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Analysis of the Effects of Environmental Entrepreneurship on Sustainable Development among Small and Medium Enterprises in Lusaka's Central Business District (CBD)

Sepo Kazhila[1], Eng. Dr. Richard Kasongo Mwale[2]

[1,2] The University of Zambia, Graduate School of Business, 10101

ABSTRACT: Currently, there is a pressing need for entrepreneurs to adopt environmentally friendly strategies, technologies, and products that will result into sustainable solutions to problems of the day. This study was adopted to analyze the effects of environmental entrepreneurship on sustainable development among small and medium enterprises in Lusaka's CBD. A sample of 278 respondents was selected using the Cochran formula which resulted into a response rate of 91% with 252 respondents. A mixed methodology approach was used and data was analyzed through the use of SPSS from which correlation and a summary of coefficient were used to measure the relationship among variables. The overall coefficient of correlation of 0.947 from the SPSS results suggests that there is a strong positive relationship between the variables under observation in relation to sustainable development among SMEs with regards to environmental entrepreneurship strategies which are: environmental efficacy, and environmental innovation. The R-Square (coefficient of determination) of 0.897 suggests that sustainable development is influenced 89.7% by the independent variables observed.

KEYWORDS: Effects Environmental Entrepreneurship, Sustainable Development, SMEs, Lusaka**.**

1. INTRODUCTORY BACKGROUND

Sustainable entrepreneurship refers to the development of businesses that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Abdissa et al., 2022; Annals-xxi et al., 2021). Currently, there is a pressing need for entrepreneurs to adopt environmentally friendly strategies, technologies and products that will result in sustainable solutions to problems of the day. It is common knowledge that over the past 20 to 30 decades, environmental problems and sustainability has become a serious concern to the society. Hence the need to promote entrepreneurs that utilize the environment and its resources without harming them. Globally, Environmental problems and sustainability is a serious issue not just in Businesses but also in our day to day society activities (Abdissa et al., 2022; Annals-xxi et al., 2021;United Nations, 2020; Sobir, n.d.; Soto-acosta & Cismaru, 2016). Many businesses which happen to have any beneficial effect to the environment is coincidental to the pursuit of money and profit maximisation (Ogujiuba et al., 2022; Pascucci et al., 2022; Patriarca & Magnusson, 2007; Sendawula, 2018). Environmental protection is an expensive venture to business that is considered to yield little or no profits and hence some businesses resorts to maximising profits at the expense of the environment (Ibid). Environmental entrepreneurship is closely related to the development and use of environmental technologies, but it also embraces several non-technological dimensions (Dzomonda, 2022; Matinaro et al., 2019). Based on the conventional understanding of innovation, as outlined in the Oslo Manual, The Organization for Economic Cooperation and Development (OECD) which argues that establishment and adoption of environmental entrepreneurship significantly improved, products (goods or services), organizational structures, processes, marketing methods and institutional arrangements which, with or without intent, also leads to environmental improvements compared to relevant alternatives (OECD, 2009).

Environmental entrepreneurship has a vital role in the formation of domestic industries, systems, and networks as a driving force for institutional growth (Bajdor & Pawełoszek, 2021; Ogujiuba et al., 2022). Due to systemic pressures and institutional differences, the degree of influence exerted on the overall sector varies across national borders [Aidis et al., 2008 and Urbano et al., 2019]. Even though studies of the relationship between institutional factors, entrepreneurship, and development are flourishing, the

majority of the literature continues to be dominated by classic perspectives such as endogenous growth and Schumpeterian theory (Urbano et al., 2019).

Consideration of green entrepreneurial activities within the (sustainable) development process necessitates a broader view, since green entrepreneurs are part of complex sociotechnical networks and are influenced by other players, social institutions, and laws and regulations. Zahraie et al. (2016) observed that green entrepreneurs struggle to overcome prevalent patterns; yet, regulatory assistance at opportune times may facilitate this transformation by fostering a vision for collaborative action. According to Demirel et al. (2019), governments play a significant role in legitimizing green business through issuing contracts, enforcing environmental regulations, and facilitating funding. Yi (2020) noted that university assistance for green entrepreneurship generates an atmosphere favourable to green firms. Such prior studies demonstrate a positive link between green entrepreneurship and green enterprise, which is systematically related to government control in developing countries. Other studies have argued that, although environmental entrepreneurship is important, education is crucial for increasing the adoption of sustainable business practices. Gast et al. (2017) suggest that it is essential for SME owner-managers to tell their consumers about their green products and services in terms of their characteristics, advantages, and how they contribute to environmental conservation and the preservation of the social value system.

