sustainability.

The results of the research indicated that the organisation has environment management systems that support environment sustainability, however, there is room to further improve their environmental performance.

Keywords: Environment, Sustainability, Circular Economy, Environmental Objectives

Introduction

(Kahraman and Sarı, 2017), allude that sustainability development aims to balance the economic, environmental, and social needs of human beings, allowing the sustainability of current environmental resources for future generations. The increased awareness and requirement to protect the environment has resulted in a growing demand from environmentally conscious customers for suppliers to practice the triple bottom line. The triple bottom line concept, which requires a balanced consideration for people, planet, and profit, is becoming a core macro environment requirement in gaining a competitive advantage for an organisation's economic, environmental, and social sustainability (Wilson, 2015). Organisations, therefore, must have clear environmental objectives that must be aligned with the strategic goals of the organisation, to ensure better, utilisation of the or-

ganisation's resources, management of cost, and management of the organisation's environmental culture. Whilst organisations may have environmental initiatives in place, there is a need to ascertain their environmental sustainability status against global trends.

Organisational Context

This research was based on a case study of three business units of a metal packaging organisation that is driven by environmental regulative, legislative, and environmental sustainability requirements of the market that the organisation serves. The organisation is the leading packaging manufacturer in Africa that operates from 19 sites in South Africa and has been listed on the Johannesburg Stock Exchange (JSE), since 1969. It specialises in packaging using different substrates comprising of paper, plastic, and diversified metal packaging division (Anon 2020:1). This research is based on the environmental management system of the diversified metal packaging division that produces primary packaging from tinplate and aluminium. The metal packaging division of the organisation is the leading food and diversified metal can supplier in South Africa, manufacturing two-piece and three-piece food cans, plain and lacquered ends, full aperture ends and easy-open and peel-off ends, polish cans, paint cans, aluminium, and tinplate aerosols cans.

Product life cycle assessment is a tool that provides a transition from a linear to a circular economy by evaluating the environmental impact of the different stages of a product from cradle to grave to develop and implement strategies to minimise the environmental impact at each stage of the product life cycle (Andersen, Birgisdottir and Birkved, 2022). The organisation recognises the challenges and benefits of producing environmentally sustainable packaging using the product life cycle perspective that supports the circular economy objectives, thus minimising environmental impact. The environmental sustainability efforts of the organisation are supported by the environment product life cycle assessment of the organisation that contributes to the circular economy.

The research organisation is certified to the ISO 14001:2015 standard and is subjected to annual surveillance and three yearly certification audits. Annual environmental legal audits are conducted to ensure alignment and compliance with regulatory or statutory requirements. The organisation's ISO 14001:2015 environment management standard certification requires the organisations to set environmental objectives that are aligned to the strategic direction of the organisation (South African National Standard 14001:2015, 2015). Table 1 presents the organisation's environmental objectives and initiatives.

Table 1: The Organisation's SHEQ Objectives and Initiatives

Objectives	Initiatives
Adherence to legal compliance of the effluent discharge pH level	Effluent plant pH levels are monitored and actioned daily by a dedicated outsourced service provider.
Reduce manufacturing process waste	Manufacturing process waste is monitored and actioned daily and forms part of management's performance contract. There are interventions in place to reduce manufacturing process waste.
Reduce electricity consumption	Electricity consumption is monitored and tracked monthly with initiatives to convert to LED energy and convert electric curing ovens to gas ovens
Reduce water consumption	Full-time maintenance crew on site for quick response to repair water leaks. The feasibility of rainwater harvesting is being explored.

Objectives	Initiatives
Reduce chemical spillage incident impact on the environment	Chemical spillage awareness environment talk conducted with all employees. A dedicated spillage control team was assigned and trained on the management of chemical spillages
Comply to environmental regulatory and statutory requirements	Annual environmental legal audits are conducted to ensure compliance with regulatory and statutory requirements. ISO 14001:2015 certification is maintained Internal environment auditing and GEMBA walks are conducted
Implement a circular economy strategy	Adopted a Life Cycle perspective to reduce the organisation's carbon footprint and A behavioural-based reporting system is in place to reinforce positive behaviour and correct negative behaviour.

Source: Health and Safety Management Committee (2021: 3) minutes

Conceptual Framework

The conceptual framework of a research study portrays the exploration of the research problem and presents a visual representation of the ideas within the research study (Adom, Hussein, and Agyem 2018: 439). Figure 1 below illustrates the conceptual framework for this study.

