

Analysis of climate change on entrepreneurial behavior towards business sustainability in South Africa

*Renell **Chetty**, Andrisha **Beharry-Ramraj** and Pfano **Mashau**

School of Management, IT and Governance, University of KwaZulu-Natal,
Pietermaritzburg, 3209, South Africa

*Renellchetty2@gmail.com

Abstract

This study aims to investigate the behaviours of entrepreneurs towards business sustainability in response to the impact of climate change. The study provides a South African perspective on entrepreneurial business sustainability and an analysis of business sustainability. Adopting a desktop study, a comprehensive literature review that utilised recent data through various databases such as EBSCO host, Scopus, Taylor and Francis and Google Scholar was carried out. Findings reflect that entrepreneurs are impacted positively by entrepreneurial business sustainability through financial gains and reduced operational costs. Entrepreneurs, globally, have contributed to entrepreneurial business sustainability by trying to reduce energy consumption and waste in their business operations through the sustainable practices they undertake such as reducing resources and emissions. The study found that entrepreneurial business sustainability has positively impacted entrepreneurship goals, society and the environment which is evident in better business efficiencies. This impact is achieved through decreased emissions, decreased pollution, proper waste management and by being eco-friendly. Consequently, these actions have resulted in increased sales.

Keywords: Climate, Entrepreneurship, Sustainability, Finance, Business

Introduction

In the 21st century, where the global economy has continued to stutter, climate change mitigation has increased in urgency and complexity (Greco & Jong, 2017). Climate change has been one of our greatest challenges, and its adverse impacts have undermined the efforts of all countries to achieve sustainable development. Greco & Jong (2017) state that this has encouraged signalled entrepreneurs to act accordingly and seek ways to increase their production efficiency. Entrepreneurs worldwide have adopted sustainable practices in their business activities and have increasingly addressed social and environmental problems. As a result of climate change, entrepreneurs have been tasked with increasing production efficiency in their businesses. Therefore, the focus on entrepreneurial business sustainability puts forward its significance and its requirement for sustainable entrepreneurship to address environmental and social challenges in this challenging era. Entrepreneurs play a huge role in protecting the environment through sustainable practices. Multiple research studies have resulted in a clear understanding of sustainable entrepreneurship. However, the impact of sustainable practices on entrepreneurship

remains underexposed. Therefore, this study seeks to contribute to the dialogue of sustainable business practices and how entrepreneurs are impacted within the domain of climate change.

This study reviews existing studies on entrepreneurial business sustainability in South Africa and other parts of the world, which were published in journals between 2009 and 2020. Entrepreneurship has been adopted globally and has been recognised as a fundamental driver for economic growth, economic development and non-economic development, triggering job creation, economic independence and improved products and services (Gwija, Iwu, & Eresia-Eke, 2014). Although entrepreneurship has been instrumental in economic growth, entrepreneurs globally contribute significantly to environmental damage through entrepreneurial activities (Greco & Jong, 2017). Economic and technological progress at any price is unsustainable and no longer feasible without considering environmental impact. Greco and Jong (2017) further state that entrepreneurs should seek to adopt sustainable practices within their organisation because of their interaction with the societal and physical environments. The number of

entrepreneurs who have adopted sustainable business practices has been insufficient and there needs to be an increase in this form of practice (Greco & Jong, 2017). Muñoz (2013) states that as the number of social and environmental issues has grown in the past decade, entrepreneurs have been provided with new opportunities. This has resulted in multiple environmentally-focused entrepreneurs. For example, according to Barclay (Investors and startups are focusing on green, sustainable businesses, 2022), there are various unique start-ups to have taken effect in South Africa such as Mzansi Meat which produced ethically sourced animal cells to cultivate lab-grown meat products and Earthly Co which provides an alternative to plastic toothpaste encasements.

Entrepreneurs in developing countries like South Africa have undertaken sustainable business practices to improve production efficiency but they face multiple challenges such as a lack of resources. Muñoz, Frank, Nicolopoulou, and Hockerts (2018) state that businesses can have sustainable aims (such as counteracting climate change, preserving the ecosystem, reducing environmental degradation and deforestation and

improving the environment) and still be profitable.