Shepherd and Patzelt (2011) observed that sustainable entrepreneurship is focused on the protection of nature, life support and group, and its objective is to utilize seen opportunities to bring into reality future products, processes, and services for benefit, where benefit is extensively characterized to incorporate economic and non-economic advantages to people, the economy, and society. Through this lens, it is notable that "sustainable entrepreneurship" is thus not only associated with the promise of more traditional concepts of entrepreneurship but bears additional potential both for society and the environment" (Kuckertz & Wagner, 2010).

According to some several studies done in many of the developing and middle-income countries in Africa, it has been argued that SMEs have contributed greatly to the environment and social challenges such as environmental degradation, exhaustion of natural resources, poverty, diseases, poor in- restructure, unemployment and emission of dangerous gases (Choongo, Van Burg, Paas and Masurel, 2016). These challenges have emerged due to the profit maximization motive of the SMEs owners at the expense of conserving the environment and the values of the society.

Many businesses such as SMEs represent majority of businesses in developing economies and are, therefore, globally recognized for enhancing economic and social growth, job creation, poverty reduction, and enhancing income distribution (Hosseininia and Ramezani, 2016). However, in Africa, and Zambia specifically, there is anecdotal evidence that SMEs have caused environment and social challenges such as environmental degradation, exhaustion of natural resources, poverty, diseases, poor infrastructure, unemployment, and emission of dangerous gases (Choongo, Van Burg, Paas and Masurel, 2016). These challenges have emerged due to the profit maximization motive of the SMEs owners at the expense of conserving the environment and the values of society.

Although some scholars in this field have provided evidence supporting the link between environmental entrepreneurship and sustainability in developed economies (Zahraie et al., 2016 and Fernandez et al., 2021), lack of evidence and academic emphasis on third world developing countries such as Zambia raises questions regarding the effectiveness and transferability of such developmental propositions. It is, therefore, against this background that this study was initiated to analyse the effects of environmental entrepreneurship on sustainable development among SMEs in Lusaka Central Business District.

1.1. Problem Statement

Environmental problems and sustainability have continued to increase in the past decade. Reports reveal that in 2006 the total amount of municipal solid waste generated globally reached 2.02 billion tones, representing a 7% annual increase since 2003 (Global Waste Management Market Report 2007). Therefore, entrepreneurs that utilize the environment and its resources without harming them are the answer to business sustainability (Abdissa et al., 2022; Bajdor & Pawełoszek, 2021). Currently, there is great concern that most SMEs in Lusaka are not doing their job in taking care of the environment they operate from to ensure environmental sustainability. Many businesses, including majority of SMEs, have been reported to practice environmental sustainability only when they anticipate profit maximisation (Sendawula, 2018; Soto-acosta & Cismaru, 2016). Several studies in developing countries including Zambia have demonstrated that SMEs have also caused environment and social challenges such as environmental degradation, exhaustion of natural resources, poverty, diseases, poor infrastructure, unemployment and emission of dangerous gases (Choongo et al., 2016). These challenges have emerged due to the profit maximization motive of the SMEs owners at the expense of conserving the environment and the values of society (Ibid).

Despite the awareness of the benefits of environmental entrepreneurship on sustainable development among SMEs, there still remains a low level in the adoption of environmental entrepreneurship among SMEs. These damages and /or effects threaten the

sustainable existence of humanity on the face of the globe as humanity's survival solely depends on its harmonious interaction with a safe environment. It is, therefore, important to have corporate business strategies which are triple-based i.e. profit, people, and planet focused. This is seemingly a nexus which the world is grappling to deal with, and Zambia is not an exception. There are no systematic studies from the context of this study's focus which have delved into the intricacies of the teething issues pinpointed herein. This study, therefore, was necessarily relevant in in trying to help SMEs manage their waste in Zambia as a way of raising awareness of the importance of environmental entrepreneurship in achieving sustainable development in the country.

2. LITERATURE REVIEW

2.1 Empirical Review

2.1.1. Effect of Environmental Enterprises on Sustainable Development

Jiang et al. (2018) investigated the impact of green entrepreneurial orientation on the performance of the firms in China. The study used as a descriptive study design and adopted a quantitative research approach. The population of the study were Chinese firms and the sample size was 264 firms. The findings of the study show that the relationship between the green entrepreneurial orientation and the firm performance is adjusted by the dynamic technology of the green technology and knowledge transfer and incorporation. The green entrepreneurial orientation imposes positive impacts on financial performance and the environment.