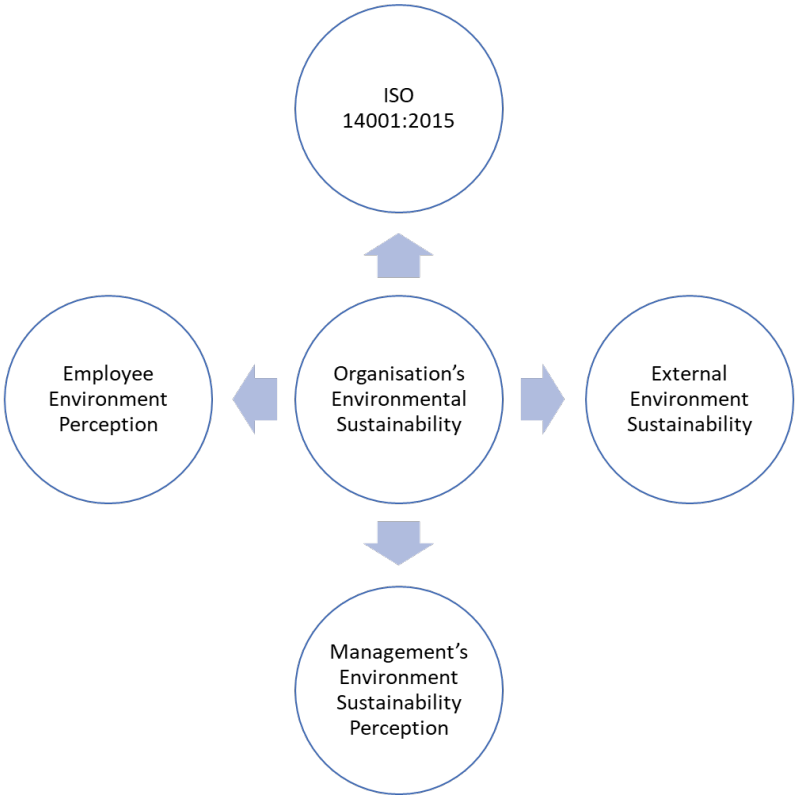

Figure 1: Conceptual Framework

Source: Author's own construct

Theoretical Framework

The theoretical framework in a research study functions as a filter or lens, offering direction on the research to prioritize, refining the focus on critical information articulating the meaning of existing theories and unveiling the strengths and weaknesses of the research study (Given 2012: 872). In this particular study, the theoretical framework was rooted in the ISO 14001:2015 environmental management system. Figure 2 below illustrates the theoretical framework for this study.

Figure 2: Theoretical Framework

Source: Author's own construct

Problem Statement

Traditionally, customers focused on the economic criteria for the selection of suppliers, however, more recently the recognition of the deterioration of the environment has compelled organisations to include green criteria in their supplier selection process as part of their green supply chain management strategy (Yazdani, Zavadskas and Zolfani, 2017). To address the typical depletion and waste of resources predominant in a linear economy, where resources reach an end of life, it is important to consider a circular economy where waste is viewed as a resource that is reintroduced into the economy (Franklin-Johnson, Figge, and Canning, 2016). Therefore, due to economic and environmental challenges, organisations have implemented production and supply chain systems to extend the product life from a linear, take, make, use, dispose chain, to a take, make, use, reuse circular value chain that extends the life of the product, that saves operational costs and reduces the environmental impact (Batista, Gong, Pereira, Jia and Bittar, 2018). A prerequisite and key contributor to an organisation's long-term profitable success is an organisation's demonstrated commitment to environmental sustainability (de Oliveira, 2013). The research organisation is required to maintain its existing and gain a greater marketing share to remain sustainable in the current global economic condition. However, the research organisation did not understand its current

environmental management status, and hence, the research organisation needed to ascertain its current environmental sustainability status to inform strategies to demonstrate environmental responsibility. The study aimed to ascertain the environmental sustainability status of the organisation by ascertaining employee's and management's perceptions of the extent of commitment and the level of supporting resources, tools, and techniques in support of environmental sustainability.