Entrepreneurial business sustainability

Entrepreneurial business sustainability has been embraced by entrepreneurs globally with the aim to reduce negative business impacts on the environment, increase their production efficiency and save costs. This section reviews the literature on entrepreneurial business sustainability, the effects of climate change on sustainable businesses and the advantages and disadvantages of entrepreneurial business sustainability.

Entrepreneurial business sustainability can be defined as a construct of sustainable and entrepreneurial business strategies aimed at increasing environmental, social and business value all at once (Weidinger, Fischler, & Schmidpeter, 2014). According to Jayaratne, Sullivan, and D'Souza (2019), entrepreneurial business sustainability entails harmonising two multifaceted components, namely:

- 1) The tactful handling of social and environmental goals.
- 2) The concerns of meeting business goals by reaching certain financial objectives.

Jayarathne, Sullivan, and D'Souza (2019) further state that entrepreneurial business sustainability has been known to enhance the calibre of processes while taking measures to mitigate adverse social and environmental effects. Weidinger, Fischler, and Schmidpeter (2014) state that this form of entrepreneurship has fostered key business answers to pressing ecological and social issues. Global warming has become a major threat to human wellbeing (Weidinger, Fischler, & Schmidpeter, 2014). Economic development and enviro-societal improvements are continuously at the forefront of business objectives. Sustainability has been known to raise companies' results and simultaneously generate ecological and societal benefits to both the environment and public sectors (Weidinger, Fischler, & Schmidpeter, 2014). In this era, globally, this approach has been extensively implemented by larger businesses. However, small and medium enterprises (SMEs) have failed to incorporate it sufficiently. Entrepreneurial business sustainability consists of sustainable entrepreneurs that are driven by the aim of promoting sustainable development that does not inhibit future generations

from reaching their goals when reaching the goals of the current generation.

Features of corporate social responsibility (CSR) have been incorporated into entrepreneurial business sustainability. CSR entails good social advancements that go above and beyond a business's social goals while oftentimes without taking into account feats that are beneficial to entrepreneurial advancements (Muñoz, Frank, Nicolopoulou, & Hockerts, 2018). Various establishments worldwide have acted positively towards providing information about their environmental impact while adhering to standard practices of reducing their carbon footprints, such as the implementation of ISO 26000 or the ten principles of the UN Global Compact (Weidinger, Fischler, & Schmidpeter, 2014). Since the beginning of this century, such practices have resulted in a new normal whereby companies take into account environmental and socio-economic issues (Weidinger, Fischler, & Schmidpeter, 2014). Climate change challenges have created market opportunities for entrepreneurs who focus on business sustainability. Such opportunities entail offering new environmentally friendly products and services that require less to produce and

consume and are inexpensive to entice more customers. This includes opportunities to address concerns about sustainability by providing new products and services that reduce energy and natural resource use and production costs. Initiatives of sustainability practices have not only come from the executive level but from also employees who have equally provided valuable contributions. According to Maryville University (2020), employees at an English Unilever tea factory successfully downsized their waste by saving 9.3 tons of paper. This was done by merely altering the size of their teabags. The majority of businesses have introduced a plan pertaining to sustainability issues most applicable to their business although its adoption has been shown to be highly erratic, especially for some companies such as those in the food and beverage industries (Weidinger, Fischler, & Schmidpeter, 2014).

Entrepreneurial business sustainability has caused an influence on the entire company of entrepreneurs by broadening the range of business goals from income-orientated to the formation of shared value and joint benefits (Weidinger, , Fischler, & Schmidpeter, 2014). Products, services, management and process

improvements are aspects that could be swiftly achieved through the expansion of current sustainable business models for entrepreneurs (Weidinger, Fischler, & Schmidpeter, 2014). According to Hall, Daneke, & Lenox (2010), entrepreneurs have had to ensure that their businesses are financially stable in order to survive. There is a need to continuously ensure that they still take financial factors into consideration in the future. Organisations that have focused solely on environmental sustainability and survival from government funding cannot be considered entrepreneurial because they are not sustainable without government funding.