According to Rizos et al., (2016), small and medium-sized enterprises in the United Kingdom that create and execute environmental management systems outperformed their competitors in terms of sales. This is consistent with the findings of Biondi et al. (2002), who found that environmental management systems help Small and Medium-Sized Enterprises (SMEs) to gain a competitive edge over other companies in the same industry. Therefore, Small and Medium-Sized Enterprises (SMEs) should adopt environmental management policies to aid them in implementing sustainable measures. In addition, consumer education is crucial for increasing the adoption of sustainable business. For example, Gast et al. (2017) suggest that it is essential for SME owners-managers to tell their consumers about their green products and services in terms of their characteristics, advantages, and how they contribute to environmental conservation and the preservation of the social value system.

Globally, the incorporation of sustainability into entrepreneurship teaching at business schools inspires students to launch and operate enterprises (Singhal, Suryawanshi and Mittal, 2017; Gast et al., 2017). However, the maximizing of profits is prioritized at the cost of environmental and social considerations. Therefore, business schools should teach entrepreneurship and sustainability concurrently in order to encourage aspiring entrepreneurs to discover sustainable possibilities and devise creative strategies for exploiting them. This will increase the establishment of more sustainable businesses in the future since the students who are taught sustainability concepts and activities now are the entrepreneurs of the future. Furthermore, assistance from educational institutions such as colleges can promote sustainable enterprise (de Eyto, Mc Mahon, Hadfield and Hutchings, 2008). According to a research conducted by Natarajan and Wyrick (2011), universities may partner with sustainable SMEs to teach students about sustainability. Students can engage in transdisciplinary learning activities from the start of their courses and projects, fostering environmental and social cognition and mindset. This can assist students to engage in sustainable entrepreneurship in their future small and medium-sized enterprises.

Government assistance to promote sustainable entrepreneurship among SMEs (Alani Lawal, Worlu, and Ayoade, 2016). This assistance can help SMEs to do research, acquire enhanced technology that simplifies the manufacture of green goods, ensure the quality of green products, and promote them locally and worldwide. Short- and long-term financial stability will be provided to small and medium-sized enterprises (SMEs) in their attempts to adopt sustainable entrepreneurship. Walker et al. (2014) found that family and friends may also assist SME owners in acquiring raw materials, gaining access to technology, and promoting their green products.

According to the study done by Soto-Acosta et al., **(**2016) in Romania on how sustainable entrepreneurship leads to business performance. The study investigated the standpoints of SMEs (small and medium-sized enterprises) entrepreneurs on different facets. The emphasis is laid on the entrepreneurs' approaches towards people, planet and profit and on their prioritization within business dynamics. The aforementioned dimensions are deemed important factors engendering business performance in terms of turnover, customer attraction and retention and market share. The study adopted a quantitative perspective relying on a questionnaire-based survey. The results posited that the proposed model accounts for almost 50 percent of variance in business performance, whereas sustainable entrepreneurship approaches towards the people and profit dimensions have a significant positive influence on business performance.

Ogujiuba et al, (2022) conducted a study on impact of Government Support, Business Style, and Entrepreneurial Sustainability on Business Location of SMEs in South Africa's Mpumalanga Province. The author wanted to ascertain as to whether government support, business style, and entrepreneurship sustainability affect SME operations differently depending on location (rural, semi-

urban, or urban). The study adopted MANOVA technique for the analysis to determine whether there is a significant difference between groups on a composite dependent variable as well as the univariate results for each dependent variable separately. Government support (GS), business style (BS), and entrepreneurial sustainability were used as dependent variables (SE). The independent variable was the business location. The study revealed that on the combined dependent variables, there was a statistically significant difference between SME location: F (3, 902) = 20.388, p = 0.001, Wilks' Lambda = 0.88, partial eta squared = 0.06. When the results for the dependent variables were considered separately, they all reached statistical significance, using a Bonferroni adjusted alpha level of 0.017. BS: F (1, 904) = 13.29, p _ 001, partial eta squared = 0.03. The findings show that locational effects on government support have a knock-on effect on the business plan and long-term entrepreneurship. It was therefore, recommended that the government must reconsider its rural activities to ensure that support is distributed equitably across levels of location. The South African Government and other developing countries needs to commit themselves to creating an environment that bolsters sustainability for entrepreneurship to thrive.

2.1.2. Effects of Sustainable Strategies through Environmental Entrepreneurship

A study was done in Poland on the effect of entrepreneurship on the economic dimension as a business entity, most often a small or medium enterprise. The study aimed at to identifying and evaluate attitudes towards sustainable entrepreneurship among Polish enterprises. We compare the obtained results with their self-assessment and distinguish different approaches to business activity. The cluster analysis of survey results revealed that the Polish SME sector can be divided into five separate groups characterized by a different approach and level of implementation of sustainable development. It was concluded that the Polish enterprises are more focused on social than environmental aspects (Samier, 2010).