Literature Review

The growth of international trade and an increase in domestic content in exports is considered an important factor of a country's involvement due to the growing importance of global value chains (Bjelic and Kastratovic, 2019). The South African manufacturing sector contributes 13% to the country's gross domestic product (GDP) and the sector contracted by 1.8 % during the fourth quarter of 2019 (Statistics SA, 2020). The metal packaging industry was valued at R5.9bn in 2018, accounting for 9.2% of the South African packaging market sector (Research and Markets Report, 2019).

Organisations often conduct business in a turbulent environment that is characterised by intense competition, changes in technology, new consumer markets, and limited resources (Basaran 2018: 1). Increased industrial development over the past two decades has resulted in environmental degradation that has become a social concern for organisations globally, resulting in these organisations implementing 14001:2015 environment management systems (Chowdhury, Prajogo and Jayaram, 2018). Incorporating environmental management system into the strategy of an organisation and including an environmental life cycle perspective assists an organisation in improving its environmental performance and reaping the environmental performance benefits as demonstrated in Figure 1 (Greenworld, 2016).

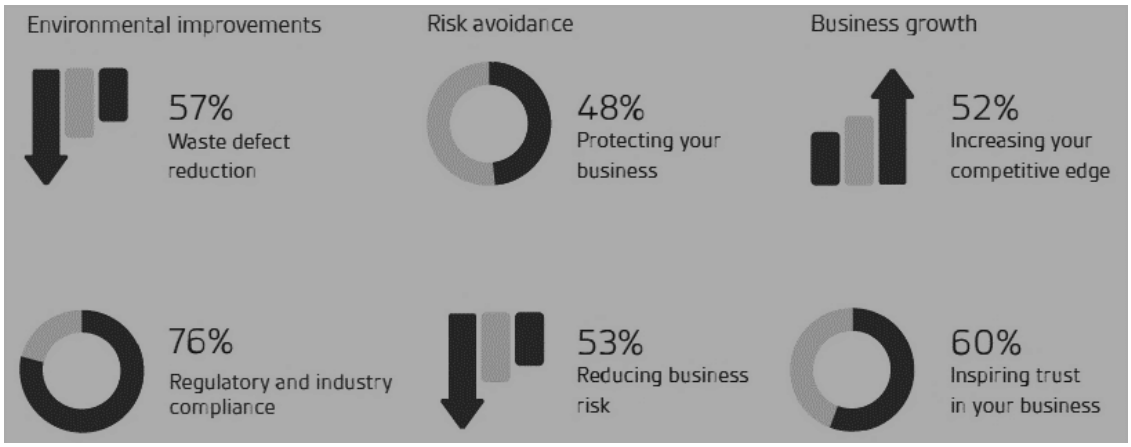

Figure 1: Benefits of ISO 14001:2015

Source: (Greenworld, 2016)

The scope of environmental management comprises the conservation of natural resources, protection of habitats, and control of hazards and involves the topics and considerations as represented in Table 2 (Kahraman and Sarı, 2017).

Table 2: Environment Topics and Considerations

	Environment Topic	Considerations
1	Carbon footprint	Carbon management aims to minimise carbon dioxide and other greenhouse gases that can have a negative impact on the environment
2	Soil degradation management	The impact of human and natural hazards creates a measurable loss of the potential of soil to produce plant material
3	Disaster Response and Management	The management of both human and natural disasters to mitigate, prepare, respond, and recover the environment
4	Solid waste management	Measures that address the prevention, recycling, treatment, and disposal from the generation to the disposal of solid waste
5	Wastewater management	Initiatives to maintain the sustainability of wastewater by collecting and treating wastewater that goes into the rivers or seas for reuse
6	Water resources management	Initiatives that pivot around the need for water preservation, availability, quality, and supply
7	Sustainable Transportation	Refers to the shaping of transportation to minimise the impact on the environment
8	Hazardous Waste Management	Initiatives that address the adverse impact of solid, liquid, or gas hazardous waste that has physical, chemical, or biological characteristics
9	Air Quality Management	Initiatives that address concerns over global warming and ozone layer depletion that have increased the concerns on air pollutants and air quality.
10	Energy Management	Initiatives that address the management for the growing demand and constraints for energy generation, energy distribution and energy consumption.