Climate change and its effects on sustainable businesses

Climate change has been one of the most difficult challenges for the environment and society (Coppola, Krick, & Blohmke, 2019). The effects of climate change have been felt globally from changes in weather that negatively impact society and businesses. Society has embraced sustainability to combat climate change, and consumers have shifted to environmentally-friendly products and services. Businesses globally have felt pressured to undertake sustainable business practices to satisfy customers in

response to climate change (Coppola, Krick, & Blohmke, 2019).

Climate change has impacted businesses in many ways. There has been a creation of new business risks through the effects of dangerous weather changes on operations and a shortage of supplies due to a lack of water. Business costs have increased globally due to a transition to different forms of technological regulations and markets to cater for what society requires in their response to climate change (Coppola, Krick, & Blohmke, 2019). The change in the behaviour of society has affected the asset values of businesses and undermined the feasibility of existing goods and services. Entrepreneurs have been held accountable for climate change. Businesses have also been held liable for greenhouse gas emissions which is evident in the increased legal cases against entrepreneurs. Although climate change has mostly impacted businesses negatively, it offered business opportunities for entrepreneurs. Businesses have aimed to improve resource productivity through increased energy efficiencies thus resulting in reduced costs (Coppola, Krick, & Blohmke, 2019). There have been opportunities for innovative products and

services which are eco-friendly and positively impactful to businesses, society and the environment. Businesses' supply chains are more resilient through a transition to renewable energy. These have fostered competitive behaviour among businesses and unlocked innovative market opportunities. (Coppola, Krick, & Blohmke, 2019).

South Africa has been an extremely carbon-intensive economy due to the extensive use of fossil fuels. Businesses have therefore been exposed to global trade barriers and this has progressively been factored into investment decisions (WWF, 2020). Tourism, Agricultural and insurance businesses have felt the physical effects of climate change. South Africa has felt the pressure of water shortages for years, which consequently has affected businesses (WWF, 2020). The country has many agricultural entrepreneurs whose businesses have been negatively affected by climate change which is responsible for the changes in the soil, temperatures and changes in rainfall patterns. All these have in turn affected the productivity of crops. Businesses in South Africa have also been impacted by changes in policies and legislation that addressed climate change. There has also been an increase

in competitiveness in South African businesses as entrepreneurs have taken advantage of innovative opportunities (WWF, 2020)

Returns of entrepreneurial business sustainability

1) Reduction in entrepreneurial business costs: Although the initial investment in sustainability practices in businesses could be expensive, over time, entrepreneurs can save money if sustainability is prioritised. Maryville University (2020) states that many businesses integrate sustainable practices to improve operational efficiency and cut costs. Companies have gone green in order to reduce costs by reusing materials.

2) Improvement in the reputation of businesses: Businesses try to establish a good image through the alignment of messages with actions. As customers view sustainability as favourable, businesses with sustainable values are eager to showcase this as it shows customers that they are not only concerned financially but are also concerned about the world. It is advantageous in marketing businesses and developing entrepreneurs' brand identity (Hoogendoorn, van de Zwan, & Thurik, 2017; Maryville University, 2020).

3) Competitive Advantage: Hoogendoorn, van de Zwan, and Thurik (2017) suggested that businesses that practice sustainability perform better than other business rivals that don't have a sustainable strategy. This ensures that the value they created does not spill over to others. The drive to create collective gains over private gains increases the willingness of sustainable entrepreneurs to mobilise financial resources for activities with limited value-capture potential. Financial risks are viewed differently by entrepreneurs given that they focus more on potential gains.

4) Increasing the bottom line: Businesses can earn financial gains and boost their triple bottom line with sustainable business practices. Factors contributing to the income of sustainable businesses include increased novel strategies, decreased business-related costs, enhanced public status and attracting like-minded customers who seek out sustainable alternatives for the betterment of the environment and society (Maryville University, 2020).