Jiang et al. (2018) investigated the impact of green entrepreneurial orientation on the performance of the firms in China. The study used as a descriptive study design and adopted a quantitative research approach. The population of the study were Chinese firms and the sample size was 264 firms. The findings of the study show that the relationship between the green entrepreneurial orientation and the firm performance is adjusted by the dynamic technology of the green technology and knowledge transfer and incorporation. The green entrepreneurial orientation imposes positive impacts on financial performance and the environment.

Another study was done on the influence of green entrepreneurial activity on sustainable development using institutional economics as a theoretical framework and the role of entrepreneurship policy as analysed in the context of Saudi Arabia. Using information from the General Authority for Statistics from 13 Saudi Arabian cities, the main findings show that green entrepreneurship positively contributes to the economic, social, and environmental components of sustainable development during the period 2012–2017. These results demonstrate a measurable indication of sustainable development outcomes, whereby Saudi Arabian institutions align entrepreneurial activities with a positive triple bottom line effect. Accordingly, these findings contribute new evidence to justify government commitment to supporting green entrepreneurship in Saudi Arabia and encourage future domestic policies.

2.1.3. Environmental Entrepreneurship and Sustainable Development

A study was done on the influence of green entrepreneurial activity on sustainable development in Saudi Arabia, using institutional economics as a theoretical framework. Also, the role of entrepreneurship policy is analysed in the context of Saudi Arabia. Using information from the General Authority for Statistics from 13 Saudi Arabian cities, the main findings show that green entrepreneurship positively contributes to the economic, social, and environmental components of sustainable development during the period 2012–2017. These results demonstrate a measurable indication of sustainable development outcomes, whereby Saudi Arabian institutions align entrepreneurial activities with a positive triple bottom line effect. Accordingly, these findings contribute new evidence to justify government commitment to supporting green entrepreneurship in Saudi Arabia and encourage future domestic policies.

In, Malaysia, a similar study was done by Nordin, (2019). The study examined the role of opportunities for green entrepreneurship towards investigating the practice of green entrepreneurship among SMES in Malaysia. The study applied a quantitative approach to collect data by using purposive sampling in selecting the respondents. The study targeted SMEs entrepreneurs in Malaysia who have been practicing green entrepreneurship in their business activities. The questionnaires were sent to respondents consisting of the owners, managerial level or decision makers of SMEs from the services and manufacturing sector in selected regions of Malaysia. The finding from the study by Nagwan, (2023), revealed that, despite Government commitment to green economy and human opportunities that comes with green economy, the practice of green economy is still low among SMEs in Malaysia. It was also revealed that lack of studies and availability data were some key determinants that influencing the adaptation of the green technology.

Aroshidze (2021) conducted a study on the sustainable enterprise development tetrad and assessment of its balance in Russia**.** The purpose of the study is to develop and apply a methodology for assessing the balance of the economic, social, environmental,

and information components of sustainable development according to the criteria of reliability, dynamism, and acceptability. This article provided an argument regarding the need to transform information stability from factors into a determinant of sustainable development, thereby turning the traditional triad into a tetrad. Research results of small and medium-sized enterprises in Russia indicated that only two out of fifteen enterprises achieved a high level of balanced sustainable development. In most cases, regardless the sustainable development level, the balance of determinants is at a lower level. Moreover, cases with a high but not balanced sustainable development confirmed the assumption that a high sustainability level for some determinants can compensate for a low sustainability level for others. The results obtained therefore, prove that the real vector of sustainable development can be determined only in accordance with the balance degree.

Ataman et al. (2018) investigated the concept of green entrepreneurship and attention to the opportunities for developing the green entrepreneurship in Nigeria. The study used an exploratory study design. The findings of this research showed that most of the developed countries and the developing ones have tried hard to operate in compliance with the green requirements according to the policies set by international authorities. This research suggests that, as far as environmental sustainability is concerned, the green economy and green entrepreneurship must gain more Similar study done in west Africa to investigate the causal relationship between Entrepreneurship and environment using the co integrating regression (COINTREG) or Fully Modified Least Squares approach (FMOLS). The study utilised Annual time series data for the period spanning 2000-2012. The results which emanated from the findings revealed that there was the existence of a long run relationship between entrepreneurship and CO2 per capita (a measure of environmental sustainability). The results further reveal the existence of the Environmental Kuznets Curve (EKC). The percentage of the service sector shows a positive relationship with CO2 emission. It was further noted that this is owing to the erratic power supply in Nigerian economy which makes service firms dependent on self-power generators that make use of fossil fuels and emit large sum of CO2. All in all, it was observed that entrepreneurship has massive impacts on environmental sustainability.