Source: (Kahraman and Sarı, 2017)

The reduction of an organisation's carbon footprint is not a destination but a journey to achieve a zero-carbon footprint and the ambitious environmental performance objective is to achieve a negative carbon footprint by removing carbon from the environment (Wilson, 2015). ISO 14001:2015 is the globally recognised environmental management standard that organisations implement to provide a framework for managing environmental sustainability (Barbosa, Oliveira, and Santos, 2018). Although ISO 14001:2015 Environmental Management System is not compulsory, it has a long history of structural and content development by global experts and it is used as a strategic tool to align the business with statutory, regulatory, and market requirements (Basaran, 2018). The ISO 14001:2015 ISO standard provides guidelines and requirements for an organisation to adopt a structured approach to implement, manage, and improve the environmental performance of the organisation (Johnstone and Hallberg, 2020).

(Ahidar, Sarsri and Sefiani, 2018), (Nunhes, Motta, and de Oliveira, 2016) and (The International Organisation for Standardisation, 2015) envisage that the following are the objectives of ISO 14001:2015:

1. ISO 14001:2015, EMS provides a framework for the protection of the environment and responding to changing environmental conditions to improve an organisation's environmental performance
2. Unlike ISO 9001:2015 QMS which is driven by customer satisfaction requirements, ISO 14001:2015 EMS is driven by stakeholder expectations including government statutory and regulatory requirements, and assists in the achievement of environmental compliance obligations
3. Communication of environmental information to relevant parties

4. Adopt a balanced approach between the environment, society, and the economy by enhancing and maintaining environmental sustainability to preserve current resources for future generations. Thus, enhancing the environmental performance of the organisation
5. Assess and reduce environmental risks and take advantage of environmental opportunities using a product life cycle perspective to analyse, review and minimise the impact on the environment at different stages of the product to achieve financial benefits by reducing and reusing

To continually improve an organisation's environmental performance and satisfy the environmental requirements of interested parties, organisations develop environmental policies, define environmental objectives, and implement supporting processes (Rebelo, Santos, and Silva, 2016). An organisation's ISO 14001 EMS can complement government regulations in the global environmental sustainability governance context (Wagner, 2019).

The traditional linear model of buy, consume, and dispose, has been replaced with an environment sustainability circular model that focuses on all aspects of a product's life cycle to maintain the sustainability of the environment for future generations (Tantau, Maassen, and Fratila, 2018). An organisation's environmental performance is multidimensional and extends beyond the boundary of the organisation, promoting international trade and achieving social, economic, and environmental benefits (Johnstone and Hallberg, 2020). Product life cycle assessment and circular economy have become a global strategy to improve environmental performance and achieve a sustainable economic system (Tantau, Maassen, and Fratila, 2018).

The (South African National Development Plan 2030, 2017), explains that the mapping of the transition to a low-carbon economy requires consensus on the challenges and trade-offs involved in implementing the South African climate policy. The (constitution of South Africa Act 108, 1996), accentuated that everyone has the following environmental rights:

1. To an environment that is not harmful to their health or well-being
2. To have an environment that is protected for the present and future generations through reasonable legislative and other measures to prevent pollution, and ecological degradation, to promote conservation, to secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development.

(Kasner and Edward, 2018), from Packaging SA, has identified environmental sustainability opportunities and challenges that are illustrated in Table 3.

The identified opportunities and challenges that are peculiar to the packaging industry, do provide the packing industry with valuable markers to inform environmental sustainability strategy development.

Table 3: Environment Sustainability Opportunities and Challenges

Opportunities	Challenges
Adopting circular economy philosophy, that is a regenerative system. Setting up of Producer Responsibility Organisations (PRO). Application of Extended Producer Responsibility (EPR) where a producer's responsibility is extended to the post stage of the product life cycle. Set targets for waste reduction, recycling and re-use, and implementation of industry waste management plans, that involve planning of waste generated actions by an organisation. Creating waste pickers job opportunities, Waste prevention policy that involves taking measures to produce or reduce waste generation, Recycling involves the recovery process of waste for reuse whether for the original product or alternate products. Introduction of refillable packaging that can be re-used, Separation of waste for recycling. Implementation of environment-sustainable goals	Growing population and economy result in a higher volume of waste generated. The increased complexity of waste streams. Inadequate waste collection services for informal areas. Unreliable and contradictory waste data because the submission of waste data is not obligatory resulting in limited understanding of waste flows. Waste management is not actively promoted by the policy and regulatory environment, There is a lack of infrastructure to support waste separation at the source. Declining levels of capital investment and maintenance on waste management. Preference of waste disposal against other options due to the low appreciation of waste management resulting in underpricing. Few waste management options are available resulting in being more expensive than landfill cost. Too few compliant landfills. and hazardous waste facilities hindering the safe disposal of waste. Additional tax burden with the introduction of environment levy for paper and packaging.