5) Increasing and decreasing production and costs: The manner in which companies manage the electricity and water consumption rate and waste production assists in saving overhead

costs. Reusing materials and utilising low-consumption lighting reduces costs (Maryville University, 2020).

6) Improvements in retaining and recruiting employees: Businesses that implement environmental programmes attract employees since they actively distance themselves from organisations involved in environmental disasters (Malhotra, 2020).

7) Benefits for firms who comply with regulations: Malhotra (2020) states that as climate change and global warming have caused the environment to deteriorate, many countries have imposed regulations with the aim of protecting the environment. Strict regulations are imperative as many firms are not concerned about the deterioration of the environment. Numerous companies have improper disposal of hazardous waste while others consume electricity and/or water haphazardly. Regulations are thus welcoming and with the incorporation of sustainable business practices, firms have avoided immense penalties and fines.

8) Incentivising funds and investments: Businesses that have adopted sustainable practices have attracted investors more than businesses that don't have sustainable plans (Malhotra, 2020).

Shortcomings of entrepreneurial business sustainability

1) Lack of resources: Sustainable businesses find it difficult to obtain the necessary financial resources (Gast, Gundolf, & Cesinger, 2017). Some businesses also do not think they possess the required resources such as time and money to properly and effectively implement sustainability strategies.

Finding investors that share the same vision, values and ideals as sustainably focused entrepreneurs is often very difficult. Government funding is not steady and may change at times which is highly risky. As such, sustainable businesses that rely on this type of funding may not be able to grow their enterprises with sufficient funding.

2) Barriers to market entry: Sustainable businesses face barriers to market entry as well as success in the market. As society continues to discredit environmental and sustainable business practices, it has been challenging to convince a critical mass to purchase green products (Gast, Gundolf, & Cesinger, 2017).

3) Lack of skills: Sustainable businesses and entrepreneurs are lacking in technical skills, experienced workers and dedicated management which negatively impacts

innovation, product generation and market creation (Gast, Gundolf, & Cesinger, 2017).

4) Unengaged personnel: Some people in the firm such as employees may not support entrepreneurial sustainable business initiatives as they may have their own ideas (Maryville University, 2020).

Entrepreneurial business sustainability in South Africa

In developing countries, there is a high number of SMEs and these are considered as one of the most important factors in economic and social growth, employment, local development and poverty reduction (Ogujiuba et al. 2020). Entrepreneurial business sustainability has been an aspect extensively recognised by small enterprises around the world. South Africa has been recognised as one of the largest economies in Africa with rich natural resources. In South Africa, SMEs represent the majority of businesses. This form of entrepreneurship provides many advantages, as discussed above; however, small businesses in South Africa have caused environmental and social challenges such as environmental degradation, exhaustion of natural resources and emission of dangerous greenhouse gases. It is crucial that small

enterprises in South Africa do not get carried away by environmental and social considerations at the expense of pursuing growth in profit. Ogujiuba et al. (2020) further state that in South Africa challenges such as a lack of access to adequate finance, administration, lack of technical skills, smaller markets, shortages of raw material, lack of information, inadequate transportation and communication and rising crime rates have made it significantly difficult for SMEs to successfully adopt sustainable programmes.

This literature review looked at journal articles and other sources relating to entrepreneurial business sustainability globally and in South Africa and the benefits and shortcomings. Entrepreneurs contribute significantly to entrepreneurial business sustainability.

Research methodology

Through a desktop study, the objectives of this research paper were examined. The literature sources were carefully selected to unpack the concept of entrepreneurial business sustainability and its contribution. Fifteen academic journals focusing on entrepreneurship, entrepreneurial business sustainability, climate change, and entrepreneurship business practices were examined in

order to achieve the research objectives of this study. The analysis attempted to understand the notions of entrepreneurial business sustainability and its advantages and disadvantages in each piece of literature. A constructionist philosophy was employed in order to select sources that would provide in-depth explanations and details about entrepreneurial business sustainability.

The secondary data used in this work, centred on entrepreneurship and sustainable business practices, was sourced electronically from various textbooks, articles, journals and scientific works. The data was sourced from various research articles accessed through the University of KwaZulu-Natal Database: EBSCOhost, Scopus, Taylor and Francis and Google Scholar.