A similar investigation was done on environmental entrepreneurship and sustainable development among SMEs in Nairobi County. The findings established the effect of environmental entrepreneurship and sustainable development as having a good fit since all were above or below the recommended levels. The effect of environmental entrepreneurship was indicated by regression model results (R2 0.526, P < 0.000). The five independent variables had significant effects on sustainable development. Innovation had a significant effect on sustainable development (p> 0.019), venture product had a significant effect on sustainable development (P> 0.004), product development too had a significant effect on sustainable development (P > 0.011), whereas market opportunity and resource opportunity had significant effect on sustainable development (P > 0.03 and P > 0.000) respectively. The study recommends that SMEs' transition to sustainable practices can also favour the greening of supply chains; indeed, responding to green requirements for SMEs' participation in global value chains. Green-related changes in transnational supply chains can be particularly challenging for SMEs, as they are requested to fulfil highly demanding green quality standards, while facing growing pressures to reduce costs, in particular, among other recommendations.

Gama (2020) conducted a study on Environmental Collaboration, Sustainable Innovation, and SME Growth in sub-Saharan Africa: Evidence from Malawi. The aim of the study was to investigate the impact of environmental collaboration on sustainable innovation and its impact on firm growth. The hypotheses were tested using data from 455 small and medium-sized enterprises (SMEs) in Malawi. The findings from the study show that environmental collaboration positively relates to sustainable innovation and this relationship is moderated by environmental commitment. The results also show that sustainable innovation is positively associated with SME growth. The results suggest that sustainable innovation mediates the environmental collaboration-SME growth relationship.

2.3. Knowledge Gaps

Despite the growing interest in the study of the relationship between environmental entrepreneurship and sustainable development globally, continentally, regionally and locally, a significant knowledge gap exists in the specific context of SMEs in Lusaka's Central Business District. Several factors contribute to this gap. There is a paucity of research that investigates environmental entrepreneurship within the Zambian context, especially in the SME sector. Existing studies primarily focus on deforestation and reforestation, larger corporations and international firms, leaving a void in our understanding of how SMEs in Lusaka's CBD area engage with environmental issues (Mfune, 2018). Data on the understanding and adoption of environmentally friendly practices, entrepreneurial initiatives of SMEs in Lusaka's CBD are scarce. To bridge this gap, it is crucial to gather comprehensive data on SMEs awareness, their adoption of environmental initiatives, and the extent to which these initiatives contribute to sustainable development (Choongo P, 2016). While there is a general understanding that environmental entrepreneurship can positively impact sustainable development, the specific mechanisms and outcomes remain unclear. This

gap prevents the researcher from drawing precise conclusion and provide evidence-based recommendations. Sustainability challenges and opportunities can vary significantly depending on the local context. Understanding the unique environment, social, and economic dynamics is essential for nuanced analysis.

2.4. Theoretical Frameworks

This study was anchored on three (3) theories, namely: normal activation theory, environmental entrepreneurship theory, and social cognitive theory. Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions. The theoretical framework demonstrates an understanding of theories and concepts that are relevant to the topic of the study and how they relate to the broader areas of knowledge being considered.

2.4.1. Normal Activation Theory

Normal Activation Theory (NAT) is a psychological framework that aims to understand the factors influencing individuals' intentions and behaviors toward pro-environmental actions. It was initially proposed by Schwartz in 1977 and has since been widely used in the study of pro-social and pro-environmental behaviors. At the core of NAT is the concept of "norm activation", which refers to the process through which individuals develop personal norms. Personal norms are individuals' self-expectations or feelings of moral obligation to engage in pro-social behaviors. These norms are constructed based on situational factors and personality traits. The situational factors, also known as "situational activators," include awareness of need, situational responsibility, efficacy, and ability. Awareness of need involves individuals being aware of the negative consequences on others if they do not engage in pro-social behaviors. Situational responsibility refers to individuals feeling responsible for the negative consequences if they fail to act pro-socially. Efficacy refers to individuals' belief in their ability to perform pro-social behavior, while ability refers to their actual capability to do so. On the other hand, the personality trait activators include awareness of consequences and denial of responsibility. Awareness of consequences is individuals' general awareness of the negative outcomes of not acting pro-socially, while denial of responsibility is the tendency to deny personal responsibility for any negative consequences.