Source: (Kasner and Edward 2018:7)

Research Methodology

(Hair, Page and Brunsveld, 2020) state that the objective of business research is to predict and explain phenomena in an ever-changing business environment. (Bairagi and Munot, 2019) and (Saunders, Lewis, and Thornhill, 2016), define research as the systematic investigation to understand existing knowledge and to establish the contribution of new knowledge based on continual improvement. This study adopted a mixed qualitative and quantitative method that was cross-sectional, using the case study research design approach to provide a more in-depth understanding and a more balanced perspective.

Quantitative Research Study

The quantitative research method encompasses the collection and analysis of data using the results of closed-ended questionnaires (Dudovskiy, 2015). A 5-point Likert Scale questionnaire was administered to gather data from participants. The requirements of ISO 14001:2015 environmental management standards were used as a framework in developing the quantitative questionnaire statements. The researched organisation's human resource records (Human Resource Management Committee, 2021) depicted a population of 500 operational, middle, and senior management employees, and the sample comprised 217 employees, which was deemed to be appropriate as indicated in (Sekaran and Bougie, 2016) population sample table of calculations. The quantitative data was then analysed using the SPSS (version 26) statistical package using descriptive and inferential statistics. The descriptive statistics were presented in the form of charts and tables. The

quantitative data reliability was ensured by targeting Cronbach's alpha's recommended value of 0.700 (Gliem and Gliem, 2003).

Qualitative Research Study

The responses from the quantitative part of the study were used to develop the interview questions for a clearer understanding and confirmation of the quantitative data responses. Qualitative data is collected using unstructured interviews or observation to probe deeply into an issue and rather than collecting numbers the data is collected by recording words or phrases (Hair, Page, and Brunsveld, 2020). Interviews were conducted with the senior management of the organisation to obtain a clearer understanding and an in-depth perspective. Nine participants, comprising of three Senior Production Personnel, one Senior Safety, Health, and Environment Person, three Senior Quality Personnel, and two Senior Engineering Personnel were interviewed. Notes were extracted from the interview recordings and confirmed with participants before data analysis, to ensure trustworthiness. Thematic data analysis was conducted.

Research Ethical Protocols and Research Independence

To ensure that the study was conducted ethically, the anonymity and confidentiality of participants was maintained. The participant's identity was not disclosed in the research and the data and the information that was provided by the participants was used for the sole purpose of this research. DUT Institutional Research Ethics Committee approval was obtained prior to the commencement of this study

Discussion of Results and Findings

Figure 3 depicts the staff position composition of the population.

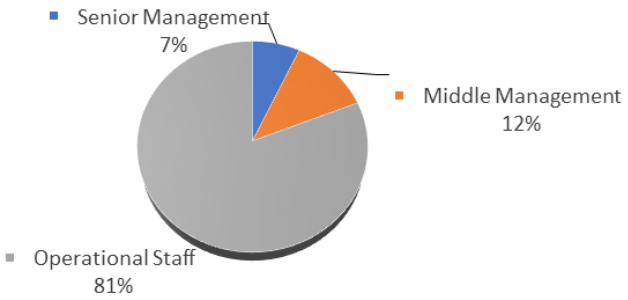

Figure 3: Staff Position Composition of the Population

Source: Researcher's own construction

The sample was drawn using stratified random sampling, as depicted in Table 4.

Table 4: Stratified Sampling by Employee Level

	Gauteng		KZN		Cpt		Total	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Senior Management	4	4	6	6	4	4	14	14
Middle Management	8	7	10	11	9	10	27	28
Operational Staff	52	52	77	80	47	47	176	179
Total	64	63	93	97	60	61	217	221