Since the study employed content analysis, the following steps were followed to analyse the secondary data. The selection of the data for analysis was guided by the research questions. Specific key texts were identified as units and categories of analysis, and then thematic patterns were followed during analysis to draw conclusions. Key terms, such as sustainable entrepreneurship and entrepreneurial business sustainability were used to examine the relevant

literature. Additionally, relevancy was established by examining the abstracts and conclusions of the potential literature (Sekaran & Bougie, 2016).

Findings

The first part of this section determines the contribution of entrepreneurs to sustainable practices and the impact of sustainable practices on entrepreneurs. Until recently when major concerns regarding climate change began to emerge, not many studies have been undertaken on the contributions of entrepreneurs to sustainable business practices and the impacts of entrepreneurial business sustainability on entrepreneurs. The research involved a background on sustainable entrepreneurs and sustainable business practices and provided a global and South African perspective to the study. The study focused on the context of entrepreneurial business sustainability, its benefits and costs in developing countries like South Africa. This allowed for a thorough understanding of the impacts of entrepreneurial business sustainability on firms, society and the environment.

The study inculcates the literature relating to the theory regarding entrepreneurship, sustainable entrepreneurship, and entrepreneurial

business sustainability. Other similarities included a literature review of entrepreneurial business sustainability in South Africa.

The differences that emerged from the findings were the impacts of entrepreneurial business sustainability on entrepreneurs and the contributions of entrepreneurs to sustainable business practices. The current literature on the impacts of entrepreneurial business sustainability was limited and findings were based on combining the various literature.

Findings from the reviewed literature show that climate change has driven entrepreneurs to adopt sustainable practices due to the impacts of climate change on their businesses. According to Gast, Gundolf, and Cesinger, (2017), entrepreneurs who have sustainably conducted business were influenced by their passion for entrepreneurial sustainability and their own personal values. Focusing on sustainability has formed a part of the foundation of the firm's daily activities. Environment-related behaviours have often been intertwined with the entrepreneur's vision and the organisation's operations. Business practices of many enterprises have had potential environmental

impacts which have affected corporate strategies, therefore responsible behaviour by enterprises has become a vital component of the businesses' identity. Such enterprises have integrated sustainability concerns into their strategic actions by redesigning their business practices and aligning these practices with environmental requirements (Gast, Gundolf, & Cesinger, 2017).

Entrepreneurs globally have tried to reduce energy consumption and waste in their business operations by undertaking sustainable practices. Entrepreneurs who have successfully incorporated entrepreneurial business sustainability in their companies have been identified by the substantive growth they have attained in the organisational and societal areas (Muñoz & Cohen, 2018).

The two-fold aim of growth in profit and sustainable development has been shown to be achievable by formulating and executing an all-inclusive value proposition. Thus, a seamless connection between selfless charity and business proliferation is now possible.

Entrepreneurial strategic behaviours that have been used effectively have created value for companies and society by creating economic value and shift

towards a more sustainable society (Muñoz & Cohen, 2018; Tilley & Young, 2009).

Factors such as the perception of the environment (especially considering its vulnerabilities) limit some entrepreneurs' ability to successfully identify prospects for sustainable development (Muñoz & Cohen, 2018). In addition, self-efficacy has been identified as an important aspect of entrepreneurial objectives and execution. However, it was found that entrepreneurs who were willing and intended to seamlessly unify their aspirations to create wealth and positively impact the environment and society were the main driver of entrepreneurial business sustainability.

Globally, entrepreneurial business sustainability has evolved significantly and entrepreneurs have adopted multiple practices to improve production efficiency and reduce negative environmental impacts. In South Africa, multiple businesses have gone and continued to go green in their operations to reduce the negative environmental impacts. According to Sonae Arauco, (2020), enterprises ranging from SMEs to large corporate giants have taken the initiative to incorporate sustainable practices such as lean management and

reduction in the impacts of their activities on the environment through minimising various forms of waste such as over-production, over-processing, inventory, waiting, transportation, motion and defects. They have also utilised renewable resources, lowering their carbon footprints and limitations in their emissions.