2.4.2. Environmental Entrepreneurship Theory

Dean and McMullen (2007) formed a theory of environmental entrepreneurship from an environmental economics point of view, focusing on the idea of market failure. The theory of environmental entrepreneurship moves past the business/environment polarity and re-gives market constrains a role as an answer for environmental degradation. The theory of Environmental Entrepreneurship assumes an *objective ontology* and *objective epistemology* (Johnson and Duberly, 2000). This paradigm dominates natural science and has been broadly adopted by social scientists, including entrepreneurship scholars. Here the researcher is seen as objectively studying an objective reality, and therefore can stand back and observe the world without bias. The aim of this research is to establish the effect of environmental entrepreneurship on sustainable development among SMEs in Lusaka district. The entrepreneurial process is interestingly suited to address sustainability concerns because it can address the root problems of environmental issues in a way different solution cannot. Environmental entrepreneurship is the utilization of entrepreneurial activity to transparently address issues concerning sustainability (York and Venkataraman, 2010). The environmental entrepreneurship theory was chosen in this study in determining how environmental entrepreneurs move past the business/environment division and re-cast market forces as an answer for environmental degradation. The theory concludes that environmental degradation comes about because of the failure of markets, while the entrepreneurship literature contends that opportunities are innate in market failure. A synthesis of this literature proposes that environmentally applicable market failures represent opportunities for accomplishing profitability while at the same time decreasing environmentally degradation economic practices. It additionally infers conceptualizations of sustainable and environmental entrepreneurship, which detail how entrepreneurs seize the opportunities that are intrinsic in environmentally significant market failures.

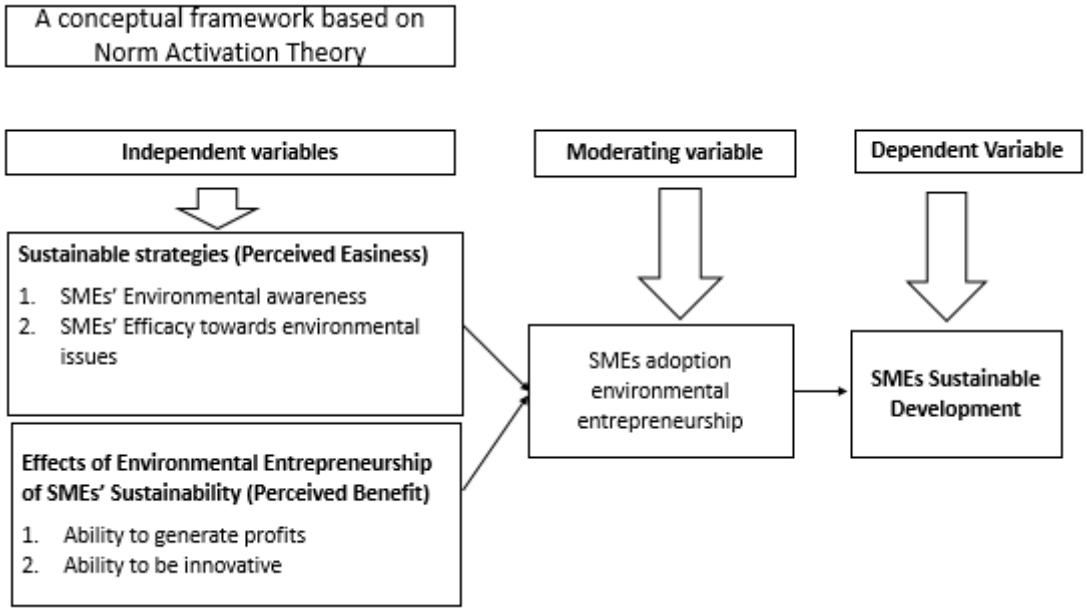
2.4.3. Social Cognitive Theory

Social Cognitive Theory (SCT) started as the Social Learning Theory (SLT) in the 1960s by Albert Bandura. It formed into the SCT in 1987 and argues that learning happens in a social setting with a dynamic and complementary interaction of the person, environment, and behaviour. The unique element of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement. This theory assumes both a *subjective* ontology and a *subjectiv*e epistemology. It asserts that not only will our understanding of the nexus be subjective, but the nature of the nexus itself is subjective, only coming to be through the construction of human beings surrounding it. This subjectivist ontology and subjectivist epistemology may be the most challenging of the paradigms to grasp. SCT considers the unique route in which individuals secure and maintain behaviour, while additionally considering the social environment in which individuals perform the behaviour. The theory considers a person's past

encounters, which factor into whether the behavioural activity will happen. These past encounters influence reinforcements, expectancies and expectations; all of which shape whether a person will take part in a specific behaviour and why a person participates in that conduct (Mcleod, 2016). The Theory of Social Cognition introduces the idea of knowledge structure; the mental models that are utilized to accomplish personal effectiveness in certain circumstances. Accordingly, since entrepreneurship is defined as relating to individuals or groups that make products/services for other people, Cognitive Psychology is increasingly valuable to assist set up the marvels related with entrepreneurship (Sánchez, 2011). The application of this theory allows this study to utilize variables that are directly related to environmental entrepreneurship and sustainable development. The social cognitive theory was chosen in this study because it relates to how people make decisions, a critical part of entrepreneurship and sustainable development.