Source: Researcher's Own Construction

Figure 4 illustrates the distribution of the ages of the respondents

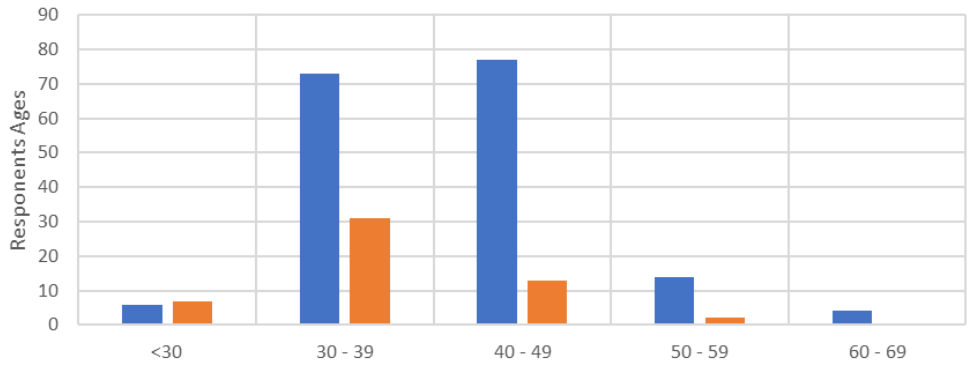

Figure 4: Distribution by Respondents Ages

Source: Researcher's own construction

The disproportionate representation of males to females is reflective of the disproportion in the population. The predominant age grouping of respondents is 30-39 years, followed by 40-49 years, reflective of a middle-aged staff complement.

Table 5 depicts the scoring patterns for the Environmental Management Survey questionnaire.

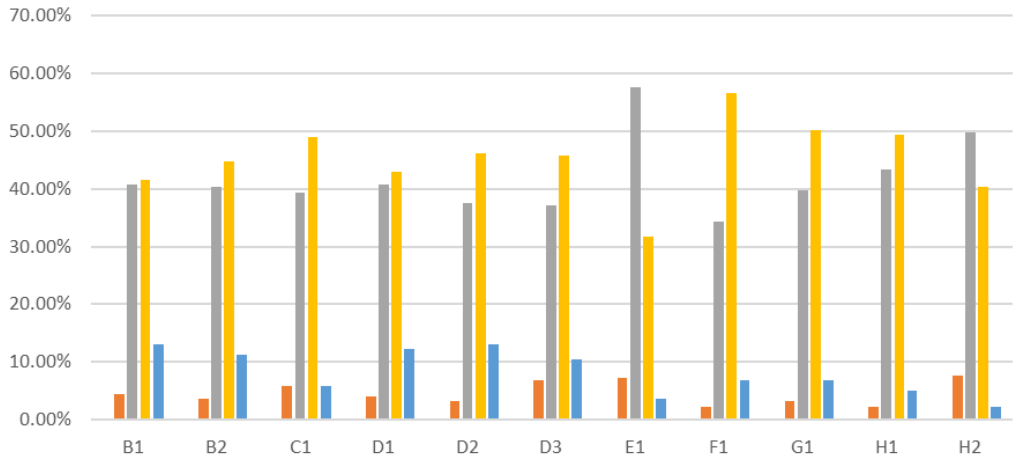

Figure 5: Scoring Pattern of the Environment Management Survey Questionnaire

Source: Researcher's own construction

Table 5: Scoring Patterns for Environmental Management Survey Questionnaire

		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
Statements		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
My organisation's management has determined the external factors (Political, Economic, Social, Technological, Legal and Environmental) that may impact on the strategic direction of the organisation's environmental management system.	B1	0	0.00%	10	4.50%	90	40.70%	92	41.60%	29	13.10%	< 0.001
My organisation understands the environmental needs and expectation of stakeholders (Customers, suppliers, employees, legal & regularity compliance bodies)	B2	0	0.00%	8	3.60%	89	40.30%	99	44.80%	25	11.30%	< 0.001
Top management demonstrates committed leadership with respect to the environmental management system.	C1	0	0,0%	13	5,9%	87	39,4%	108	48,9%	13	5,9%	< 0.001
My organisation has completed an environmental risk assessment	D1	0	0,0%	9	4,1%	90	40,7%	95	43,0%	27	12,2%	< 0.001
My organisation has determined its environmental objectives	D2	0	0,0%	7	3,2%	83	37,6%	102	46,2%	29	13,1%	< 0.001
My organisation has communicated its environmental objectives to employees	D3	0	0,0%	15	6,8%	82	37,1%	101	45,7%	23	10,4%	< 0.001
My organisation provides the necessary resources needed for the operation of the environmental management system	E1	0	0,0%	16	7,2%	127	57,5%	70	31,7%	8	3,6%	< 0.001
My organisation has measures in place to manage (Plan, organise, lead and control) the processes relating to the environmental management system	F1	0	0,0%	5	2,3%	76	34,4%	125	56,6%	15	6,8%	< 0.001
My organisations reviews (monitors, measures, analyses, and evaluates) its environmental performance	G1	0	0,0%	7	3,2%	88	39,8%	111	50,2%	15	6,8%	< 0.001
My organisation identifies opportunities for the improvement of the environmental management system	H1	0	0,0%	5	2,3%	96	43,4%	109	49,3%	11	5,0%	< 0.001
My organisation provides resources for the improvement of the environmental management system	H2	0	0,0%	17	7,7%	110	49,8%	89	40,3%	5	2,3%	< 0.001