Entrepreneurs in South Africa have taken to recycling paper and plastic in their business processes and then producing innovative products using these materials. This has proven to save a lot of landfill space and carbon emissions. Other businesses have contributed to entrepreneurial business sustainability by producing high-quality, eco-friendly products and through the provision of renewable energy sources to consumers. South African entrepreneurs have not fully exploited the ability to go green due to several challenges. Entrepreneurs who have incorporated efficient lighting and reuse of existing materials have contributed to entrepreneurial business sustainability and reduced business costs, resulting in saving money (Sonae Arauco, 2020).

The study is also set to determine the impact of sustainable practices on entrepreneurs. The findings from the

literature suggest that financial implications for enterprises that have adopted or transitioned to entrepreneurial business sustainability: According to Muñoz and Cohen (2018), multiple authors have undertaken research on how a commitment to sustainable business practices has generated financial rewards for enterprises and the time it takes for diverse sustainable projects so as to generate a financial return on investments. The initial investment in entrepreneurial business sustainability may cost a lot. However, a favourable link has generally been between entrepreneurial business sustainability and a company's economic performance. In order to successfully circumvent the burden of newness and to produce a profit, new venture entrepreneurs are required to possess calculated choices that have a persistent and maintainable direction (Muñoz & Cohen, 2018).

Gibbs (2009) states that there have also been other positive impacts on firms that adopt entrepreneurial business sustainability such as greater business efficiency due to the reduction in emissions, pollution and waste production. Entrepreneurs who have adopted such processes could also avoid

future liabilities such as the potential cost of contaminated land. Entrepreneurial business sustainability has proven to increase and improve the recruitment and retention rate of the workforce as people want to work and associate themselves with a more sustainable focused work environment. Eco-friendly products or services provide the company with the potential for increased sales. People in this era are becoming accustomed to sustainable products. Maryville University(2020) states that a combination of acts from governments, other stakeholders, and businesses that practice entrepreneurial sustainability can realise multiple financial benefits.

There needs to be more scope and inspection of the differences between countries in the implementation of entrepreneurial business sustainability. Understanding the difference will offer helpful insight into entrepreneurial business sustainability. The impacts of entrepreneurial business sustainability on SMEs and large enterprises need to be further researched. The impacts of entrepreneurial business sustainability on entrepreneurs must be researched thoroughly. An empirical study can be done to evaluate the effects of climate

change on different businesses and the advantages and disadvantages of entrepreneurial business sustainability.

Conclusion

This study concludes that during climate change, entrepreneurs have to adopt sustainable business practices. However, they should seek to increase their production efficiency. Entrepreneurs have been shown to portray both opportunistic and altruist motives in entrepreneurial business sustainability and have significantly contributed to entrepreneurial business sustainability through recycling, reusing, and embracing efficient lighting. The study found that entrepreneurial business sustainability has positively impacted entrepreneurship goals, society, and the environment. This impact would make businesses more efficient through decreased emissions, reduced pollution and well-managed waste, as well as through being eco-friendly, which overall results in increased sales.

Climate change has been the greatest challenge faced by humanity. As the planet is deteriorating, there are calls for entrepreneurs to be more sustainable in their business practices. As more entrepreneurs have become concerned with sustainability, they have realised

that this is the form of innovation that matters the most. Entrepreneurial business sustainability can improve the bottom line of businesses. Therefore, recommendations include:

- Creation of a sustainable committee: Businesses can select a team of volunteers that will be responsible for sustainability initiatives in the workplace. This ensures that workers are accountable explicitly for sustainability. They can be tasked with following up with others and boosting and creating a sustainable culture in the workforce. They could be given decision-making power and would have to communicate ideas and challenges to fellow employees.
- Transition to digitisation: Although significant developments in digital technology exist, many businesses continue to utilise more paper than necessary. The use of paper should be avoided or reduced wherever possible and businesses must use digital technology to the fullest extent, such as computers and smart devices that have been integrated into the workplace.