2.5. Conceptual Framework

In research, a conceptual framework is used to outline potential courses of action or to demonstrate the optimal way to consider an idea or concept (Ravitch & Riggan, 2012). Conceptual framework is a versatile analytic tool applicable in a variety of contexts (Ravitch & Riggan, 2012). It is used to make distinctions between concepts and arrange them in a logical order. NAT has been applied to study various pro-environmental behaviors, such as recycling, energy conservation, and sustainable transportation choices. In this study NAT has been used develop the conceptual framework to try and understanding the behaviour of entrepreneurs as with regard to environmental entrepreneurship.



2.5.1. Operationalization of Conceptual Framework

The study aims to shed light on the measurement of the independent variables, moderating variable, and dependent variable, and how these constructs come together to elucidate the impact of SMEs environmental awareness, efficacy towards environmental issues, ability to generate profits and innovate on their sustainable development, with the moderating influence of SME adoption of environmental entrepreneurship.

2.5.1.1. Independent Variables

The study is anchored by two key independent variables; sustainable strategies and effects of environmental entrepreneurship of SMEs sustainability, each representing a distinct facet of SME behaviour and mind-set. These variables are crucial in understanding the factors that influence SMEs sustainable development efforts. The first independent variable under sustainable strategies; environmental awareness was operationalized through a questionnaire that assessed the extent to which SMEs are aware of environmental issues and their potential impact on society and the business itself. Assessing the understanding of ecological problems, including resource depletion, pollution and climate change. The questionnaire was designed to measure both cognitive awareness and affective awareness, capturing not only the knowledge of environmental issues but also the connection to these concerns by level of education and gender. The second independent variable measured SMEs perceived ability to generate profits while having positive impact on the environment through innovative practices that address environmental challenges effectively through eco-friendly practices such as waste reduction, energy conservation and sustainable sourcing. The moderating variable

represents the extent to which SMEs integrate environmental sustainability into their core business strategies. It is assessed through a combination of qualitative interviews that measure the adoption level. The dependent variable for this study was SMEs sustainable development, encompassing economic, environmental and social dimensions.

3 METHODOLOGY

The nature of the research topic or issue that is being addressed, the personal experiences of the researchers, and the audiences for the study all have a role in the decision on which research approaches or designs to use (Best and khan, 2006). In this study, the researcher adopted the mixed method approach. The mixed methods research approach refers to the methodological approach that incorporates and combines both quantitative and qualitative research and methods in a research study. Researchers use a mixed method design in order to broaden understanding by incorporating both qualitative and quantitative research, or to use one approach to better understand, explain, or build on the results from the other approach. Since this study contains the interaction of dependent and independent variables, the mixed method approach will allow the analysis and determination of relationship between dependent and independent variables. For instance, the level of environmental entrepreneurship, strategies, nature of the SMEs and sustainable development. The mixed method approach allows the researcher to establish the nature of the business SME, products and services offering, awareness of sustainable environmental entrepreneurship practices and their effect of the performance of the company and overall development. Therefore, mixed method approach is best for this study since it will give the researcher the logical ground, methodological flexibility and an in-depth understanding of smaller cases, which ultimately enables researchers to answer research questions with sufficient depth and breadth. The study targeted SMEs in Lusaka CBD. The sample size was determined with the help of the Cochran sample size formula with 278 as sample size. Questionnaires and interview schedules were used with SPSS and content analysis being used as data analysis tools respectively. Probability and none probability sampling techniques were employed in the study.

4. FINDINGS AND DISCUSSION

The study has revealed that there exists a significant relationship between innovation as an environmental strategy and sustainable development among SMEs because the P-Value from the SPSS output is less than 0.01. The correlation coefficient of 0.482 indicates that there is a moderately positive relationship between innovation as an environmental strategy and sustainable development among SMEs. This suggests that innovation as an environmental strategy has a significant impact on sustainable development among SMEs, as the P-Value from the SPSS output is less than 0.01.

However, when investigated separately, the results indicated that, there is a no significant relationship between environmental implementation and reduced profits since the P-Value of 0.252 from the SPSS output was higher than 0.01 which is the level of significance. The coefficient of correlation of -0.072 suggests that there is a weak negative relationship between environmental implementation and reduced profits. This suggests that environmental strategy or policy implementation has no effect on the profitability of the SMEs. This is not consistent with the suggestions by Ogujiuba et al., 2022; Pascucci et al., 2022; Patriarca & Magnusson, 2007; Sendawula, 2018), who assert that, environmental protection is an expensive venture to business that is considered to yield little or no profits and hence some businesses resorts to maximising profits at the expense of the environment.