Source: Researcher's own construction

The significance of the differences in scoring was tested as shown in Table 5 and the following patterns are observed with the statements as depicted in Figure 4:

1. There were no statements with strong disagreement;
2. Statements B1 and B2 are, have similar scoring patterns. The levels of agreement and the levels of neutral are also similar;
3. Statement C1 is based on leadership's commitment to the environmental management system. The percentage of respondents who agreed and strongly agreed with this statement was greater than those who disagreed and those who were neutral
4. Statements D1, D2, and D3 were based on the organisation's environmental risk assessment, determination of environmental objectives, and communication of environmental objectives. The percentage of respondents who agreed and strongly agreed with these statements was greater than those who disagreed and those who were neutral
5. Statement E1 was based on the organisation's provision of resources for the environmental management system. The percentage of respondents who disagreed and who were neutral was greater than those who agreed and strongly agreed with the statement
6. Statement F1 was based on the organisation's planning, organising, leading, and controlling of the organisation's environmental management system. The percentage of respondents who agreed was higher compared to those who disagreed or who were neutral
7. Statement G1 was based on a performance evaluation of the organisation's environmental management system. The percentage of respondents who agreed was higher compared to those who disagreed or who were neutral
8. Statements H1 and H2 were based on the provision of resources for the improvement of the organisation's environmental management system. There was a higher percentage of respondents that agreed compared to those that disagreed or who were neutral
9. The neutral repsonses for E1 and H1 and H2 were notable high

Discussion of Quantitative Research Findings

1. An understanding of the context of the organisation and the requirements of interested parties enables an organisation to develop and align the strategic intentions of the organisation (Barbosa, Oliveira, and Santos, 2018). The research findings indicate that the research organisation has achieved this objective. There was a high level of agreement that the management of the organisation contextualised the external factors that impacted the organisation and understood the needs and expectations of all stakeholders.
2. The leadership of an organisation must be committed and accountable for the success of an organisation's management system (DNVGL, 2016). Statement C1 of the survey measured respondent's perception of the leadership's commitment to environmental sustainability. There was a high level of agreement that the management of the organisation was committed to environmental sustainability.
3. The organisation needs to define the plan of the management system's objectives and the associated risk (DNVGL, 2015). Statements D1, D14, and D17 of the survey questionnaires measured respondent's perception of the organisation's planning of the environmental management systems. Risk assessment and environmental objectives, the two important requirements of planning are measured. There was a high level of agreement that the organisation has conducted risk assessments and set objectives for environmental sustainability.

4. The foundation of a management system is the provision of resources (Abuhav, 2016), therefore, to achieve the intended outcome of the management system, the organisation needs to provide the required resource support (British Standards Institute, 2015). For the section E1 on the provision of resources, there was a higher level of disagreement and neutral than agreement. The reason for the responses was further explored during the qualitative interviews.
5. Overall for section F1 on the organisation's planning, organising, leading, and controlling, there was a higher level of agreement than neutral and disagreement. The quantitative survey results indicate that there was a strong agreement that the organisation has measures in place to manage plan, organise, lead, and control the management systems.
6. Section G1 of the survey questionnaires measured respondents' perception of the organisation's performance evaluation of management systems and the response was further clarified during the interviews. There was a high level of agreement that the organisation's management monitors measures, analysis, and evaluates the performance of the management systems. Overall for the section on performance evaluation of the organisation's management systems, the level of agreement was higher than neutral and disagreement.
7. Statements H1 and H2 measured respondent's perception of the organisation's improvement of management systems and the response was further clarified during the interviews. The reason for the lower levels of agreement and higher level of neutral was further explored during the qualitative interviews in the next section.