- Development or use of sustainable business models for entrepreneurs: This gives businesses a roadmap for the pursuit of social and environmental impacts.
- B Corp Certification: Firms will have a sustainability consultant available to measure business practices. This is a global and non-profit organisation that periodically evaluates firms' social and environmental performance every two years (Lein, 2020).
- Recycle and Reuse: Recycling results in trash being kept out of the landfill and the incinerator and also contributes socially to job creation. Businesses can reduce costs by creatively reusing existing materials.
- Measuring and analysing greenhouse gas emissions: Firms can contribute to reducing climate change by measuring their greenhouse gas emissions. Companies can get assistance from private agencies that are carbon footprint certified to measure their emissions (Fournier, 2017). After emissions are recognised, they should be analysed to determine the highest pollutant in a firm's business practices. Thereafter, solutions to reduce emissions can be considered by firms.
- Energy Consumption Reduction: Firms can use efficient lighting in their practices which will reduce operational costs. Using electricity only when essential is a great action that firms can implement. By being more attentive to other daily routine actions, firms can reduce their energy consumption and reduce negative impacts on the environment.
- Utilise renewable energy: Many entrepreneurs have embraced renewable energy and continue to adopt this into their businesses. This could help firms reduce the climate footprint and operational costs of the business
- Adopt lean management practices to reduce waste: Adoption of lean management in businesses ensures quality in production and reduces various forms of waste such as overproduction and over-processing. This will reduce the climate footprint of businesses.
- Optimisation of employee transportation or remote working: Transportation contributes to one

of the biggest sectors of greenhouse gas emissions. Entrepreneurs can encourage carpools and public transportation and providing discounts on public transport can reduce indirect emissions. Firms can also make employees work remotely if the job is not a value-adding activity in the business practice which reduces energy consumption at work.

- The use of eco-friendly equipment and infrastructure: This contributes to keeping up with the latest environmental standards.
- Supplier selection: Entrepreneurs must select sustainably certified suppliers with ISO 26000 certifications or other CSR certifications. This will satisfy environmentally-focused customers and increase sales.

- Governments must provide adequate green funding for entrepreneurs and entrepreneurs must take full advantage of this.

South Africa has experienced many challenges in adopting sustainable practices, but the country is continuously embracing the entrepreneurial business sustainability approach with the aim of protecting the environment and financial gains. The issue of sustainable practices in business and green business has received immense attention in the last decade in entrepreneurial research. In the 21st century, no other issue has dominated the concerns about entrepreneurial business sustainability more than the challenge of climate change. Climate change has cut across the entire global economy and currently, there is a matter of urgency to make sustainable entrepreneurship a mainstream topic in businesses. Climate change is only getting worse and the environment is deteriorating.

References

Barclay, L. (2022, April 22). *Investors and startups are focusing on green, sustainable businesses*. Mail and Guardian. <https://mg.co.za/business/2022-04-22-investors-and-startups-are-focusing-on-green-sustainable-businesses/>