There is a significant relationship between efficacy as an environmental strategy and SMEs sustainable development since the P-Value from the SPSS output is below 0.01 which is the level of significance as indicated in the findings. The coefficient of correlation of 0.926 suggests that there a very strong positive relationship between efficacy as an environmental strategy and SMEs sustainable development. This suggests that, efficacy as an environmental strategy has a significant influence on sustainable development.

According to Mwakambirwa (2013) in the study conduct in Kenya, the results suggested that, the effect of environmental entrepreneurship was indicated by regression model results (R2 0.526, $P < 0.000$). The five independent variables had significant effects on sustainable development. Innovation had a significant effect on sustainable development ($p > 0.019$), venture product had a significant effect on sustainable development ($P > 0.004$), product development too had a significant effect on sustainable development ($P > 0.011$), whereas market opportunity and resource opportunity had significant effect on sustainable development ($P > 0.03$ and $P > 0.000$) respectively.

The findings of the study suggested that there is no significant relationship between the adoption of environmental entrepreneurship and the profitability of SMEs. This suggests that the adoption of environmental entrepreneurship does not affect the profitability of SMEs in Zambia. However, innovation indicated a positive relationship towards the adoption of environmental entrepreneurship. The P-Value from the SPSS output is below 0.01 which the level of significance. The coefficient of correlation of 0.482 suggests that there a moderate positive relationship between Innovation as an environmental strategy and Sustainable

development among SMEs in Zambia. There is a significant relationship between Efficacy as an environmental strategy and SMEs sustainable development since the P-Value from the SPSS output is below 0.01 which the level of significance as indicated. The coefficient of correlation of 0.926 suggests that there a very strong positive relationship between efficacy as an environmental strategy and SMEs sustainable development.

The few sampled interviewees, indicated their willingness to comply with sustainable business practices which were environmentally friendly but lamented the cost involved and the general lack support for growth and sustainability of their businesses.

"We are willing to manage solid wastes and avoid disastrous business practices but support is needed from government to help us manage this on a sustainable business. We are definitely aware of the requirements and benefits but the business environment under which we operate requires governmental intervention to lighten the burden in order for us to comply with all these requirements." Taxes are too high, the cost of doing business, the multiplicity of trading licences, lack of proper vending regulations, inadequacies of the local authorities in solid waste collections and disposals, among the many challenges, making compliance unsustainable."

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The analysis of the effects of environmental entrepreneurship on sustainable development among Small and Medium Enterprises (SMEs) in the context of Lusaka Central Business District (CBD) has shed light on the critical role that proactive environmental practices can play in fostering sustainable economic growth and societal well-being. This study has provided valuable insights into the strategies that could be adopted to embrace environmental entrepreneurship and the potential benefits that can accrue to SMEs and the broader community. It is evident from the findings of this study that environmental entrepreneurship is not just a moral obligation but also a strategic imperative for SMEs operating in the Lusaka CBD and beyond. The integration of environmentally responsible practices into business operations can lead to several advantages, including cost savings through energy efficiency, waste reduction, and resource conservation are of paramount importance. Moreover, it can enhance the reputation and brand image of SMEs, attracting environmentally conscious consumers and investors. In an era where sustainability is increasingly becoming a competitive advantage, SMEs that proactively engage in environmental entrepreneurship are likely to be better positioned for long-term success.

5.2. Recommendations

The SMEs in Zambia should adopt new technologies which encourage environmentally friendly production processes. Sustainable entrepreneurship increasingly recognizes the transformative potential of digital technologies to mitigate and counteract grand environmental and social challenges through entrepreneurial action. The adoption of improved technology in production reduces carbon emission and produce products that environmentally friendly. Currently the SMEs in Zambia are encouraged to give customers their goods in a plastic bag which biodegradable because of their technological production which makes them to be environmentally friendly.

SMEs should design innovative products that support environmental entrepreneurship. Though most SMEs in Zambia are into retailing, some have ventured into production of goods and it is therefore important that they design products which are less harmful to the environment.

The government should foster waste disposal mechanisms that are environmentally friendly to help achieve sustainable development among SMEs. And also, there is currently demand for plastics, tins and cane refusals which are being sold to recycling companies like MMI steels in Zambia. If only SMEs can design bins which separate their waste into plastic and canes they can generate extra income from their disposal.

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