Table 6: Summary of Qualitative Research Findings

Areas of enquiry	Summary of responses
Internal and external factors that impact on the organisations environment management systems that the organisation has considered and what measures have been taken?	There is a growing requirement from customers as part of their supplier selection criteria for the organisation to ensure that the organisation adopts an environmental product life cycle perspective to minimise the impact on the environment and provide safe and quality products. The organisation differentiates itself from competitors by maintaining its' ISO 14001:2015 certification and continuing to minimise the impact on the environment. The organisation culture of employees and the commitment of senior management of the organisation impacts the organisation's environment management system. The organisation has a behavioural-based reporting system that reinforces positive behaviour and corrects negative behaviour.
Organisations leadership commitment to environment sustainability.	The organisation's senior management's commitment to environmental sustainability is evident in the compliance with the National Environmental Management Act which is demonstrated in the legal audits and certification to ISO 14001:2015.
Environmental risks consideration when setting SHEQ objectives?	Environment objectives are set based on environmental risks and this is done to ensure that these risks are tracked and managed. Objectives and risks are reviewed and tracked during audits, management meetings, and annual management reviews.
Organisations' environmental operational challenges	There are new environmental requirements that the organisation needs to keep abreast with and ensure compliance with these requirements. The organisation has annual environment legal audits that are conducted by an external legal advisor and are a member of the Metal Packaging Association, (MetPac) and the Institute of Packaging South Africa (IPSA). Any new environment, health, or safety requirements are communicated to the organisation via these channels. Management provides the support required for the management system; however, these were not effectively communicated. The organisation has identified opportunities for improvement; including opportunities arising from the fourth industrial revolution, and reduction of raw material usage, however, these were not communicated to all stakeholders

Source: Researcher's own construction

The results of the quantitative and qualitative study dovetail towards similar results, except for the area around operational challenges, where communication seems to be the greatest challenge.

Recommendations

Based on the results of both the quantitative and the qualitative phase of the study, the following recommendations have emerged:

1. The organisation must aim to maintain ISO 14001:2015 environmental management system certification status by addressing and closing off audit findings timeously.
2. The organisation must continue with internal audits to ensure adherence to regulatory and statutory requirements;
3. The organisation must conduct an annual environmental management review to strategically position the organisation to remain competitive and maintain market share;
4. The organisation must clearly communicate the various environmental initiatives to all stakeholders.
5. Senior management must demonstrate commitment by identifying and supporting new initiatives and clearly communicating the resources that are made available to enhance the environmental culture of the organisation;

The organisation must improve its environmental sustainability position by embarking on initiatives to reduce raw material usage by considering, for example, thinner gauge raw material.

The significance of this study lies in its value in bringing to the fore that although an organisation may be ISO 14001:2015 certified, progress towards environmental sustainability can gather greater momentum if organisations keep on focussing on areas that they are doing well in and identify and improve on areas that they are not doing well in. A case study of this nature, that elicited data from the cross-section of employees made it possible to identify areas for improvement that otherwise would have gone undetected. Other organisations may find the results of this study useful to signpost their own journey towards improving their own environmental performance. An area for further research could be the development of measures for the scale and intensity of initiatives, levels of resources deployed, and effectiveness of communication channels, for environmental sustainability in the packaging industry. Such research could be undertaken under the auspices of the Institute of Packaging South Africa.

Conclusion

The concept of environmental sustainability emerged in the early twentieth century where there was a shift from concentrating on just profit because of the need to sustain resources for the future generation. The growth of, population, economy, and industrialisation and the right to an environment that is not harmful to well-being was the main drivers of environment sustainability. This was primarily driven by the market that organisations serve and became an essential supplier selection criterion to conduct business. Thus, environment sustainability has become a strategic initiative that organisations must implement using an environmental life cycle, circular economy perspective to reduce their carbon footprint. Organisations are required to understand their environmental sustainability position and develop strategies to improve their environmental sustainability position. This research provided insight into the current environmental sustainability topics and strategies that organisations can adopt to demonstrate their commitment to improving their environmental performance. Improvement in environmental performance can result in maintaining or achieving a greater market share and positioning the organisation more competitively.

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