- Bergquist, A.-K. (2017, November 7). Business and Sustainability: New Business History Perspectives. Harvard Business School.
https://www.hbs.edu/ris/Publication%20Files/18-034_39d7d71d-9e84-4e8b-97c0-0e626f75293c.pdf.
- Coppola, M., Krick, T., & Blohmke, J. (2019, December 12). Feeling the heat? Companies are under pressure on climate change and need to do more.
<https://www2.deloitte.com/us/en/insights/topics/strategy/impact-and-opportunities-of-climate-change-on-business.html>
- Fournier, C. (2017, September 26). 10 Actions Companies Can Adopt To Fight Climate Change.
<https://youmatter.world/en/actions-companies-climate-change-environments-sustainability/>
- Gast, J., Gundolf, K., & Cesinger, B. (2017). Doing business in a green way: A systematic review of the ecological sustainability entrepreneurship literature and future research directions. *Journal of Cleaner Production*, 147, 44-56.
<https://doi.org/10.1016/j.jclepro.2017.01.065>
- Gibbs, D. (2009). Sustainability Entrepreneurs, Ecopreneurs and the Development of a Sustainable Economy. *Journal of Greener Management International* 55, 66, 63-78.
<https://doi.org/info:doi/>
- Greco, A., & Jong, G. D. (2017, June 01). Sustainable Entrepreneurship: Definitions, Themes, And Research Gaps. https://www.rug.nl/cf/pdfs/cse/wps6_angela.pdf
- Gwija, S. A., Iwu, C. G., & Eresia-Eke, C. E. (2014). Challenges and Prospects of Youth Entrepreneurship Development in a Designated Community in the Western Cape, South Africa. *Journal of Economics and Behavioural Studies*, (6) 1,10-20.
<http://hdl.handle.net/2263/45090>
- Hall, J. K., Daneke, G. A., & Lenox, M. J. (2010). Sustainable Development and Entrepreneurship: Past Contributions and Future Directions. *Journal of Business Venturing*, (25) 1, 441-446. DOI: 10.1016/j.jbusvent.2010.01.002
- Hoogendoorn, B., van de Zwan, P., & Thurik, R. (2017). Sustainable Entrepreneurship: The Role of Perceived Barriers and Risk. *Journal of Business Ethics*, (1) 2. DOI: 10.1007/s10551-017-3646-8
- Jayarathne, M., Sullivan, G., & D'Souza, C. (2019). Sustainability Entrepreneurship: From Consumer Concern Towards Entrepreneurial Commitment. *Department of*

- Entrepreneurship Innovation and Marketing*, 11(7076), 1-13.
<https://doi.org/10.3390/su11247076>
- Lein, S. (2020, January 24). 5 Ways to Make Your Business More Sustainable.
<https://www.google.com/amp/s/www.entrepreneur.com/amphtml/344964>
- Malhotra, R. (2020, January 24). 5 benefits of becoming a sustainable business.
<https://www.smallbusinessbonfire.com/sustainable-business-2/>
- Maryville University (ND). The importance of environmental awareness when running a business. <https://online.maryville.edu/blog/importance-of-environmental-awareness-when-running-a-business/>
- Muñoz, P. (2013). The Distinctive Importance of Sustainable Entrepreneurship. *Current Opinion in Creativity, Innovation and Entrepreneurship*, 2(1), 1-5. DOI:
<https://doi.org/10.11565/cuocient.v2i1.26>
- Muñoz, P., & Cohen, B. (2018). Sustainable Entrepreneurship Research: Taking stock and looking ahead. *Business Strategy and the Environment* (2) 1, 1-6 (1099-0836. DOI:
[10.11565/cuocient.v2i1.261](https://doi.org/10.11565/cuocient.v2i1.261)
- Muñoz, P., Frank, J., Nicolopoulou, K., & Hockerts, K. (2018). Advancing sustainable entrepreneurship through substantive research. *International Journal of Entrepreneurial Behavior & Research*, 24(2), 322-332. <https://doi.org/10.1108/IJEBR-03-2018-427>
- Ogujiuba, K., Nico, R., Naseer, M., Ogujiuba, C., & Estelle, B. (2020). SMEs and Sustainable Entrepreneurship in South Africa: Impact Analysis of Contextual Factors in the Services Sector. *Euro Economics*, 3(39), 7-21
<https://ideas.repec.org/a/dug/journal/y2020i3p7-28.html>
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.). New York: Wiley.
- Sonae Arauco. (2020, December 12). Green Businesses that are making a difference in South Africa. <https://sonaearauco.co.za/green-businesses-that-are-making-a-difference-in-south-africa/>
- Tilley, F., & Young, W. (2009). Sustainable Entrepreneurs: Are They The True Wealth Generators or The Future? *Greener Management International*, 2009(55):79-92. DOI:
[10.9774/GLEAF.3062.2006.au.00008](https://doi.org/10.9774/GLEAF.3062.2006.au.00008)

Weidinger , C., Fischler , F., & Schmidpeter, R. (2014). *Sustainable Entrepreneurship: Business Success through Sustainability*. Berlin: Springer.